"CASE REPORTS AND COMMENTARIES"

Submitted by

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IN PART FULFILLMENT FOR THE DEGREE OF MASTER OF MEDICINE

IN

OBSTETRICS AND GYNAECOLOGY

OF THE

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DECLARATION

This is to certify that the case records presented in this book were managed by me under the guidance and supervision of the senior members of staff in the department of Obstetrics and Gynaecology at the Kenyatta National Hospital Nairobi, Kenya.

I further declare that the two long commentaries are my original work an that I have not presented the content of thesis for the award of a degree in any other university

Signed ----------

Date 14.11.2002.

Dr. Akula Aggrey Otieno

MBChB (Nairobi), Kenya

DEDICATION

This work is dedicated to my wife Roseline, our son Patrick, the two daughters Julie and Daisy and my parents Naboth and Esther.

ACKNOWLEDGEMENT

I am sincerely grateful to the chairman of the obstetrics and gynaecology department, University of Nairobi, Dr. J.B. Oyieke and the consultants, senior registrars and other staff for making my work relatively easy over the years in addition to imparting the all-important skills.

I am short of words to appreciate the good work done by my two supervisors Brig. (Dr.) Waweru Mathu J. M. and Dr. P.B. Gichangi. Their constructive criticisms and appropriate guidance, notably in the long commentaries lightened my tribulations a great deal.

To my colleagues in the department as well as the nursing staff with whom working has been a source of pleasure, I say thank you.

The role played by Mr. Muniu (Kemri) in assisting in data analysis and that by Esther Muchiri, Eunice, Joseph and Nancy Chege in typing all this work is also worth hailing. Mirikau and Irungu of labour ward and Kaguthi (Med IV) were quite useful in data collection and may God bless them.

Finally, I cannot forget the role played by my sponsor, the Ministry of Health, which pays my fees and gives me the much needed financial support in form of salary and allowances and also the Kenyatta National Hospital ethics and research committee for having reviewed my work quite expeditiously.

CERTIFICATE OF SUPERVISION

This is to certify that the long commentaries presented in this book were researched upon by Dr. Akula A.O. under our guidance and supervision and that this book is submitted with our approval.

Brig. (Dr.) Waweru-Mathu J.M.

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Signed ----------

Date ---------- 27th January 2003

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(NAIROBI)

Signed ----------

Date ---------- 28/01/03

CERTIFICATION

This is to certify that obstetric cases number 1,5,6,8,9,10,13,14 and gynaecology cases number 1,3,9,12 and 13 were managed by Dr. Akula A.O. under my supervision and guidance at Kenyatta National Hospital, Nairobi – Kenya

Signed ----------

Name Prof. S.B.O Ojwang'

Date ----------

CERTIFICATION

This is to certify that obstetric cases number 2,4,7,12 and 15 and gynaecology cases number 2,4 and 14 were managed by Dr. Akula A.O. under my supervision and guidance at Kenyatta National Hospital, Nairobi – Kenya

Signed ----------

Name Dr. S.M.H Wanjala

Date ----------

CERTIFICATION

This is to certify that obstetric cases number 3 and 10 and gynecology cases number 5,6,7,8,10,11 and 15 were managed by Dr. Akula A.O. under my supervision and guidance at Kenyatta National Hospital, Nairobi – Kenya

Signed ----------

Name Dr. J.B.O. Oyieke

Date ----------

LIST OF ABBREVIATIONS

UEA - Examination under Anaesthesia

UON - University of Nairobi

LMP - Last Menstrual Period

HIV - Human Immunodeficiency Virus

VDRL - Veneral Disease Research Laboratory

WBC - White Blood Cell

HB - Haemoglobin

PID - Pelvic Inflammatory Disease

BUN - Blood Urea and Nitrogen

CXR - Chest X-Ray

MCV - Mean Corpuscular Volume

RBC - Red Blood Cell

Hct - Haematocrit

Pap smear - Papanicolau smear

BP - Blood Pressure

IP No - Inpatient Number

DOA - Date of Admission

DOD - Date of Discharge

CIN - Cervical Intraepithelial Neoplasia

Cr - Creatinine

ß-hCG - ß – human chorionic gonadotropin

Mmed - Master of Medicine

KNH - Kenyatta National Hospital

MTCT - Maternal to Child Transmission

FSB - Fresh Still Birth

MSB - Macerated still birth

Rh - Rhesus

APTT - Activated Partial Thromboplastin time

IUFD - Intrauterine fetal demise

NSSF - National Social Security Fund

FSH - Follicle Stimulating Hormone

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INTRODUCTION

The gynecologic long commentary presented is about a study carried out at the Homa bay district hospital which is one of the 12 districts in Nyanza Province - Kenya. The hospital serves mainly a rural population composed mainly of poor peasant farmers and fishermen. It is situated in Homa Bay town on Lake Victoria The town is about 400 Km to the west of Nairobi. The infrastructure in the town, the district at large and the neighbouring ones is far from being satisfactory.

The obstetric long commentary involves a study carried out at the Kenyatta National Hospital. All the short cases in obstetrics and gynaecology were also managed at this hospital. The hospital is situated about 3kms from the Nairobi city centre off Ngong Road. In addition to being a National referral hospital, Kenyatta serves as a teaching hospital for the college of Health Sciences. University of Nairobi. Both undergraduate and post graduate medical courses are offered here. Nursing and other diploma and certificate courses are also offered here in liaison with the Kenya Medical Training College.

OBSTETRIC AND GYNAECOLOGY SERVICES

The obstetric and gynaecology outpatient services are provided at the antenatal and gynaecology clinics, casualty department and Family Welfare Clinic (No. 66). The in-patient services are provided in labour ward, acute gynaecology ward and the lying-in wards (Antenatal and Postnatal wards) and the elective gynaecology ward.

In addition to the hospital laboratory services, the Department of Obstetrics and Gynaecology offers the following laboratory services for the hospital; semen analysis, hormonal radio-immunoassay, cytology, chromosomal analysis, spectrophotometry, surfactant test and glucose tolerance test. Ultrasounic fetal monitoring and radiological examinations are provided in radiology department of KNH and also at the Department of Radiology, University of Nairobi.

CASUALTY DEPARTMENT

From April 2002, the gynaecologic casualty has been shifted to ward ID admission area. Previously, gynaecologic and obstetric emergencies were screened at the main casualty within the hospital on a 24 hour basis, but as from April 2002, the gynaecologic ones are examined by a senior house officer in the acute gynaecology ward admission area, while a special room has been reserved in labour ward for the same house officer to review the pregnant women whose pregnancies have reached viability stage or those with certain medical complications such as eclampsia. Most of the patients are treated and allowed home while the ones with more severe illnesses are admitted to labour ward or acute gynaecology ward.

ANTENATAL CARE CLINIC (ANC)

This is meant to be a high risk antenatal clinic , but currently all patients are accepted regardless of whether they are of high risk or not. The booking is done every Monday in the morning hours. Those considered to belong to the high risk group are the patients who are primigravid, grandmultiparous, have had previous operative deliveries, have medical conditions complicating pregnancy, have bad obstetric history or have had delicate or difficult gynaecological operations like for urinary fistula or myomectomy.

For those that are booked, a detailed history of the patient's past obstetrical and gynaecological, medical, social history is taken. The patients are then sent to the laboratory for antenatal profiles which include: blood group (Rhesus factor), serologic test for syphilis (VDRL), full haemogram (especially haemoglobin level), Urinalysis (protein/sugar) and Voluntary counselling and testing for HIV. For first pregnancies or previous pregnancies more than 3-year intervals, two tetanus toxoid doses are given 4 weeks apart, otherwise only booster is given during the second trimester. Proteinuria, glycosuria, blood pressure and weight gain are checked on every clinic visit.

The teenage mothers have their own antenatal clinic on Monday in the afternoons. This was started when adolescent pregnancies were found to be a major public health problem in the country. The important considerations are that teenage pregnancy is associated

with more complications such as hypertensive disease of pregnancy, psychological problems, low birth weight, and sometimes anaemia, and sexually transmitted infections.

During the antenatal period, any antenatal morbidity is managed accordingly either as outpatient or inpatient. At 36 weeks, clinical pelvic assessment is done on all primigravida. Amniocentesis for surfactant test is done at 38 weeks in those mothers who are planned for elective delivery. Also during this period of antenatal care, the appropriate medical cadres also provide health education on pregnancy and its related problems in all clinical sessions. Emphasis is laid on better nutrition, regular clinic attendance, preparation for labour and delivery, post-partum care, breastfeeding and family planning.

VOLUNTARY COUNSELLING AND TESTING FOR HIV

This is offered to all willing pregnant mothers: those who are negative are encouraged to avoid getting infected. Those who are positive are told about the various available methods of preventing mother-to-child transmission of HIV. They may be offered are offered treatment with Niverapine 200mg at the onset of labour and their infants are given Niverapine syrup 2mg/kg Bwt within 72 hours after delivery. They are also encouraged not to breastfeed. There are other regimens of antiretroviral therapy to prevent Mother-To-Child HIV transmission such as the use of Zidovudine long course or short course. However, due to the constraints of cost, patient compliance and gestation at diagnosis, use of Nevirapine is found to be more feasible.

HOSPITAL ADMISSIONS

These fall into three categories namely: Booked patients from our antenatal clinic: Referrals from other hospitals or health centres: and those without prior antenatal care. The last two categories constitute the majority of admissions. Booked patients report directly to labour ward admission area when they are in labour or if they develop a problem when the clinics are closed e.g. after hours or weekends. Unbooked patients are seen first in casualty before being sent to labour ward admission area. The patients are seen by a house officer in conjunction with a senior house officer (registrar).

Other members of staff may be called if the need arises. Those in labour are admitted to the labour ward while those not in labour are admitted to the lying-in ward if so required or discharged home. Patients who are very ill are admitted to the acute room in labour ward and managed accordingly.

MANAGEMENT OF LABOUR

Active management of labour is advocated. The components of active management of labour include; strict diagnostic criteria for labour, early amniotomy, early use of oxytocin, and continuous professional support. These measures are known to reduce the rates of caesarean sections and opearative vaginal deliveries as well as prolonged labour and its attendant complications. Early amniotomy is now not routinely practiced since it has been shown not to have much effect on the duration of labour. In our setup with high HIV infection rate, routine amniotomy is discouraged as a measure to reduce vertical transmission of HIV since it has been shown that if membranes have been uptured for four hours and above the rate of transmission of HIV to the fetus rises markedly.

THE FIRST STAGE OF LABOUR

Those patients who come from the lying in wards for induction of labour are given a soap enema and a warm bath. Patients who come from home in labour are assessed and if they are in early labour with intact membranes a soap-enema is given. Progress of labour is recorded graphically on a partogram where uterine contractions, foetal heart rate and maternal pulse rate are recorded every half hour; blood pressure and temperature every hour; and abdominal and vaginal examination every four hours. During vaginal examinations the cervical dilation in centimetres is and recorded. In addition, the descent of the presenting part, presence and degree of moulding and the colour of the draining liquor is also recorded. Artificial rupture of membranes may be performed for some patients in active phase of labour. Urine analysis by dipstick is performed each time the patient passes urine to asses for proteinuria and gycosuria. An intramuscular injection of pethidine is given routinely for analgesia in the early phase of labour. Other alternatives include use of Tramadol hydrochloride and hyosine-4N- butylbromide

(buscopan).

The partogram has proved to be an indispensable tool in monitoring the progress of labour and predicting complications of labour to enable timely intervention. Descent of the head is determined by the fifths of the palpable head above the pelvic brim. Cervical dilation of at least 1 cm per hour is expected and short of this rate in absence of any contraindication labour is augmented with oxytocin.

SURGICAL SCRUB

In order to minimize the risk of transmission of microorganisms from the clinical attendant or surgeon to the patient, it is imperative that a surgical scrub be performed on the forearm and hands before donning of sterile gloves. The said parts of the upper limbs are cleaned with soap or antiseptic and preferably running tap water and rinsing done at least three times. Only the region under the nails between the digits and palm of the hands may cleaned by the use of soft brush for fear of inflicting injury to the skin or exposing deeper bacterial which would increase the risk of infection to the wound or whichever region being examined like the birth canal. If the brush is used, it is discarded first, then the soap before rinsing the limbs with water and drying them. A sterile gown is then put on before the gloves.

PELVIC EXAMINATION

The neccesity of the examination is explained to the patient who is then requested to empty the urinary bladder and lie comfortably on the bed with her legs flexed and abducted. A vulvovaginal toilet is done with swabs dipped in antiseptic solution. The vulva is cleaned in the antero-posterior direction away from the introitus. The vulval folds are then carefully cleansed and as a swab passes over the anal region it is discarded. The examiner's scrubed gloved left thumb and index finger are used to separate the labia widely to expose the introitus while the index finger and the middle fingers of the right hand are introduced into the vagina – first one, then both. Note is taken of the following:

Cervix: Consistency, length (effacement), dilatation, position and relation to the presenting part.

Membranes: whether intact or ruptured

Umbilical cord: Presentation or prolapse

Presenting part: Nature, position, station, presence of caput and / or moulding

Clinical pelvimetry: Adequecy of the pelvis ba sed on the diagonal congugate by defining the sacral promontory, estimation of the depth of the sacral curve assessment of the prominense of the ischial spines and pelvic walls, estimation of the sub pubic angle and inter tuberous diameter.

SPECULUM EXAMINATION

This is also done aseptically in patients with conditions such as antepartum haemorrhage and PPROM. The patient is placed in lithotomy position on a delivery couch, the vulva cleansed with antiseptic solution and draped with sterile towels. The examiner having performed a surgical scrub and wearing sterile gloves, then separates the labia majora by the thumb and index finger. Cusco's speculum is gently inserted into the vagina with the blades horizontal and the valves slowly opened. Using a good light source the cervix is visualized and inspected for dilatation, bleeding, drainage of liquor, any local lesions and presence of discharge. The vaginal walls are also inspected as the speculum is gently withdrawn.

THE SECOND STAGE OF LABOUR

When the patient is confirmed to be in second stage by both vaginal and abdominal examination and also has the urge to bear down, she is transferred to the delivery room and placed on a delivery bed.

Normal deliveries are usually conducted by a midwife, a student midwife or a medical student under instruction. High risk cases like multiple pregnancy, premature deliveries, all operative vaginal deliveries and breech presentations are delivered by the registrar in attendance. Clean delivery area and strict aseptic technique is adhered to during each delivery. The person conducting the delivery should always be gowned and wear a mask The perineum is cleaned with antiseptic solution and sterile towels applied. She is encouraged to bear down with each contraction and to take deep breaths between contractions. Fetal heart rate is monitored every five minutes.

If the perineum is tight it is infiltrated with 10 mls of 1% lignocaine hydrochloride and a mediolateral episiotomy performed when the head is about to crown. The person conducting the delivery inserts the index and middle finger of the left hand into the vagina to protect the fetal head. Using a blunt-tipped Mayo's scissors an incision is made in the perineum starting in the midline and directed laterally and downwards.

When the fetal head distends the perineum the latter is supported by the right hand with a sterile pad while the left hand keeps the head flexed and prevents sudden expulsion.

This prevents trauma to the perineum and fetal head in preterm babies. Once delivery of the head has occurred, the mouth and nose are wiped with gauze to prevent aspiration of blood or amniotic fluid. A finger is passed around the neck to rule out presence of the cord. When found and is loose it is slipped over the head. If it is tight it is double clamped and divided. The anterior shoulder is delivered followed by the posterior shoulder, trunk and legs. If the umbilical cord was not clamped, this is done and the baby shown to the mother before handing over to another midwife who carries out oropharyngeal suction as required. In high-risk cases, a senior house officer in paediatrics is usually in attendance.

THE THIRD STAGE OF LABOUR

At delivery of the anterior shoulder, 0.5mg ergometrine is given intramuscularly to effect contraction of the uterus. For patients with history of post-partum haemorrhage and for grandmultiparity it is given intravenously for a more rapid action. For cardiac and hypertensive patients, 5 units of intravenous oxytocin infusion is given if uterine contractions do not occur spontaneously.

The placenta and membranes are delivered by controlled cord traction after signs of separation (rise in uterine fundus, lengthening of umbilical cord and gush of blood) have occurred. The birth canal is inspected for any tears and the episiotomy is repaired. The patient is encouraged to empty the bladder. Post delivery blood pressure, pulse rate, uterine contraction and lochia loss are observed and clearly recorded. The patient is

further observed for one hour (4th stage) and then transferred to the lying in ward for subsequent observations. "Rooming in" is encouraged and early initiation of breastfeeding within 30 mins is advocated as long as there is no contraindication. The mothers are nursed together with their babies to establish good lactation and bonding. Patients with normal delivery are discharged once they are stable and their babies well, usually within twenty hours due to pressure of bed space. The patient is advised on perineal hygiene and frequent sitz baths until the episiotomy heals. The patients are also adviced on neonatal and infant care and breastfeeding as well as taught the symptoms of infection in the infant and themselves.

REPAIR OF EPISIOTOMY

This is carried out in three layers using no 2/0 catgut stitch. The apex of the incision is identified and from here repair of the vaginal mucosa carried out in a continuous suture while the muscle layer is approximated with interrupted sutures. The skin is apposed using interrupted or continuous catgut no 2/0 burying the knots and starting from the lateral edge.

OPERATIVE VAGINAL DELIVERY (VACUUM EXTRACTION)

The vacuum extractor is exclusively used to accomplish delivery in prolonged second stage due to poor maternal effort or where bearing down is contraindicated as in cardiac and hypertensive diseases or where expedited delivery is desired as in fetal distress occurring in the second stage of labour.

The patient is placed in lithotomy position. The vulva and perineum are cleaned with antiseptic solution and draped. Aseptic catheterisation of the bladder is done and repeat vaginal examination performed to rule out any contraindication to vacuum delivery such as cephalo-pelvic disproportion and malpresentation. The fetal head should be in the pelvis with only one fifth being palpable above the pelvic brim. An episiotomy is given during a contraction after infiltration with local anaesthetic agent such as lignocaine. The largest suitable vacuum cap is passed against the fetal scalp taking care not to include maternal soft tissues by running a finger round the cap. A negative pressure of 0.8

Kg/cm^2 is induced stepwise at intervals of 0.2 Kg/cm^2 every two minutes. At each increase in pressure a check is repeated for any maternal tissue around perimeter of the cap. During this process an artificial caput (chignon) is created. When a caput is already present, the negative pressure may be achieved faster.

Traction is then applied with each contraction, in a downward direction until the head descends and then upwards to allow delivery by extension. On delivery of the fetal head the pressure is released. The mouth and nares are wiped and delivery continued as for spontaneous delivery. The baby is handed over to the paediatrician for resuscitative measures as necessary.

CAESAREAN SECTION

The commonest abdominal delivery performed is the lower uterine segment caesarean section. Classical caesarean section is rarely done except for cases of transverse lie with ruptured membranes.

Pre operative care

For elective caesarean section the patient is starved for at least six hours before operation. Blood is taken for grouping and crossmatching and two units of blood are reserved. Informed consent for general anaesthesia and operation is taken. The abdominal wall, vulva and perineum are shaved clean in the morning before the patient is wheeled to theatre. Premedication with atropine 0.6 mg is given intramuscularly half hour before going to theatre.

Surgical procedure

In theatre the patient is placed in supine position with the legs separated, the vulva and perineum are cleaned with antiseptic solution such as chlorhexidine. Catheterisation is done and the catheter is left in situ after draining all the urine.

The anterior abdominal wall is cleaned with antiseptic lotion and iodine or spirit, then draped, general anaesthesia is induced with intravenous thiopental sodium at a dosage,

which is effective in sedating the patient, but it varies between 250-500 mg. Succinyl choline 50-80mg is also given intravenously for temporary muscle relaxation to enable endotracheal intubation. Anaesthesia is then maintained with nitrous oxide, oxygen and halothane. The abdomen is then opened in layers through a sub-umbilical midline incision, which extends an inch below the umbilicus, and above the pubic hairline. After opening the skin, the rectus sheath is opened with curved Mayo's scissors. Pfannenstiel incision is also commonly made by some surgeons.

One side of the divided rectus sheath is elevated with two artery forceps and the muscle separated from their attachment to it, using a surgical blade, and then drawn to one side to expose the peritoneum. The latter is held in two long artery forceps and opened. The incision is extended up and down to the incision limits taking care not to injure the bladder.

Wet, warm abdominal packs are placed on either side of the uterus to prevent blood and liquor from running into the general peritoneal cavity. A Doyen's retractor is applied to reflect the bladder away as well as expose the uterovesical fold of peritoneum.

The peritoneal fold is picked with a non-toothed dissecting forceps and opened at the middle using a curved Mayo's scissors. The incision is then extended on either side and the peritoneum stripped off the lower uterine segment with mounted swab. The Doyen's retractor is shifted to include the lower part of the peritoneal fold in retraction of the bladder away from the lower uterine segment.

A small incision of about 2 cm is made in the lower segment about 2 cm below the uterine attachment of the uterovesical peritoneal fold. Once the membranes are reached the incision is extended laterally on either side using curved scissors directed by two fingers of the left hand. The opening is in an upward directed semilunar incision to avoid uterine arteries at the angles. The incision is enlarged enough to allow delivery of the head and trunk. The membranes are then ruptured.

If the placenta is encountered in the line of incision it is either deflected or incised but in

the latter case severe feto maternal haemorrhage may occur and therefore the cord has to be clamped quickly. The retractor is then removed. If the presentation is vertex, a hand is slipped into the uterus between the fetal head and symphysis pubis and lifted gently with fingers and palm through the incision while a modest transabdominal pressure is applied. After delivery of the head, the nostrils and mouth are sucked. .The shoulders are then delivered using gentle traction and still with some fundal pressure. The trunk delivery follows readily.

Intravenous ergometrine (0.5 mg) is given as shoulders are delivered. After the infant is born the cord is clamped and divided then the baby handed over to an assistant for resuscitation. In case of need, a senior house officer in paediatrics is on standby.

The placenta is delivered manually unless it separates spontaneously. The cut edges of the uterus are held with Green Armitage uterine clamps to control any bleeding that might be occurring as the inside of uterus is wiped of blood and other placental tissue such as membranes. The placenta is also inspected for completeness. The uterus is lifted out of incision and covered with a wet abdominal pack. This is an optional step.

The uterus is then closed in 2 layers with No 2 chromic catgut as a continuous stitch for both layers. The second layer is stitched such that it buries the first one and extended beyond the lateral edges of the stitch. The visceral peritoneum is then closed with no. 1 chromic catgut.

The abdomen is mopped and the abdominal packs are removed. The pelvic viscera are then inspected for any abnormalities. Instruments and swabs are counted and if they tally with the initial count, then the abdomen is closed in 3 layers. The peritoneum is closed with continuous No. 1 chromic catgut stitch, rectus sheath is similarly closed with No. 2 chromic catgut and skin with interrupted silk or nylon. The wound is cleaned and then dressed. The catheter is removed and vulvo-vaginal toilet done. A pad is then placed in the perineum to absorb the lochia. General anaesthesia is reversed with 1.2 mg of atropine and 2.5 mg of neostigmine intravenously. Extubation is done and oropharyngeal

suctioning done.

Blood loss is estimated from what is in the suction pump container and amount in wet swab and mops. The patient is then transferred from the theatre to labour ward.

Post caesarean section care

The patient is observed quarter-hourly for one hour, then half- hourly for 2 hours, then 4 hourly thereafter, noting the blood pressure, temperature, pulse rate and respiratory rate on a chart, until she fully awake, then four hourly. Intramuscular pethidine (50-100 mg 6 hourly) is given for 48 hours to relieve pain. Intravenous 5% dextrose and normal saline are given alternately as 500 mls four hourly until bowel sounds are re-established. Prophylactic antibiotics are given to those at high risk of getting sepsis. On the third post-operative day often haemoglobin level is checked and also urine culture is done. The stitches are removed after seven days of operation, after which the patient is discharged home with a case summary and having been informed about the nature and findings of operation. The mother is seen in the post-natal clinic after two weeks and the baby is also seen in the child welfare clinic in two weeks.

Postnatal follow-up

The clinic is held every Friday morning. Patients with normal deliveries are followed up in their nearest health facility.

The blood pressure and weights of the patients are taken. Urinalysis is performed. History is taken of the puerperium, lactation and immunisation of the baby. The patient is then examined and any problems managed. Family planning advice is given and the patient referred to the family planning clinic for the various methods available.

CARE OF THE NEWBORN

All the newborn babies who are normal join their mothers after delivery unless the mother is moribund. The babies with problems or where complications are anticipated together with babies delivered by operative vaginal delivery or by caesarean section are

all reviewed by a paediatric registrar. Those having problems or who may develop some problems are transferred to nursery in a warm incubator. The premature babies are managed in nursery until their weight is about 2000 grams when they are discharged. All mothers with babies in nursery are lodged in the mothers' hostel.

THE GYNAECOLOGY UNIT

This consists of the out patient wing at clinic No 18 and two gynaecological wards 1B and 1D on the first floor of the tower block.

Ward 1D is the acute gynaecology ward whereas ward 1B is the elective gynaecology ward. The unit is run by the three firms in the department.

THE GYNAECOLOGY OUT PATIENT SERVICES

These are mostly conducted in the clinics, which are three per week; Firm 1 on Tuesday, Firm III on Wednesday and Firm II on Thursday. The clinics are run by consultants, senior registrars and registrars. Medical students are usually in attendance. There is also an oncology clinic, which is on Fridays in the mornings for follow-up of patients discharged from the ward. A colposcopy clinic is held every Friday morning. The majority of patients attending the gynaecology clinic are referred from casualty and emergency gynaecology ward after emergency consultation and treatment.

Postoperative patients also attend this clinic. Some patients are referred from other specialist clinics in Kenyatta National Hospital, other hospitals in and around Nairobi and from district and provincial hospitals.

Infertility cases constitute about two thirds of the gynaecology consultation followed by uterine fibroids, abnormal uterine bleeding and adnexal masses. In the clinic, history is taken, a thorough physical examination is conducted and most of the investigations are done on outpatient basis to eventually reduce the hospital stay. These include hemogram, urea and electrolytes semen analysis, pap smear, pregnancy test among others.

FAMILY PLANNING CLINIC

It is situated at the Family Welfare Centre (clinic 66). All methods of FP are offered. Also situated in this clinic is a theatre for diagnostic laparoscopy and voluntary surgical contraception procedures. Patients requiring interval sterilisation are counselled and referred to this clinic for the procedure which is by mini-laparotomy or laparoscopy.

GYNAECOLOGY IN-PATIENT SERVICES

Elective gynaecology admissions – ward 1B

This is the elective ward to which patients are usually admitted from the clinic or are transferred from the acute gynaecology ward for further management. The ward has 36 beds. The patients commonly admitted here have uterine fibroids, gynaecological malignancies and infertility among others.

Acute gynaecological admission – ward 1D

This is the emergency gynaecology ward having 32 beds but at times patients are forced to share beds due to their high population.

All the patients are clerked by the houseman and reviewed by the registrar who undertakes the management in consultation with senior members of the department. Apart from incomplete abortion, pelvic inflammatory disease and ectopic pregnancies are the next most common cases admitted into this ward.

Uncomplicated cases of incomplete abortion have uterine evacuation done in the procedure room in ward 1D, using Karman's Cannula and syringe. They are discharged home immediately. Patients who have undergone emergency laparotomies for pelvic abscess, ectopic pregnancy or pelvic masses have a minimum stay of four days post-operatively. All patients with incomplete abortion and have uterine evacuation are counselled about contraception before discharge.

Patients with suspected carcinoma of the cervix are admitted at the first instance to ward

1D, where they receive emergency care i.e. blood transfusion, antibiotic etc. Routine clerking and investigations are started. Examination under anaesthesia; staging and biopsy is done. When histology report becomes available they are either transferred to ward 1B or radiotherapy unit for definitive management. The patients also receive continous care from the patient support centre and the Hospice.

GYNAECOLOGICAL OPERATIONS

A theatre is reserved in main theatre for emergency gynaecological operations. Laparotomies for ectopic pregnancies (ruptured and non-ruptured) pelvic abscesses, ovarian cyst and other tubo-ovarian masses are done here. Smaller procedures like diagnostic dilatation and curettage of the uterus, removal of misplaced contraceptive devices and suction curettage are also performed.

Elective operations are done on Firm basis. Firm II on Mondays and Firms I and III on Thursdays. The operations are done from 8.00 a.m to 5.00 p.m. The operations are performed under general anaesthesia as outlined below:

Intravenous sodium thiopentone and succinylochline are used for induction of anaesthesia.

Nitrous oxide, oxygen and halothane provide maintenance anaesthesia.

Curare is given intermittently for muscle relaxation

Atropine and neostigmine are used for reversal.

Some operations such as Vesico-vaginal fistulae may be are carried out under spinal anaethesia.

PRE-OPERATIVE PREPARATION

Patients for emergency laparatomies are prepared for theatre straight away in ward 1D. The abdomen is cleaned and shaved, stomach contents are aspirated if the patient has fed just before admission. Pre-medication is provided by 0.6 mg of intramuscular atropine half an hour before theatre. Blood is urgently cross-matched and an intravenous infusion of dextrose solution or dextrosaline started.

For elective operations, basic and special investigations are done and the date of surgery fixed. The nature and purpose of the operation is explained to the patient after which she gives an informed consent. Blood is reqested and reserved for the day of the operation. The patient starves from midnight to the morning of the day of operation. The skin over the area of operation is cleaned and shaved. Pre-medication is provided by atropine at a dosage of 0.6mg and pethidine at 50 – 100 mg both intra-muscularly half an hour before wheeling the patient to theatre.

POST OPERATIVE MANAGEMENT

After the operation general anaesthesia is reversed and the patient wheeled to the recovery room where quarter-hourly observation of blood pressure, pulse rate, respiratory rate and temperature are taken. She is then transferred to the ward where observations are done four hourly.

Most laparotomy patients are kept in the ward for seven days. For the first 24 hours the patients are maintained on intravenous fluids. Oral fluids are given when bowel sounds are established. Blood transfusion is given when indicated. Prophylactic antibiotics are given routinely. A check of the hemoglobin level is determined on the third postoperative day.

Before discharge the patient is informed about the findings at operations and a discharge summary is issued. Patients are reviewed in the gynaecology clinic after six weeks or earlier when there is an indication. Total abdominal hysterectomy is the commonest cold gynaecological operation. It is described below.

TOTAL ABDOMINAL HYSTERECTOMY

General anaesthetic induction and maintenance is done as described above. A vulvo-vaginal toilet is performed with antiseptic lotion. Under aseptic conditions the patient is catheterised and the catheter left in situ to maintain continuous bladder drainage during the operation. Pelvic examination under anaesthesia is performed and pathological and

normal findings noted. The vagina is painted with methylene blue dye.

The abdomen is thoroughly cleaned with chlorhexidine and painted with iodine and then draped with sterile towels. As described above under caesarean section, the abdomen is opened in layers. The round ligaments are identified and beginning on either side using straight long artery forceps the round ligament is clamped and divided between the two forceps.

The lateral stump is transfixed with no. 0 or no. 1 chromic catgut. This procedure opens the anterior leaf of the broad ligament, which is pushed forwards through this opening with the surgeon's finger and incised with scissors. The same is done for the opposite side. The next step depends on whether the tube and the ovary are to be preserved or removed. If they are to be preserved, the tube and the ovarian ligament are double clamped en masse and cut using a scalpel. The distal clamp holds the ovarian vessels as they approach the anastomosis with the uterine vessels.

This stump is ligated using transfixed chromic catgut no. 1. The same is done for the opposite side. If the tube and the ovary are to be removed with the uterus the infundibulopelvic portion of the broad ligament is double clamped with long curved artery forceps with the tips reaching the open window in the broad ligament. The broad ligament together with the ovarian vessels are divided between the clamps and ligated using chromic catgut no.1. The same is done for the opposite side.

The reflection of the bladder peritoneum onto the uterus is then freed by extending the incision in the anterior leaf of the broad ligament towards the midline. The bladder is thus separated from the lower uterine segment, the cervix and the vagina by careful sharp and blunt dissection of the fascial fibres beneath the bladder wall. Usually the bladder can be displaced into the lower pelvis quite easily, but if it is adherent, it is surgically released by dissection.

In the next step, the posterior leaf of the broad ligament on either side is cut parallel

with the side of the uterus to better demonstrate and skeletonise the uterine vessels between the leaves of the broad ligament for clamping. These are double clamped and cut using a scalpel and freed from the uterus by extending the incision around the tip of the distal clamp. This enables adequate ligation. Care should be taken to avoid freeing the tissue beyond the tip of the clamp, as this could permit bleeding from the collateral vessels that are not included in the clamp. Before clamping and cutting the uterine vessels it is always advisable to palpate the internal os and pass medially through the base of the broad ligament to the trigone of the bladder. The uterine vessels are ligated with chromic catgut no. 2.

The uterus is retracted forward and upward to demonstrate and stretch the uterosacral ligaments posteriorly. A transverse incision is made though the uterine reflection of the cul-de-sac peritoneum between the attachments of the two-uterosacral ligaments. The peritoneum is then incised with the scalpel and reflected, mobilising it past the cervix to the posterior vaginal fornix. Usually this procedure is associated with haemorrhage as a proper loose areolar plane is entered. Care is taken not to dissect extensively laterally where the haemorrhoidal vessels are inserted into the rectum. Each uterosacral ligament is double clamped. cut and ligated with no. 1 chromic catgut suture. Here. particular care is exercised to avoid the pelvic portion of the ureter as it courses along the base of the broad ligament. Next the cardinal ligaments on either side of the uterus are clamped. cut and ligated.

More commonly the uterus is removed by the open technique. in which the anterior vaginal fornix is opened initially with the scalpel and the vagina is circumcised by sharp Knife dissection or scissors. As the anterior posterior and lateral angles of the vagina are opened straight artery forceps are used to secure the vaginal margins. These margins are then closed using a series of figure or eight futures. Particular care is taken when tying the lateral angles to ensure that the descending vaginal branches of the uterine vessels are securely ligated.

Suspension of the vaginal vault is done by tying the peritonealisation suture to the lateral

and mid sutures of the vault. Peritonealisation is accomplished by means of a continuous No. 1 chromic catgut suture that first pierces the vaginal walls near the midline and passes through the posterior leaf of the broad ligament, the free margin of the uterosacral ligament, then through the infundibulopelvic ligament, the free margin of round ligament and the anterior bladder peritoneum. The suture is tied at the centre.

The same is done for the opposite side with the suture being tied at the midline and lateral angles. If the ovaries have been preserved an alternative suspension may be used in which the tip of the broad ligament is loosened separately with a purse string of no. 2/0 chromic catgut and the free margin of the pedicle is high against the pelvic wall and are not anchored to the vaginal vault. This is advised in order to avoid subsequent dyspareunia and to avoid stretching of the ovarian vessels with possible thrombosis, ischaemia and cystic changes of the ovary. After this, abdominal viscera are well inspected. If hemostasis has been achieved and instruments and swabs counts are correct, the abdomen is closed in anatomical layers. The post-operative management is the same as described earlier.

COUNSELLING CLINICS

There are four such clinics in the hospital, which offer counselling to obstetrics and gynaecology patients. These are the patient support centre, GOPC, high risk clinice clinic and the Nairobi Hospice.

THE PATIENT SUPPORT CENTRE

This is situated in the old hospital buildings where patients regularly attend from all the departments of the hospital. Sometimes the counsellors are called to the wards to counsel those patients who cannot go there. The counselors consist of psychiatrists, sociologists, psychologists and trained nurses. Mostly, they deal with HIV counseling, puerperal psychosis patients and those patients who are poor and neglected by relatives. They counsel, treat and even assist patients find their way home.

THE HIGH RISK CLINIC (HRC)

This clinic is situated on the ground floor next to the maternity wards. It deals with young single mothers who have had an abortion, those who have delivered babies and even those who do not want to rear their children. The counselors are also trained nurses, sociologists and consultant obstetrician/gynecologists. They counsel their clients, treat them for any illness they may have with assistance from the obstetric and gynecology wards, and also provide them with family planning and STD management services. The patients come from other institutions or from the obstetrics and gynecology wards.

THE NAIROBI HOSPICE

Workers here also offer counseling care in addition to management of terminal disease. They also offer narcotic analgesia and encourage home based care for such patients instead of hospital care. Most of their patients have cancer of the cervix.

COUNSELING AT THE GOPC

Apart from the activities already alluded to, patients are also counseled at this clinic concerning their ailments and the need for certain investigations such as HIV test. This may, for instance, be necessary in patients who are under investigation for infertility before they are referred for laparoscopy.

THE HOSPITAL CHAPEL

This provides spiritual nourishment to those patients who are in need. It is situated on level 2 of the tower block.

THE MOTHER'S HOSTEL

This accommodates mothers with babies in nursery. When they get sick, they are treated in the wards where they were initially admitted.

1. BREECH PRESENTATION IN A PRIMIGRAVIDA WITH REDUCED FETAL MOVEMENTS: EMERGENCY CAESARIAN SECTION

Name: R. W

Age: 27 years

IP. No: 0823244

DOA: 19.07.2002

DOD: 30.07.2002

Diagnosis: Breech presentation with reduced fetal movements

Parity: 0 + 0

Presenting Complaints:

The patient complained of reduced fetal movements over a period of 12 hours.

History of presenting Complaints:

She reported having noticed reduction in the perception of the fetal movements over a period of 12 hours. There was no preceding trauma, no abdominal pains or drainage of liquor amnii.

Obstetric and Gynaecological History

She was a para 0 + 0, gravida 1 whose last menstrual period was on 27.10.01, estimated date of delivery 03.08.2002 and gestational age about 38 weeks.

She had attended antenatal clinic at the Kenyatta National Hospital from about 20 weeks of gestation and received tetanus toxoid injection twice.

The haemoglobin at booking was 13g/dl, she was of blood group A – Rh – positive and VDRL was negative.

An ultrasound scan done on 2.7.2002 had a report of a normal fetus at about 37 weeks gestation in breech presentation.

Her menarche was at 15 years and her menstrual flow lasted 3 to 4 days. The cycles were reportedly irregular and she had episodes of dysmenorrhoea.

Past Medical History:

There was nothing of relevance.

Family and Social History:

She was married, unemployed and lived in Maringo, Nairobi with the husband who was a businessman. She never smoked and did not drink alcohol. One of her sisters had been treated for pulmonary tuberculosis in 1999, a period during which they used to live with her.

Drug:

There was no known history of allergy.

Systemic Enquiry:

There was nothing of much relevance elicited.

General Physical Examination:

She was in good general condition. was afebrile. was not pale and had no oedema.

Abdominal Examination:

The abdomen was grossly distended. moved with respiration and had no areas of tenderness. The fundal height was term. the fetus was in longitudinal lie. breech presentation with a regular heart rate of 126 per minute.

There was no engagement of the presenting part.

Vaginal Examination:

The external genitalia appeared normal as was the vaginal wall. The cervix was 1cm long, closed, soft and central.

Other Systems – These were essentially normal.

Diagnosis:

Reduced fetal movements with breech presentation.

Plan of Management:

The examination findings were explained to the patient who was then taught how to record the fetal kicks on a chart and an emergency ultrasound scan with the assessment of the biophysical profile done. The latter was found to be 8 /8 and the patient was sent to the antenatal ward to await elective caesarian section. The other relevant investigations such as urea and electrolytes plus haemogram were carried out.

On 20.7.2002, the fetal kick chart showed an unsatisfactory pattern and a decision to carry out an emergency caesarian section was made.

Informed consent was obtained from the patient, grouping and cross-matching of two units of blood done and 0.6mgs of intramuscular atropine for premedication given.

In theatre, she was aseptically catheterized and clear urine obtained. While in supine position, the abdomen was cleaned and draped then general anesthesia induced. The abdomen was opened via a midline infraumbilical incision, the paracolic gutters packed and the lower uterine segment exposed and opened via a transverse incision. The membranes were ruptured and clear amniotic fluid carefully drained. A hand was put through the incision and the feet grasped between the fingers and gently delivered through the incision.

Traction was maintained till the breech appeared then both hands used to grasp the thighs and the trunk delivered. When more than half of the shoulder blade had been delivered and the axilla appeared, the fingers were used to deliver the fetal upper limbs in turn. The head was then delivered by extension of the neck and the nostrils cleaned. The umbilical cord was found encircling the neck x1 and was released. The infant was male, weighed 3100g and had an Apgar score of 4 at 1 minute, 7 at 5 minutes and 8 at 10 minutes. It was taken to the newborn unit for further observation. The placenta and membranes were removed complete, the intrauterine cavity cleaned, the uterine incision repaired in 2 layers then the uterovesical peritoneum stitched. Haemostasis was achieved, the abdominal packs removed, swabs and instruments counted and found to be of the correct number and the abdomen closed in anatomical layers. Vulvovaginal

toilet was done and minimal vaginal bleeding noted. The Catheter was pulled out and it was noted that the urine was clear.

Post-operatively, the vital signs were observed ½ hourly until the patient was fully awake then 4 hourly. She was infused with 500mls of normal saline alternating with 500mls of 5% dextrose 4 hourly and was starved of both fluids and solid foods until the bowel sounds were audible. She was maintained on adequate analgesia with 100mg of intramuscular pethidine six hourly and also given prophylactic gentamicin and crystalline penicillin intravenously.

She remained in the ward until the 7th post-operative day when the stitches were removed then she was transferred to the mothers', hostel within the hospital to await the baby's discharge and to be reviewed at the postnatal clinic 5 weeks from the date of discharge.

Discussion

A 27 year old para 0 + 0 with breech presentation and reduced fetal movements is presented.

Breech presentation is when the buttocks of the fetus enter the pelvis first and for a number of reasons it is common remote from term. Most often, however, before the onset of labour the fetus turns spontaneously to acephalic presentation so that breech presentation persists in only about 3 to 4 percent of singleton deliveries (1).

Locally, the incidence of breech presentation was found to be 2.7% in the Nairobi birth survey (2) while at the Kenyatta National Hospital Njuki found an incidence of 3.5% (3).

Factors other than gestational age that appear to predispose to breech presentation include uterine relaxation associated with great parity, multiple fetuses, hydramnios, oligohydramnios, hydrocephalus, anencephalus, previous breech delivery, uterine anomalies and pelvic tumours. The frequency of breech presentation is also increased with placenta previa, but only a small minority of breech presentation are associated with a previa. No strong correlation has been found between breech presentation and a contracted pelvis (1). Our patient was a primigravida and the cause of breech presentation was not obvious. The geatational age was 37 weeks.

In the persistent breech presentation, increased frequency of the following complication can be anticipated.

1. Prenatal mortality and morbidity from difficult delivery.
2. Low birth weight from preterm delivery, growth restriction or both.
3. Prolapsed cord
4. Placenta praevia
5. Fetal, neonatal, and infant anomalies
6. Uterine anomalies and tumours
7. Multiple fetuses
8. Operative intervention

Njuki found corrected prenatal mortality in breech presentation at the Kenyatta National Hospital to be 2 ½ times greater than for cephalic presentation (1, 3). The varieties of

breech presentation are complete or flexed breech in which both knees are flexed as are the hips; incomplete breech where one knee is flexed, the other extended and hips flexed; Frank or extended breech in which both knees are extended while the hips are flexed and finally footling breech where the knees are flexed and the hips partly deflexed (1, 4, 5). The variety of breech presentation in our patient was not ascertained.

The diagnosis of breech presentation may be made by palpation, pelvic examination or ultrasonography. Typically, with the first Leopold manouvre, the hard, round, readily ballotable fetal head is found to occupy the fundus.

The second manouvre indicates the back to be on one side of the abdomen and the small parts on the other. On the third manouvre, if engagement has not occurred – the interchantavic ochanteric diameter of the fetal pelvis has not passed through the pelvic inlet – the breech is movable above the pelvic inlet. After engagement, the fourth manouver shows the firm breech to be beneath the symphysis and fetal heart sounds are usually heard loudest slightly above the umbilicus. whereas with engagement of the fetal head the heart sounds are loudest below the umbilicus.

On vaginal examination the frank breech presentation may be heralded by the ability to palpate both the ischial triberosities. the sacrum and the anus. If labour is prolonged and the buttocks become oedematous. differentiation of face and breech may be very difficult as the anus may be mistaken for the month and the ischial tuberosities for the malar eminences. In breech presentation. the finger may be stained with meconium while in face presentation. the mouth and malar eminences form a triangular shape as opposed to the ischial tubersities and the anus that are in a straight line. The sacrum and its spinous processes may also be palpable. In complete breech. the feet may be palpated alongside the buttocks and in footling breech presentation. one or both feet are intefior to the buttocks (1.4.5.6). In our patient. both clinical assessment and ultrasound scan assisted in clinching an accurate diagnosis.

Once breech presentation is diagnosed the mother is followed up closely to see if spontaneous version occurs. (4)

If by 37 weeks the malpresentation persists, external cephalic version could be attempted although this is not encouraged in some centers including ours because of poor success rates and fear of fetal morbidity. Published success rates vary from 39% to 82% and may be predictable based on factors such as parity, estimated fetal weight, gestational age, amniotic fluid volume, type of breech presentation and position of the fetal spine (6). The feared complications of external cephalic version include frequent and sometimes serious fetal heart rate changes, feto – maternal haemorrhage, abruptio placenta, premature rupture of membranes and fetal injuries.

Many centers now recommend delivery by caesarian section notably under circumstances such as:

1. A large fetus
2. Any degree or contraction of unfavourable shape of the pelvis
3. A hyperextended head
4. No labour, with maternal or fetal indications for delivery such as pregnancy – induced hypertension or ruptured membranes for 12 hours or more.
5. Uterine dysfunction
6. Footling presentation
7. An apparently healthy but preterm fetus of 25 to 26 weeks or more, with the mother in either active labour or in need of delivery.
8. Severe fetal growth restriction
9. Previous perinatal death or children suffering from birth trauma
10. A request for sterilization - this is also controversial.

The anaesthetist and paediatrician have to be before hand so that they are aware and in case of any emergency, are readily available to assist. Labour usually progresses just as in presentation.

Assisted breech delivery

The mother should only be allowed to bear down when she is fully dilated. Epiduaral anesthesia should be given early during the first stage for relief of pain. Premature bearing down is avoided since perineal reflexes are depressed and assisted breech delivery is well controlled. If epidural anaesthesia is not given then pudendal is well

should be given. As the breech distends the perineum, an episiotomy should be given. The mother should be encourage to bear down until the abdomen is delivered.

The pelvis of the baby is grasped with a towel and with gentle traction and posterior flexion of the body will deliver the anterior shoulder. The posterior shoulder is delivered by rotating the trunk so that the posterior shoulder becomes anterior and is delivered.

The fetus is them allowed to hang and in the process there is flexion and descent of the head. The fetus is grasped by the ankles and the trunk is lifted in the direction of the mother abdomen. In the process the head is delivered. In case of difficulty in delivering the head then mauriceau smellieveit maneuver is used.

The procedure involves applying the index fingers of the operator's had over the maxilla as the rest of the operator's hand over the maxilla as the rest on the palm and forearm. Two fingers of the operators other hand hold the fetuses either side of the neck with gentle traction downward and upward tilt of the body the head is delivered. Deliver, of the head can be completed by forceps.

Breech extraction

This is in case of fetal distress when faster delivery of the baby is required. In the delivery of the 2nd twin, breech extraction can be done if the fetus is breech or transverse.

Our patient underwent emergency caesarian section due reduced fetal movements, although she had been scheduled for elective caesarian section since in our set up, the policy is to avoid difficult deliveries in breech presentation as would occur in a primigrarida like her.

At the Kenyatta National Hospital, many authorities tend to favour caeserian/delivery and this is almost the norm currently unless the patient is seen when labour is so advanced that she is likely to deliver before preparations for caesarian delivery are put in place.

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2. ECLAMPSIA WITH POOR BISHOP SCORE:- EMERGENCY CAESARIAN SECTION – LIVE BABY.

Name: A. W. K.
Age : 22 years
IP. No.: 0802258
DOA: 11/4/2002
DOD: 15/4/2002
Diagnosis: Eclampsia
Parity: 1 + 0

Presenting Complaints:

The patient was admitted a few hours following 3 episodes of convulsions at home.

History of presenting complaints.

The patient was said to have complained of severe headache before developing generalized convulsions. She had had 3 convulsions which were about ½ an hour apart. She had had no other complaints prior to that and she was not known to be epileptic. There was no history of prior trauma or preceding febrile illness.

Obstetric and gynecological history:

She was a para 1 + 0. gravida 2 whose last delivery had been 4 years earlier. The baby died at 1 year due to pneumonia.

The last menstrual period was on 13/8/2001. the EDD being 20/5/2002 and the gestational age about 34 weeks. She had not attended antenatal clinic.

Past Medical History:

There was nothing of relevance

Vaginal Examination:

This was done aseptically. The external genitalia appeared normal, the vaginal wall was normal and the cervix was 2 cm long, anterior, closed and soft. There was no evidence of drainage of liquor amnii.

She was aseptically catheterized and clear urine obtained.

Other systems – These were essentially normal:

Diagnosis: Eclampsia.

Plan of Management:

The clinical findings were explained to the patient and the following investigations carried out:

- Urinalysis – proteinuria (++)
- Antenantal profile normal parameter
- Liver function tests normal
- Urea and electrolyte levels, normal

She was put on an intravenous infusion of diazepam and hydrallazine and prepared for emergency caesarian delivery in view of the poor Bishop Score. Blood for grouping and crossmatching was obtained and theatre booked. The pubic hair was shaved, but no pre-anaesthetic medication was given.

In theatre, the patient was put in supine position, the abdomen cleaned and draped then anaesthesia induced. The abdomen was opened via a midline infraumbilical incision and the paracolic gutters packed. Routine caesarian section was performed and a female infant of weight 2010g and Apgar score 7 at 1 minute and 9 at 5 minutes delivered. The placenta and membranes were removed complete. The abdomen was closed in anatomical layers after repair of the uterus and confirmation of the swabs and instruments to be of the correct number. Vulvovaginal toilet was done and minimal vaginal bleeding noted. The estimated blood loss was about 800mls.

Postoperatively, the vital signs were monitored ½ hourly for the 1st 4 hours, then 4

hourly. She continued receiving the intravenous diazepam infusion and IV 10mgs of hydrallazine whenever the diastolic BP superceded 110 mmHg. She was maintained on slow infusion of 5% dextrose alternating with normal saline until she was able to take oral fluids when the bowel sounds were found to have normalized. Antibiotic prophylaxis in form of 2 mu of crystalline penicillin 6 hourly and 80mg of gentamicin 8 hourly was also given in addition to 100 mgs of intramuscular pethidine (6 hourly) for pain. She was subsequently put an aldomet and phenobarbitone which were gradually withdrawn by the end of the 1st one week. Her blood pressure remained normal and the wound healed quite well. She was allowed home on the 10th post operative day to be reviewed at the postnatal clinic after 2 weeks. When she was next reviewed, she had improved quite well and was for further review 4 weeks later.

Discussion

The patient presented here was a para 1 + 0 grarida 2 who was admitted with eclampsia at 34 weeks gestation and underwent an emergency caesarian delivery.

Eclampsia is the occurrence of seizures or coma (not attributable to any other cause) in a woman with pre-eclampsia. It is an acute disorder appearing only in pregnancy and puerperum.

The seizures are tonic – clonic. (1, 2).

Antepartum eclampsia occurs in about 75% of cases, with the remaining 25% of cases occurring post partum. It rarely occurs below 20 weeks gestation. Late postpartum eclampsia is defined as that beginning more than 48 hours postpartum but less than 4 weeks after delivery. (3). Our patient had antepartum eclapsia which further agrees with the fact that antepartum cases are more common.

Why some women with symptoms of preeclampsia develop convulsions or coma, or both, and others do not is unknown.

Several mechanisms have been suggested as predisposing factors:

- Cerebral vasospasm
- Cerebral haemorrhage
- Cerebral ischaemia
- Cerebral edema
- Hypertensive encephalopathy
- Metabolic encephalopathy.

The incidence of eclampsia varies geographically and in accordance with the social economic status. It occurs in 0.2 – 0.5% of all deliveries (2, 4). In Nairobi, Mati et al reported an incidence rate of 0.17% with the distribution being as follows:

- Antepartum 7.3%, intrapartum 42.4% and postpartum 12.1%. Wanjohi reported 58 cases in a 2 year period at the Kenyatta National Hospital (5, 6).

There is usually no aura preceding the seizure, and the patient may have one, 2, or many seizures. Unconciousness lasts for a variable period of time. The patient

hyperventilates after the tonic – clonic seizure to compensate for the respiratory and lactic acidosis that develops during the apnoeic phase. (Fever is rare and is a poor prognostic sign. Seizure – induced complications may include tongue biting, broken bones, head trauma, or aspiration. Pulmonary oedema and retinal detachment have also been noted following seizures. (4). The patient under discussion had none of these complications. But had convulsed three times by the time she was admitted.

Eclampsia is associated with multiple organ dysfunction. Factors determining the degree of dysfunction include a delay in the treatment of pre-eclampsia and the presence of complicating obstetric and medical factors. Eclampsia is associated with a wide spectrum of signs and symptoms, ranging from extreme hypertension, hyperreflexia, 4 + proteinuria, and generalized oedema to isolated mild hypertension. Laboratory findings also vary. Serum uric acid and creatimine are usually elevated, and creatinine clearance is reduced. Haemoconcentration, reflected by an increased haematocrit and reduced plasma volume, is common. Elevated liver function tests are found in 11% to 74% of edamptic patients. HELLP syndrome (Haemolysis, Elevated liver enzymes, low platelet count) complicates approximately 10% of eclampsia and usually occurs in long – standing disease and in patients with medical complications. Disseminated intravascular congulapathy (DIC) may develop if treatment is delayed or abruption placenta with fetal demise has occurred. (2). Apart from the convulsions and the proteinuria, our patient did not have any of the above complications. Luckily, the patient discussed here did not develop these complications.

The question of whether eclampsia is a preventable complication is controversial. Although the incidence can be significantly lowered by adequate antenatal care, some cases present without warning signs of symptoms. (1, 2, 4). Wanjohi found out the Kenyatta National Hospital that only 35% of the eclamptic patients had attended antenantal clinic (6). The patient discussed here did not attend antenatal clinic.

The objective in the management of eclampsia is prevention of complications and the ultimate answer to this is delivery. The control of convulsions is controversial and the drug are equally variable. (7).

The treatment of eclampsia thus consists of control of convulsions, correction of hypoxia and acidosis, blood pressure control and delivery. (1).

Presently, the rational approach to treatment of eclampsia is the use of a combination of antihypertensive and anticonvulsant drugs. Most clinicians agree on the use of diazepam for the immediate control of convulsions due to its rapid onset of action despite the fear of respiratory center depression on the mother and fetus. (1). At the Kenyatta National Hospital, the current trend is to use magnesium sulphate instead of diazepam and general observations are already showing that its safety profile in terms of perinatal and the obstetric outcome is better than when diazepam was used. More data on its actual superiority in our setup will emerge as more and more patients with eclampsia are managed on it. This patient was managed on hydrallazin and diazepam since by then, magnesium sulphate had not been introduced in the obsterics unit.

It has the advantage of controlling convulsions without using undue central nervous sedation within the therapeutic range. Phenytoin sodium (Epanutin) is also gradually being accepted for the treatment of eclampsia. It rapidly crosses the blood brain – barrier and has a stabilizing effect on the neuronal membranes. However, reports indicate that it may not be as effective as magnesium sulphate (4. 8).

Hydrallazine is given intravenously to control the blood pressure whenever the diastolic blood pressure is 110 mmHg or more. Boluses of 5 – 10mg at 15 – 20 minute intervals are advocated until a satisfactory response is achieved. The aim should be to have diastolic pressure of 90 to 100mmHg. (1, 4). Most physicians believe the reductions in maternal blood pressure tend to decrease placental perfusion and caution against treatment that will cause large, precipitate drops in mean arterial pressure is necessary. Other drugs used are labetalol, nifedipine (in bite and swallo technique), diazoxide, sodium nitroprusside, trimethapharn and nitroglycerin. Sodium nitroprusside may cause cyanide and thiocyanate toxity in the fetus if given for a period longer than 30 minutes in the undelivered mother.

Trimethaphan, a ganglian blocker, is used by the anaesthesiologists prior to intubation and induction of anaesthia. It may cause meconium ileus (4).

After stabilization of the maternal condition, steps should be taken to deliver the fetus. This is the definitive treatment for eclampsia. Induction of labour with oxytocin is often successful after 30 weeks gestation. The fetal heart rate and uterine activity must be closely monitored. Fetal bradycardia is a common finding during an eclamptic fit, but the rate usually returns to normal once convulsions cease. If bradycardia persists or the uterus is hypertonic, abruptio placenta should be suspected. (2). A 4 – hour trial of labour is indicated for most patients with eclampsia. If neither effacement nor dilation of the cervix has occurred and does not occur significantly over this period, caesarian section is performed. Analgesia should be given. Since 25% eclamptic seizures occur postpartum, patients with severe preeclampsia are maintained on magnesium sulphate for 24 hours after delivery. Phenobarbitone may also be given for those with persistent hypertension. (4)

The cervical score was poor in our patient who was, therefore, delivered by emergency caesarian section. The hypertension may, however, not resolve upto 6 weeks post partrum and antihypertensives could be used in whatever combination if the diastolic pressure remains persistently 500 mmHg. Maternal death due to eclampsia may be caused by cerebral haemorrhage, aspiration pneumonia, hypoxic encephalopathy, thromboembolism, hepatic rupture, renal failure, or anesthetic accident. There is risk of 33% of recurrence of pre-eclampsia and 2% for eclampsia in subsequent pregnancies.

The perinatal outcome is in many cases poor and the higher the blood pressure, the worse the perinatal outcome. According to Wanjohi's study in which the perinatal mortality rate was 45.9%, 60% were stillbirths (6). In Kenya eclampsia has been found to be responsible for a maternal mortality of 46.5 per 1000 deliveries (9). The perinatal outcome in our patient was good and the mother had uneventful recovery.

It is likely that the patient discussed here could not have developed eclampsia had she attended antenatal clinic and the blood pressure and urine checks carried out. This underscores the need for health education and provision of other incentives aimed at changing the health seeking behaviour amongst the pregnancy women.

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3. ANTEPARTUM HAEMORRHAGE DUE TO ABRUPTIO PLACENTA: EMERGENCY CAESARIAN SECTION - LIVE BABY

Name : J.M

Age : 36 years

Ip. No : 0808113

DOA : 07/05/2002

DOD : 12/05/2002

Diagnosis: APH Secondary to abruptio placenta

Parity : 1 + 1

Presenting Complaints

The patient was admitted due to vaginal bleeding over a period of about 3 hours, backache and lower abdominal pains.

History of Presenting Complaints

She said she was asleep in the afternoon when she woke up and found herself in a pool of blood three hours prior to admission. The blood was in form of clots and she subsequently developed lower abdominal pains and backache whose intensity had progressively increased. There was no history of trauma.

Obstetric and Gynaecological History

The patient was a para 1 + 1 whose deliveries had been as follows:

1st – 1994 - SVD Male weighed 3.2Kg and was alive and well

2nd – 1996 - Spontaneous abortion at five months gestation and evacuation was done.

LMP - 25.8.2001

EDD - 01.06.2002

Gestation age: 36 weeks and 3 days.

Antenatal clinic attendance:

She had been followed up at a private consultant obstetricians clinic at Hurlingham, Nairobi and had been started on aldomet tablets due to high blood pressure. Blood had been taken for antenatal profile.

Menses – Her periods lasted five days in a regular cycle of 25 days.

Contraception - she used IUCD between 1996 to 2001.

Menarche – at 18 years.

Past Medical History:

There was nothing contributory.

Family and Social History:

She was married and worked as a secretary while the husband was an employee of the National Social Security Fund (NSSF).

Drugs: There was no History of allergy known to her.

Systemic enquiry:

There was nothing significant elicited.

General Physical Examination:

The patient was in fair general condition. was pale . but had no oedema and no jaundice.

The BP was 120/80 mHg and the pulse 102 per minute. The temperature was 36.2°c, while the respiratory rate was 24 per minute.

Abdominal Examination

The abdomen appeared grossly distended. There was mild generalized tenderness and the fundal height felt term. The baby was in longitudinal lie, cephalic presentation with the head being five-fifths above the pelvic brim.

The fetal cardiac activity was normal.

Other Systems:

These were essentially normal.

Diagnosis: Antepartum haemorrhage + Pre-eclampsia.

Management:

The clinical examination findings and their implications were explained to the patient who was then prepared for examination under anaesthesia with the option of emergency caesarian section based on the findings during the former . Blood specimen for grouping and crossmatching was withdrawn and intravenous fluid infusion started. Premedication with 0.6mgs of atropine was given and the patient taken to theatre where general anaesthesia was induced, the patient put in lithotomy position and vulvovaginal toilet done. Speculum examination findings were that the external genitalia appeared normal as was the vaginal wall. The cervix was open with moderate fresh bleeding through the os. On digital examination, the cervix was found to be 4cm dilated with intact membranes.

The placenta was not felt, but some clots were palpable. With the patient supine on the operation table, the abdomen was cleaned and draped and the peritoneal cavity accessed via a pfannenstiel incision. The paracolic gutters were packed and routine lower uterine segment caesarian section performed. The female infant weighed 2650g and had an Apgar score of 4 at 1 minute, 7 at 5 minutes and 9 at 10 minutes. The placenta and membranes were removed complete, but it was noted that there was a big retroplacental clot of about one kilogram. The abdomen was closed in anatomical layers after the swabs and instruments had been confirmed to be of the correct number.

Post Operative Care:

The patient's vital signs were observed half-hourly until she was fully awake then 4 hourly. She was also observed for any untoward lochia loss. She was given adequate analgesia (pethidine) and antibiotics (crystalline penicillin + gentamicin).

She recovered quite well and was allowed home on the fourth post-operative day to be reviewed at the postnatal clinic after four weeks. She was given haematinics to help build up her haemoglobin level. The blood pressure remain normal and she was only maintained on phenobarbitone without the use of antihypertensives.

Discussion:

J.M was a 36 year old para 1 + 1 who underwent an emergency caesarian section due to antepartum haemorrhage as a result of abruptio placenta and pre-eclampsia. The outcome was a live baby. The blood pressure remained normal after delivery and she was managed on phenobarbitone tablets without concommitant use of antihypertensives.

Antepartum haemorrhage refers to bleeding from the genital tract after the gestational age of viability of the fetus is achieved.The definition varies from one region to another (1,2). Abruptio placenta is one of the most serious causes of antepartum haemorrhage and refers to the separation of the placenta from its implantation in the uterine wall before delivery of the fetus (1, 2). The frequency with which abruptio placentae is diagnosed will vary because criteria employed for diagnosis differ. The reported frequency for placental abruption averages about 1 in 200 deliveries. (2).

According to Eagley and Cefalo, the process of abruption begins with uterine vasospasm, followed by relaxation and subsequent venous engorgement and arteriolar rupture into the decidua. The blood then attempts to escape by dissecting under the membranes, sometimes getting into the amniotic sac and producing blood-stained liquor. The alternative path is for the blood to dissect under the placenta, causing it to separate from its maternal attachment, and often extending into the uterine muscle itself. The effect on the myometrium is to cause a tonic contraction, which makes the uterus feel woody and hard. The increase in intrauterine pressure embrasseses the placental circulation, adding to the hypoxia already caused by the separation of the placenta (3).

The primary cause of placental abruption is unknown, but there exist several associated conditions such as increased age and parity, preaclampsia, chronic hypertension, preterm rupture of membranes, cigarette smoking, thrombophilias, cocaine use, prior abruption and uterine leiyomyoma. Abdominal trauma can also result in abruptio placenta. (2, 4, 5). The patient discussed here had pre-eclampsia which may have contributed to the development of abruptio placenta.

When seen at caesarian section, the couvelaire uterus is deeply suffused with haematoma, looking like a huge bruise. The patient looks distressed and unwell, the abdomen is tender and the uterus has a woody consistency. If placental separation is extensive, fetal parts are difficult to identify and the fetal heart beat may be very slow or absent. If the placenta is posterior, tenderness is less marked and the patient complains of backache. (1, 6). Our patient had mild generalized tenderness of the abadomen. The blood pressure is a poor guide to the extent of bleeding. The co-existence of hypertension (whether the cause or effect) confuses the usual association of haemorrhage with hypotension. Some cases are unsuspected and only diagnosed in retrospect (the silent abruption). (7)

Our patient had profuse vaginal bleeding, backache and abdominal pains. There was, therefore, no difficulty posed as far as the diagnosis was concerned since she had to be rushed to theatre for examination under anaesthesia and delivery.
According to Sher and Statland (1985).

Placental abruption can be graded as follows:

Grade I - Not recognized clinically before delivery and usually diagnosed by the presence of a retro-placental clot.

Grade II - Intermediate: the classical signs of abruptio placenta are present but the fetus is still alive.

Grade III - Severe: the fetus is dead.

III a - without coagulopathy

IIIb - with coagulopathy

Our patient had grade II placental abruption.

The differential diagnoses are ruptured uterus, haematoma of the rectus sheath, retroperitoneal haemorrhage, rupture of an appendicular abscess, acute degeneration or torsion in a uterine fibroid (myoma), preterm labour with heavy show and extrauterine incidental sites such as cervical carcinoma. (1).

One of the most feared complications of placental abruption is coagulopathy which may range from being mild to being disseminated (DIC) resulting from the release of

thromboplastin from damaged muscle or a dead fetus. Shock due to bleeding may be worsened by the state of coagulopathy, but blood loss is usually underestimated, notably when there is couvelaire uterus (1, 2). In the management of the patients , action must be swift and decicive. An intravenous access must be established and blood loss corrected, care being taken to avoid overinfusion. Clotting factors should be screened and platelet count carried out. The urinary output must be monitored closely, aiming at about 30mls per hour. (1, 2,3).

The options of management may be expectant, immediate caesarian section or rupturing the membranes and aiming at vaginal delivery. Expectant management may be useful where the diagnosis is doubtful or where the abruption is very minor and should be considered against the length of gestation, history of previous episode, the state of the fetus and extent of placental separation. Monitoring of the fetus in this instance must be meticulous. Caesarian delivery should be applied where the baby is still alive (Grade II abruption) and it should always be borne in mind that perinatal mortality remains high regardless of the route of delivery and that couglopathymay increase the risk of surgery. Rupturing the membranes and hastening delivery may be an option and may encourage uterine contraction and reduce the bleeding but if the uterus is atonic the problem of bleeding may be worsened instead. Syntocinon infusion should preferably be started before the artificial rupture of the membranes. This method may be useful for dead foetus or advanced labour. In Grade II placental abruption the only indication for ceasarian delivery is uncontrollable bleeding or failure of conservative management. If the patient is not in labour the membranes should be ruptured and syntocinon infusion started. The uterus may be outlined and observations made for changes in size as a way of checking against concealed bleeding.

The patient discussed here had grade II abruptio placenta and was noted to have active bleeding through the cervical os. An emergency caesarian section was therefore necessary and although the apgar score was initially low, the neonate improved quite well.

The blood pressure remained within the normal range and the patient was never managed on antihypertensivies. She was only put on phenobarbitone

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4. TRAUMA TO THE ABDOMEN IN PREGNANCY:- MACERATED STILLBIRTH.

Name : V.E.
Age : 24 years
Ip. No. : 0798304
DOA : 22/3/2002
DOD : 28/3/2002
Diagnosis : IUFD following trauma to the abdomen
Parity : 2 + 0

Presenting Complaints:

The patient complained of drainage of liquor amnii and loss of fetal movements over a period of two days and also generalized body aches over the same duration.

History of presenting complaints:

She alleged to have been beaten up and kicked on the abdomen by the spouse 3 days prior to the onset of drainage of foul smelling liquor amnii which she had had for 2 days at the time of admission. She also had generalized body aches and had not perceived fetal movements over a period of 3 days. On the day of admission, she had developed intermittent lower abdominal pains.

Obstetric and Gynaecologic History:

She was a para 3 + 0, gravida 4, whose last deliveries were as follows:

- In 1993 – spontaneous vertex delivery of a male baby who weighed 2.5 Kgs. He was alive and well.
- In 1997 – Sponteneous vertex delivery of a male infant of weight 2.5Kgs. This was also alive and well.
- In 1999 – Emergency caesarian section was done due to cephalopelvic disproportion with prolonged labour. The outcome was a fresh still birth (FSB) with the weight being 3.5Kgs.

She was unsure of the last menstrual period and had regular menstrual flow which lasted 4 days in a cycle of 28 days. There was no history of contraceptive use.

Past Medical History:

This was not significant.

Family and Social History

She said she was married to a man who never liked her much. They had been married for about 10years. She was unemployed, while the man engaged in small scale business activities. He was the father of all the children. The man drank alcohol and smoked cigarettes. The children stayed upcountry with their paternal grandmother in Kakamega.

Drugs:

There was no known history of allergy.

Systemic Enquiry:

There was nothing of relevance obtained.

General Physical Examination:

She was in fair general condition, was afebrile and not pale. She had no jaundice or lyphadenopathy.

The pulse rate was 80 per minute, the blood pressure 120/80 mmHg, the respiratory rate 24 per minute and the temperature 36°c.

- she had multiple bruises on the left forearm and on the left side of the face.

Abdominal Examination:

The abdomen was grossly distended and moved with respiration. There was a midline infraumbilical scar. The fundal height felt term, the fetus was in longitudinal lie with cephalic presentation, the descent being 3/5 above the pelvic brim. The fetal heart sounds were inaudible. There were mild palpable uterine contractions, but no areas of tenderness.

Vaginal Examination:

There was evidence of show at the introitus, the external genitalia being normal in appearance. The vaginal wall was normal with the cervix being 5 cm dilated, soft and partially effaced. There was no caput succedaneum or moulding of the fetal head. There was meconium stained liquor grade III. The pelvis felt adequate clinically.

Other systems - Normal findings.

Emergency ultrasound was done - this showed intrauterine fetal death.

Diagnosis"

Established labour with intrauterine fetal death following physical assault.

Management:

The examination findings were explained to the patient. A decision was made to try the scar and blood specimen for grouping and crossmatching taken to the laboratory. Intravenous infusion of 5% dextrose was commenced and labour monitored by use of a partograph. She was also given intravenous injection of 2mu of crystalline penicillin 6 hourly, 80mg of gentamicin 8 hourly and 500mg of metronidazole 8 hourly.

The labour progressed well and the patient had a macerated still birth (MSB). It was a male of weight 1800g. The placental weight was 300g. There was no retroplacental clot or evidence of early seperation of the placenta. There as also no evidence of rupture of the uterus.

The patient was subsequently maintained on ampiclox, metronidazole and ranferon. She was counseled and allowed home on 28/3/2002 to be reviewed at the postnatal clinic after two weeks and also to be followed up at the patient attempts to get the spouse for counseling support center were hospital during the admission period.

Discussion:

V.E. was a 24 year old para 2 + 0 admitted with intrauterine fetal demise which was attributed to trauma to the abdomen inflicted by her spouse 5 days earlier. She eventually had uneventful labour and had a macerated stillbirth (MSB).

The incidence of accidental injury during pregnancy is estimated to be 6 to 7%. In most cases, injury is minimal and is not associated with a significant increase in perinatal mortality. Major trauma, however, may place the mother and infant at severe risk (1).

The trauma could be blunt or penetrating. Blunt trauma could result from automobile accidents, pedestrian accidents, falls and assaults. Those who sustain major trauma may succumb to haemorrhagic shock. Fetal death may be associated with maternal death, maternal hypotension, fetal injury, and injuries of the pelvic viscera, uterus and placenta. Case reports have described fetal and neonatal death secondary to in utero traumatic splenic rupture, placental laceration, and contusion with haemorrhage of the liver, adrenal gland, and kidney (1, 2, 3, 4). Our patient was subjected to blunt trauma to the abdomen and had fetal demise, but the nature of fetal injury was not determined. There was no evidence of placental abruption which is known to be one of the major causes of fetal and maternal morbidity and mortality in cases of trauma.

Ojwang reported 2 cases of uterine rupture following road traffic accidents. Both patients were taken to the Kenyatta National Hospital after being hit by motorvehicles while they were crossing the road on different occasions on their way to antenatal clinic. Both fetuses died, but one mother survived. The uterus appeared to have burst in both cases and this could have been due to the fact that a gravid uterus is distended with amniotic fluid and a solid mass (fetus) (5).

There is increasing recognition of physical abuse of the mother and this may be serious enough to cause grievous harm to the mother or fetus. Evidence of placenta abruption, uterine rupture and fetal injuries must be looked for under such circumstances. It is, however, useful to note that fetuses are actually well protected from external trauma

by intervening maternal structures and amniotic fluid and not all cases of fetal demise should necessarily be attributed to trauma. (1, 6).

The mother may sustain multiple bone fractures in addition to internal injury. Diagnostic peritoneal lavage for blunt trauma in pregnant women has been found to be both safe and accurate in diagnosing intraabdominal injuries. (7). Physical examination of the abdomen is thought to be less reliable in the pregnant patient (8).

Splenic rupture has been postulated to occur more frequently in pregnant than non-pregnant women. A clinical pattern of biphasic rupture or delayed haemorrhage mandates close prolonged surveillance in suspected cases. (1).

Pelvic fractures are usually associated with motor vehicle accidents, but may follow other types of trauma. Serious complications are related to urologic and vascular damage. Retroperitoneal haemorrhage may be massive. Non-expanding retroperitoneal haematomas found at laparotomy should probably be left alone to prevent further haemorrhage (9). The most common site of fracture is the anterior half of the pelvic ring, at the horizontal pubic rami (10). Less than 10% of patients with pelvic fractures require caesarian section secondary to pelvic deformity (1).

In crush injuries, prolonged pressure to the limbs may produce rhabdomyolysis, leading to acute renal failure, hyperkalemia, lactic acidosis, DIC, and possibly death. Severe hyperkalemia exacerbated by hypocalcaemia may cause cardiac arrest.

A forced mannitol – alkaline diuresis may prevent hyperkalaemia and renal failure (12)
As the uterus expands during pregnancy the bowel is compartmentalized into the upper abdomen and therefore the gravid uterus becomes the most frequently injured organ in cases of penetrating abdominal trauma. Caesarian section is indicated for fetal distress at a viable gestational age. (1).

Exploratory laparotomy is not, per se, a reason to perform caesarian section. Maternal

indications for delivery include severely compromised maternal cardiovascular status and obstruction of the operating field by the grarid uterus that limits surgical exposure of damaged vital structures. Fetal indications for delivery include fetal haemorrhage and distress and intraamniotic infection (13). The patient under discussion was found to be in labour at the time of examination and, therefore, posed no problems as far as the decision on mode of delivery was concerned.

The management of mothers following trauma should be like for the rest of other patients, but it is important to note that fetal surveillance by way of serial ultrasound scans and electrocardiography adds a different dimension to the management in pregnant women.

Pregnant women form a special group who should be well versed with safety measures at home, at the place of work and other places like the roads. They should, for instance, be aware of the need to have well fitting seatbelts in motor vehicles and should preferably be accompanied while crossing the road. They should also be advised on the need to seek prompt medical attention following an injury, however minor. I believe our patient could have had a delivery of a live baby had she been seen as soon as the trauma occurred. The spouses should be involved during the antenatal following so that they are also aware of the dangers facing the pregnant women in the environment and how they may be of help in not only preventing the injuries, but in offering first aid to them before definitive medical care can be instituted. Unfortunately, the spouse of this patient failed to turn up during the hospitalization period and counseling of the couple could, therefore, not be instituted. She was to be reviewed at the postnatal clinic and the patient support center, but at the time of visiting this report, she had no need reviewed.

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5. DEEP VENOUS THROMBOSIS : VAGINAL DELIVERY - LIVE BABY

NAME	:	V.W.
Age	:	25 years
IP. No.	:	0823274
DOA	:	20/07/2002
DOD	:	14/09/2002
DIAGNOSIS	:	Deep Venous Thrombosis (DVT)
PARTY	:	1 + 0

Presenting Complaints:

The patient was admitted complaining of having had swelling of the left lower limb over a period of one and a half weeks.

History of Presenting Illness:

She said she initially had numbness of the left lower limb which later became painful and had progressively become swollen. There was no history of trauma, chest pain, dyspnoea or having been sedentary for an abnormally long period of time and she never had fever or chills.

Obstetric and Gynaecologic History:

She was a para 1 + 0 whose last delivery was by spontaneous vertex delivery in 1995. The baby was of masculine gender and had weighed 2.9Kgs. He was alive and well. Her last menstrual period was in December, 2001, but she was not certain of the exact date. The ultrasound scan done estimated the gestational age to be about 32 weeks. She had menstrual periods which lasted 3 days in a cycle of 28 days, although they were irregular in some months. She had her menarche at the age of 14 years and had used oral contraceptive pills erratically from the last delivery.

Past Medical History:

This was not significant.

Drugs:

She was allergic to penicillin . She had developed shock once after being injected with penicillin.

Family and Social History:

She was single and lived with her mother in Kikuyu. She was a hairdresser who neither smoked nor drank alcohol. There was no family history of chronic illness known to her.

Systemic Enquiry:

There was nothing of significance obtained.

General Physical Examination:

The patient was in fair general condition. was mildly pale, not jaundiced and had no hymphadenopathy. The pulse rate was 72 per minute. the respiratory rate 20 per minute. temperature 36^0c and the blood pressure 110/60 mmHg.

Musculoskeletal system examination:

The left lower limb appeared swollen. shiny. tender and warm. Its diameters were greater than those of the right size.

Abdominal Examination:

The abdomen was grossly distended with inverted umbilicus and prominent linear nigra.

The fundal height felt 34 weeks and the fetus was in cephalic presentation. The descent was 5/5 above the pelvic brim. The fetal heart sounds were normal.

Vaginal Examination

This was not done.

Diagnosis:

Deep venous thrombosis (DVT).

Plan of Management:

The clinical findings were explained to the patient who was then subjected to the following investigations:

1. Haemogram: (on 27/7/2002):
   WBC Count – 13.2 x 10 9/l
   Hb – 7.9 g/dl.
   Platelet count – 173 x 10 9 /l
2. VDRL – Negative.
3. Blood Group – O rhesus positive.
4. Activated Partial thromboplastim time (APTT)
   was 35.9 seconds, control 29.1 seconds.
5. Hiv - Negative

Ultrasound scan of the abdomen and the lower limbs: (on 25.07.2002).

- Gray, pulsed, colour Doppler evaluation was done from the external iliac to the calf veins. The external iliac, common iliac and superficial veins were dilated and non-compressible.

There was no spectral flow shown.

The popliteal vein, though compressible, showed no spontaneous spectral flow.

The conclusion was that of deep venous thrombosis (DVT) of the proximal left lower limb.

Obstetric ultrasound showed a normal intrauterine fetus in cephalic presentation at 32 weeks and 3 days.

She was given intravenous infusion of 10,000 iu of heparin in normal saline 6 hourly with marked improvement, the swelling and pain subsiding completely. She was also managed on haematinics and ibuprofen and subsequently given warfarin concurrently with heparin for 3 days then the heparin infusion withdrawn. She was allowed home on 06/08/2002.

The patient was followed up at the antenatal clinic uneventfully and was readmitted on 23/8/2002 at about 36 weeks gestation to be restarted on heparin which she was given in a dose of 5000 in 6 hourly. The investigations carried out were as follows:

1. Haemogram (28.8.2002).
   WBC Count - 5.6 x 10 g/l
   Hb - 11.3g/dl.
   Platelet count - 188 x 10 g/l
   Neutrophils - 54%
   Lymphocytes - 41%
   Marocytes - 5%
2. Coagulation profile: (29.8.2002)
   Prothrombin time 15 seconds
   Control 15 seconds
   Index 100%
   INR – 1.0

SSS

   APTT 33.6 seconds
   Control 34.9 seconds

Coagulation times were noted to be subtherapeutic and the dosage of heparin adjusted to 75000 iu 6 hourly on 3/9/2002.

On 8.9.2002, at about 39 week gestation, the patient developed labour pains and vaginal assessment confirmed that she was in active phase of labour. Protamine sulphate as antidote for heparin was kept ready, blood specimen for grouping and cross matching taken to the laboratory and fresh frozen plasma also requested for.

The labour progressed well with resultant spontaneous vertex delivery of a male infant whose Apgar score was 8/4, 9/5 and the weight 3100g.

The estimated blood loss was 300mls one would have expected a greater los due to the effect of heparin.

She was restarted on heparin which was subsequently given together with warfarin

before she was allowed home on 14/9/2002 on warfarin plus haematinics. She was to be reviewed at the postnatal clinic with the latest coagulation screen results.

She was reviewed at the postnatal clinic on 4.10.02 and she had no complaints.

The coagulation screen report was normal and she was advised to be reviewed at the female welfare clinic for counseling on on the available family planning method. She was also to attend haemertology clinic for further follow-up.

Discussion:

Pregnancy and puerperium traditionally are considered as one of the highest risks for otherwise healthy women to develop venous thrombosis and pulmonary embolism. (1). Thromboembolization denotes all vascular occlusive processes, including thrombophlebitis, phlebothrombosis, septic pelvic thrombophebitis, and embolization of venous clots to the lungs (2).

The incidence of thromboembolism is 0.2 % in the antepArtum period and 0.6% in the postpartum period. Caesarian section increases the incidence to 1 - 2%. Pulmonary embolism, with a mortality rate of 15%, occurs in 50% of patients with documented deep vein thromboses and only 5 – 10% of these are symptomatic. (2). In Kenya, it has been shown that deep venous thrombosis occurs in 0.16% of all admissions. Out of these, 87.5 % were pregnancy related deep venous thrombosis. About 51.4% occurred in the postpartum period, 37.14% antenatally and 11.43% in the post-abortion period. (3). In the patient discussed deep venous thrombosis occurred in the antenantal period.

Vascular clotting develops mainly due to circulatory stasis, infection, vascular damage, or increased coagulability of blood. All the elements of virchow's triad (circulatory stasis, vascular damage, and hyper coagulatibility of blood) are present during pregnancy. Increase in caliber of capacitance vessels produces vascular stasis, and blood hypercoagulability is due to increased amounts of factors VII, VIII, and X. Thrombin – mediated fibrin generation is increased many times during pregnancy. Significant vascular damage occurs during delivery. Venous return from the lower extremities is reduced by the pressure of the gravid uterus on both the iliac veins and the inferior vena cava. Other important predisposing factors include heavy cigarette smoking, obesity, previous thromboembolism, anemia, hemorrhage, heart disease, hypertensive disorders, prolonged labour, operative delivery, and postpartum endometritis (1, 2). The only risk factor in the patient discussed was pregnancy.

More recently, attention has been directed to a number of isolated deficiencies of proteins involved either in coagulation inhibition or in the fibrinolitic system. These deficiencies, collectively referred to as thrombophilias, can lead to hypercoagulability-

and recurrent venous thromboembolism. Principal thrombophilias arise from mutations that cause quantitative or qualitative deficiencies of antithrombin III, protein S and C, factor V and IX, abnormal methylenetetrahydrofolate reductase (MTHFR) gene. (4, 5). Thrombosis limited strictly to superficial veins of the saphenous system is treated with analgesia, elastic support, and rest. If it does not subside, or if deep venous involvement is suspected, appropriate diagnostic measures are taken, and heparin is given if deep vein involvement is confirmed. Superficial thrombophlebitis is typically seen in association with superficial varicosities or as a sequela to intravenous catheterization. (1).

Most cases in pregnancy are confined to the deep veins of the lower extremity. (1). Phlebothrombosis is coagulation of blood in the veins without apparent antecedent inflammation. The clot is usually loosely adherent and causes incomplete occlusion. When thrombosis of a vein is secondary to inflammation of the wall of the vein, the condition is known as thrombophlebitis. Both disorders can cause pulmonary embolism. Deep vein thrombophlebitis may result from the superficial form and this is an ominous condition. It is more common during the 3rd trimester and the first few days of the puperium. (2). Our patient developed DVT at about 32 weeks gestation which agrees with this statement.

Superficial thrombophlebitis is suspected when an erythematous tender, firm cordlike superficial vein is palpated. Clinical diagnosis of deep vein thrombosis is neither sensitive nor specific, the false positive rate is as high as 50%. Most deep vein thrombi are completely asymptomatic. Symptoms may be subtle or classic depending upon the site and extent of the thrombus and the status of the collateral venous circulation. Classic features include swelling of the affected site of the leg, pain, tenderness, local cyanosis, and fever. These features are common if the proximal veins are involved. Pain in the calf muscle with dorsiflexin of the foot on the affected leg (Homan's sign) has little value in diagnosis and carries the risk of embolism. Most patients with pulmonary emboli do not have prior evidence of venous thrombosis. Iliefomoral venous thrombophebitis causes acute swelling in the leg, pain above the hip, tenderness over

the femoral triangle, and vaginal bleeding. (1, 2). Our patient had pain and swelling of the affected limb, but none of the other described signs and symptoms.

Although venography or phlebography remains the standard for the confirmation of deep venous thrombosis, non-invasive methods have largely replaced this method to confirm the clinical diagnosis. Venography is time-consuming, expensive, cumbersome, and has serious complications. Likewise, impedence plethysmography is seldom used today. Real time – ultrasonography, used along with duplex and colour Doppler ultrasound, is currently the procedure of choice to detect deep vein thrombosis (6). The diagnosis of deep vein thrombosis in our patient was confirmed by ultrasound with colour Doppler studies.

Magnetic reasonance imaging is reserved for specific cases in which the ultrasound findings are equivocal, or with negative ultrasound findings but strong clinical suspicion. Computed tomographic scanning also may be used to assess the lower extremities. It requires contrast agents and ionizing radiation which limits its use in pregnancy.

Although it causes about 10% of maternal deaths, pulmonary embolism is relatively uncommon during pregnancy and the puerperium. The symptoms are dysphoea, chest pain, cough, syncope, and haemoptysis. The predominant clinical signs include tarchypnoea, dyspnoea, pleuritic pain, apprehention, cough, tarchycardia and haemoptysis. The laboratory findings may be non-specific (1, 6). The patient under discussion did not develop this life threatening conditions.

The treatment of superficial venous thrombophlebitis consists of elevation of the affected leg and local application of moist heat. In resistant cases, non-steroidal antiinflamatory drugs may be used, but these should be avoided in pregnant women because they may cause premature closure of the ductus arteriosus in the fetus. In high-risk patients with varicose veins, custom-made support panty hose should be worn. (2).

Treatment of deep venous thrombosis consists of anticoagulation, bed rest, and

analgesia. For all women, during either pregnancy or postpartum, initial anticoagulation is with either unfractionated heparin or with low-molecular weight heparin. For women still pregnant, heparin therapy is continued , and for those postpartum, warfarin therapy is given. The use of low molecular weight heparin in pregnancy has been limited (7).

Heparin is a naturally occurring, negatively charged polysaccharide with an average molecular weight of 16,000 found in cells of most animals. It is effective intravenously or subcuteneously. The activity of antithrombin III is markedly increased by heparin. It may be given by intravenous infusion or subcutaneously. The anticoagulant action of heparin occurs within 10 – 15 minutes of injection, but the effect disappears in 2 hours. Tests used to monitor heparin therapy include coagulation time, activated partial thromboplastin time, and heparin assay. It should not be given if the platelet count is below 50.000/ul. The partial thromboplastin time should be 1.5 to 2 times the control value during heparin therapy. The major side effect is bleeding in about 5% of cases. Other complications include thrombocytopaenia, osteoporosis, and fat necrosis. Protamine sulphate is its antidote. Protamine. 1mg per 100 units of heparin, will quickly shorten the partial thromboplastin time. Care must be taken not to give too much protamine. since it can induce bleeding (1. 2. 6). It is fortunate that none of these untoward effects of this drug occurred in our patients.

Opinion is divided as to whether the oral anticoagulants such as warfarin should be used in pregnancy. Some authorities believe that it may be used safely between the 12^{th} week and 36^{th} weeks of gestation. yet others do not recommend its use at all. It may cause teratogenic effects such as nasal hypoplasia. skeletal abnormalities. and multiple central nervous system abnormalities. Fetal and placental bleeding leading to intrauterine fetal demise has been described with the use of warfarin. Its therapeutic effect depends on its ability to inhibit the action of vitamin K. at the Kenyatta National Hospital, warfarin is still widely used from 14^{th} week of gestation upto 36^{th} weeks .

The usual dose of warfarin is 10 – 15mg /day until the therapeutic level of prothrombin time is achieved (1.5 - 2.5 times the control value). Thereafter, a maintenance dose is

given based on prothrombin time, which should be checked twice daily. Vitamin K. (phytonadione), 5mg given intravenously, is the specific antidote for warfarin. (1, 2) The patient discussed here was managed successfully on heparin, warfarin, heparin and finally warfarin and she never got any complications.

Routine placement of a vena caval filter has no added advantage to heparin given alone to prevent pulmonary embolism in patients with deep venous thrombosis. In the very infrequent circumstances where heparin therapy fails to prevent recurrent pulmonary embolism from the pelvis or legs, or when embolism develops from these sites despite heparin given for their treatment, then a vena caval filter is indicated. The device is inserted through either the jugular or femoral vein. (8)

Optimal management of women with firm evidence of a prior thrombolism is unclear. The American College of Obstetricians and Gynecologists recommends 5000 to 10,000 units of heparin every 12 hours throughout pregnancy

Tengborn and colleagues have, however, discounted the role of such prophylaxis. The use of low molecular weight heparin has been reported to be efficacious for prophylaxis in high – risk pregnant women. The increased risk of recurrence of deep vein thrombosis has also been demonstrated in Kenya (3). Our patient was conselled on this and the need for prophylaxis in future pregnancies.

The use of Aspirin (Acetyl salicylic acid) for various thromboembolic disease prevention during pregnancy should be avoided and is said to be of no benefit to the patients. Its benefit has been shown in men undergoing hip replacement. (11).

Because of the risk of thromboembolism, it is important to offer aggressive treatment to patients with DVT and to monitor the effects of the drugs closely since some of the arising complications tend to be sudden in onset and may even have e fatal sequelae. The patient discussed here was on a close follow-up and did not develop any complications.

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6. ANENCEPHALY, CAESERAN SECTION WITH INCIDENTAL DIAGNOSIS OF BREECH PRESENTATION

Name: C.W.

Ip No.: 0824814

DOA: 25.07.2002

DOD: 30.07.2002

Diagnosis: Anencephaly; breech presentation

Parity: 0+3

Presenting Complaints

The patient was admitted with abdominal pains and vaginal discharge over a period of 2 days.

History of presenting complaints:

She had intermittent lower abdominal pains which were initially mild and had progressively intensified over a period of two days. There was also a clear per vaginal discharge and she complained of frequency of micturition associated with urgency, but there was no dysuria.

Obstetric and gynecological history:

She was a para 0+3 whose last pregnancies were as follows:

1st -1999 Spontaneous abortion at 3 months followed by evacuation of the uterus.

2nd -2000 Spontaneous abortion at 3 months. Evacuation was done

3rd –2001 Spontaneous abortion at 3 months no evacuation was done

The last menstrual period was 26th November 2001, expected date of delivery 2nd September, 2002 and the gestational age 34 weeks and 3 days. She had attended antenatal clinic at Kihara health center from 18 weeks of gestation. The hemoglobin on 2.4.2002 was 8g/dl, the blood group A-Rhesus positive and VDRL negative. He had had no problem thus far.

Menarche -Was at 14 years

Menses -the menstrual flow lasted 3 to 4 days in a cycle of 28 days. They were regular and she had history of moderate dysmenorrhoea.

Contraception –she had not used any method of contraception.

Past Medical History

There was nothing of significance

Family And Social History

She was married, unemployed and lived with the husband at Gachie, Nairobi. She had no history of smoking or drinking of alcohol. The father-in-law was diabetic, while her mother was hypertensive.

Drugs

She had no known history of allergy

Systemic Enquiry

There were no major problem elicited.

General Physical Examination:

The patient was a young lady in fair general condition, was mildly pale, but had no oedema of jaundice.

The pulse rate was 98/minute, respiratory rate 18/minute with a blood pressure of 120/70mmHg

Abdominal Examination

The abdomen was uniformly distended, non-tender, tense with the fetal parts not being clearly discernible. The fundus felt term and the fetus was in longitudinal lie. The presentation was unclear as was the descent.

Vaginal Examination (Speculum/Digital)

The external genitalia appeared normal, but there was evidence of thick white discharge on the vaginal wall and the cervix appeared inflamed. The cervix was long, central and closed

Other systems –These were essentially normal .

Diagnosis

A tentative diagnosis of urinary tract infection with cervicitis was made.

Management

The patient was to have urinalysis, haemogram and obsteric ultrasound done urgently and was empirically started on antibiotics (amoxycillin) and transferred to the antennal ward.

On 26.7.2002, she was noted to have had spontaneous rupture of the membranes and the uterine contractions had intensified. It was noted that the amount of liquor was profuse and the fundal height had reduced to 32 weeks size. The cervix was 4 cm dilated with meconium staining of liquor grade I.

The presenting part still remained unclear and since the fetal heart sounds were muffled and irregular, a decision to carry out an emergency caesarean section was made. Blood specimen was taken for grouping and cross – matching and 0.6mg of intramuscular atropine given for premedication after consent was obtained.

In theatre, aseptic catheterization was done and about 200mls of clear urine recovered. With the patient supine on the operation table, the abdomen was cleaned, draped and general anaesthesia induced and maintained. An infraumbilical midline incision was made and the peritoneal cavity accessed, the paracolic gutters packed then breech extraction of an anencephalic baby done. The outcome was a fresh – stillbirth (FSB) and the weight was 1550g. The umbilical cord and placenta appeared normal, but there was a degree of placenta accreta. The liquor had meconium staining grade II. The uterus was then repaired in 2 layers and the uterovesical peritoneum repaired. A small left ovarian

cyst of about 3 cm in diameter was also noted and punctured. Haemostasis was achieved.

The abdomen was closed in anatomical layers after the swabs and instruments had been counted and found to be of the correct number then vulvo vaginal toilet done. There was only minimal vaginal bleeding noted. The catheter was removed and the urine noted to be clear. Postoperatively, the vital signs were observed ½ hourly until the patient was fully awake then 4 hourly. She was maintained on 500mls of 5% dextrose alternated with 500mls of normal saline 6 hourly until the bowel sounds were auscultated and the patient started on oral fluids.

She was given intravenous crystalline penicillin and gentamicin for 48 hours, then oral ampiclox for a further 72 hours and 100mg of intramuscular pethidine 8 hourly to relieve pain.

The patient was counseled on the findings at surgery and the possibility of recurrence of this type or other neural tube defects in subsequent pregnancies. She did quite well postoperatively and was allowed home on 30.7.2002 to be followed up at the postnatal clinic 6 weeks postpartum.

Discussion:

A 24 year old para 0 + 3 admitted in labour with unclear presentation of the fetus and subsequent diagnosis of anencephaly and breech presenattion on performing cesarean delivery is discussed.

Anencephally is part of the neural tube defects and is the most severe one in which forebrain, meninges, vault of the skull, and scalp all fail to form. It is lethal, resulting in still birth or early neonatal demise. Our patient had a fresh still birth.

After cardiac defects, isolated (non-syndromic) neural tube defects are the most common congenital structural defects with a worldwide incidence of 1.4 to 2 per 1000 live births. They can also occur as part of a genetic syndrome or a constellation of abnormalities. They are a major cause of still birth, neonatal and infant death, and lifelong severe handicap.

The factors that influence the eventual neurological function include the size and location of the defect trauma to exposed neural tissue, timing of closure, degree of associated ventriculomegally, and occurrence of complications such as infection. (1).

Apart from anencephaly, other cramal defects include:

1) Excencephally – failure of scalp and skull formation with exteriorization of an abnormally formed brain.
2) Encephalocele – extrusion of brain tissue through a defect in the skull.
3) Eniecephally – a defect of the cervical and upper thoracic vertebrae and base of the skull wit abnormally formed brain tissue and extreme retroflexion of the upper spine.

- Spina bifida involves failure of fusion of the vertebral arches, so that meninges (meningocele) or neural tissue plus meninges (meningomydocele) are exposed to the ammotic fluid and eventually to the environment.
- Rachischisis describes the situation in which none of the vertebral arches fuse, and the entire spine is open. This condition is generally incompatible with life.

A study done in 1985 by Muga revealed that the overall incidence of externally discernible malformation was 28.1 per 1000 live births at the Kenyatta national

hospital. Muskuloskeletal system was leading in congenital malformations with 33.9%, followed by central nervous system which attributed 28.6 % out of which the distribution was as follows:

- Hydrocephally - 32.4%
- Anencephally - 29. 4%
- Microcephally - 17. 6%
- Spina – bifida - 11.8%
- Cyclops - 5. 9%
- Encephalocele - 2. 9%

Akech found that of the (1.9%) as the incidence of congenital malformations, 64% were of the CNS (2,3) neural tube defects are classical examplesof multifactional inheritance. Their occurrence is influenced by environment, diet, physiological abnormalities such as hyperthermia or hyperglycaemia, teratogen exposure, family history, ethnic origin, fetal gender, amniotic fluid nutrients, and various genes.(1) It was not clear why our patient had had three consecutive abortions that was now followed by anencephaly in her 4th pregnancy and one of these factors could have been responsible. She was scheduled for further followup and investigations at the gynaecology outpatient clinic. Given that there is risk of recurrence of any of the neural tube defects, it is possible that some if not all of previous fetuses may have had related problems. Hall and colleagues reported in 1988 that there was a 7.8% recurrence risk with high spina bifida , 0.7% with low spina bifida, 2.2% with anencephaly, and no increased risk for Graniorachischisis, encephalocele, or multiple defects (1. 6). Although Hibbard and Smithels (1965) postulated that abnormal folate metabolism was responsible for many neural tube defects, a specific gene defect associated with folic acid metabolism has only recently been implicated. (1 , 4). Folilc acid supplementation reduces neural –tube defect recurrences by 70% and significantly reduces first occurrences. (4) without folic acid supplementation, the empirical recurrence risk after one affected child is 3 to 4 percent, and after 2 affected children it is 10 per cent. With supplementation, the risk after one affected child is less than 1 per cent.

In anencephaly there is deficiency of pituitary tissue, and along with this there is marked hypolasia of the adrenal cortex. (1)

There are several antenatal diagnostic signs of this condition. Hydramnios (polyhydramnious develops because of the inability of the fetus to swallow amniotic fluid; fetal x-ray shows absence of the skull, and concentration of x - fetoprotein are elevated in the amniotic fluid and maternal plasma.

In addition, maternal serum and urinary concentrations of estriol are markedly decreased because of adrenocortical hypoplasia. The diagnosis may also be made antenatally by ultrasonic examination. (5).

Our patient had been followed up at a health centre antenatally and did not have the benefit of having an obstetric ultrasound scan done. She had polyhydramnios and due to this was scheduled to have an ultrasound scan in our set up because it made it impossible to assess fetal lie, presentation and any other abnormalities.

Unfortunately for her she developed labour pains and was discovered to have breech presentation which necessitated Caesarian delivery and she ended up with a still birth. This underscores the need to expedite certain investigative procedures such as ultrasound scan as this would have saved her from an unnecessary caesarian section.

Other than termination of pregnancy in case of a neural -tube defect, options are limited. Antenatal fetal testing, intrapartum fetal heart monitoring, and caesarian delivery for fetal indications are not recommended in the severe conditions like anencephaly, exencephally, and iniencephally.(1)

It is important to note that pregnancies complicated by anencephaly may progress beyond term especially if there is no polyhydramnios. This is due to reduced fetal substrate dehydroepiandrosterone sulphate needed for placental estrogen systhesis. The low estrogen results in inadequate production of membrane phospholipid from which arachidonc acid is cleared for the synthesis of prostaglandigs F2 and F 2 responsible for intrinsic uterine contractions in labour. (6)

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7. UNSENSITIZED RHESUS-NEGATIVE MOTHER REFERRED FROM A DISTRICT HOSPITAL POSTPARTUM: ANTI –D GIVEN

Name: J.M.

Age: 21 years

IP. No: 0808249 .

DOA: 18.5.2002

DOD: 20.5.2002

Diagnosis: Rhesus – factor negative status.

Parity: 1 + 0

History of presenting problem:

This patient was referred to Kenyatta National Hospital from Kangundo district hospital a day after she had had spontaneous vertex delivery of a male infant whose weight was 3500g and was of good Apgar score. Her blood group had been found to be AB rhesus – negative, but that of the baby had not been determined. She could not readily access anti D immune globulin at Kangundo District hospital. The baby was admitted at the newborn unit, Kenyatta Hospital.

Obstetric and gynecologic history:

She was a para 1 + 0 at the time of admission and had been followed up at a Kisii hospital antenatally. The haemoglobin level had been noted to be only 7g/dl at the time of booking at that clinic and she was managed on haematinics. The VDRL test was negative. The blood group was as already alluded to, but HIV test had not been carried out. Her menarche was at 16 years while her menstrual periods lasted 4 days in a regular cycle of 28 days.

Past-Medical History:

There was nothing of relevance.

Family and Social History:

She was married and unemployed. She never smoked and never drank alcohol. She lived in Kangundo, but stayed in Kisii during most part of the pregnancy. The paternal

grandmother had diabetes mellitus.

Drug: There was no Known history of allergy.

Systemic enquiry:

- The patient had been on treatment for generalized skin rashes for a period of one week.

General physical examination:

She was in fair general condition and had generalized psoriaatic skin lesians. She was afebrile, not pale and had no jaundice.

Abdominal Examination:

- There was moderate distension of the abdomen, notably at the suprapubic region. The uterus was well contracted and the size was equivalent to a gestation of 20 weeks.

Vaginal Examination:

There was evidence of repaired episiotomy and minimal per vaginal lochia rubra loss. There were small cervical lacerations without active bleeding from them.

Other systems:

- These were essentially normal.

Diagnosis: Rhesus negative mother in puerperium.

Plan of Management:

The following investigations were carried out:

- Baby's blood group B rhesus positive
- Indirect coombs test (Baby) – NEGATIVE
- Direct coomb's test (mother) NEGATIVE

She was given 300mg of anti-D immune globulin intramuscularly and then allowed home on 20.05.2002 to be reviewed at the dermatology clinic and also advised on the need for close follow-up in subsequent pregnancies.

Discussion:

The patient presented is a 21 year old para 1 + 0 who was referred from Kangundo district hospital a day after vaginal delivery because she had been found antenatally to be of blood group AB – rhesus factor negative yet indirect and direct coomb's tests could not be carried out there in addition to the fact that they did not have ready access to anti-D immune globulin. The baby's blood group was found to be B-rhesus positive while the indirect and direct coomb's tests proved negative.

Over 400 red cell antigens have been identified. Some of them are immunologically and genetically important while, fortunately, many are so rare as to be of little clinical significance. After ABO antibodies which are naturally occurring, anti-rhesus D (anti-D) is the IgG red cell alloantibody found most frequently in patients, pregnant women and blood donors. The D- rhesus factor" is an antibody directed against an erythocyte surface antigen of the rhesus blood group system. The antigens are liporoteins grouped in 3 pairs: Dd, Cc and Ee. The major antigen in this group, Rh.D, or Rh + factor is of particular concern.

In standard testing, when the father is Rh – positive, 2 possibilities exist, ie. he may be homozygous or heterozygous. 45% of Rh – positive persons are homozygous for D, and 55% are heterozygous. If the father his homozygous, all of his children will be Rh – positive, if he is heterozygous, half of is children will be Rh – positive, the other half Rh – negative. By way of contrast, the Rh – negative individual is always homozygous. The CDE genes are inherited independent of other blood group genes and are located on the short arm of chromosome 1.

Like most gene products, there is no difference in the distribution of the CDE antigens with regard to sex, but there are important racial differences. Native Americans, Chinese and other Asiatic peoples are almost all D – positive (99%), about 92 to 93 % of African Americans are D – positive, but only 87% of (1,2,3) Caucasians carry the D-antigen. The Basques show the highest incidence of D – negativity (34%).

At the Kenyatta hospital Mulandi found that 4.1% of pregnant African women were rherus – negative, while in the Nairobi Birth survey in 1983, prevalence in Nairobi was found to be 5% of all mothers attending antenatal clinic (4, 5).

Isoimmunization may occur by 2 mechanisms viz:

1. Transfusion with incompatible blood

2. fetomaternal haemorrhage between a mother and an incompatible fetus as may occur during pregnancy or at delivery.

Some predisposing factors to fetomaternal haemorrhage include abortion, amniocentesis, abdominal trauma, placenta praevia, abruptio placenta, fetal death, multiple pregnancy, manual removal of the placenta and caesarean section. Our patient had not been sensitized by the time of delivery.

As little as 0.1 mls of rhesus – positive cells will cause sensitization and even with delivery, this amount occurs in less that ½ of the cases. Even so, isoimmunization occurs less frequently as explained by factors such as:

1. Varying rates of occurrence of red cell antigens.
2. Their variable antigenicity
3. Insufficient transplancetal passage of antigen or antibody.
4. Variability of the maternal immune response to the antigen.
5. Protection from isoimmunization by ABO incompatibility of fetus and mother.

In this instance, the fetus red cells entering the mother usually an rapidly destroyed before they can elicit an antigenic response.

Another factor benefiting the fetus is that is immunization does not always lead to erythroblastosis fetalis.

The initial maternal immune response to Rh – sensitization is low levels of IgM. Within 6 weeks 6 months, IgG antibodies become detectable, the latter being capable of crossing the placenta and destroying the fetal Rh – positive cells. The result is fetal anaemia with consequent stimulation of extramedullary erythropocetic sites to produce high levels of nucleated red cell elements. Immature erythrocytes are present in the fetal

blood due to poor maturation control. Haemolysis produces heme which is converted to bilirubin; both of these substances are neurotoxic. However, while the fetus is in utero, heme and bilimbin are effectively removed by the placenta and the mother metabolizes them. When fetal red blood cell destruction far exceeds production and severe anaemia occurs, erythroblastosis fetalis may ensure. This is characterized by extramedullary haematopolisis, heart failure, oedema, ascites and pericardial effusion. Tissue hypoxia and acidosis may result.

Normal hepatic architecture and function may be disturbed by extensive liver erythopoiesis, which may lead to decreased protein production, portal hypertension and ascites. Hyperbilirubinaemia leads to further red cell breakdown. The immature (and often compromised) liver, with its low levels of glucuronyl – transferase, is unable to conjugate the large amounts of bilirubin and this may be deposited in the basal ganglia leading to Kernicterus. (1,2,3). Because our patient had not been isoimmunized, these complications were not noted in the fetus. At the Kenyatta National Hospital Kaggia reported a perinatal mortality rate of 600 per 1000 births. (6)

The management of these patients entails the determination of the blood group (ABO + rhesus) and the indirect coomb's test during the first antenatal visit and if the rhesus factor is negative, the paternal blood group. Ideally, if the indirect coomb's test is negative at 28 weeks of gestation, 300mg of rhesus immune globulin should be administered. This is not done routinely at the Kenyatta National Hospital due to prohibitive costs involved. If the mother is already sensitized, the serial bilirubin levels in the amiotic fluid and close fetal surveillance will determine when the pregnancy shall be terminated. The unsensitized mothers should not be allowed to go beyond term. Rhesus immune globulin should be given preferably within 72 hours after delivery and also in circumstances such as abortion, amiocentesis and antepartum haemorrhage.

The baby's blood group was B. positive and therefore, as a prophylactic measure, 300µg of intramuscular anti-D was given Kleihauer – Betke test would be useful in assessing for the degree of fetomaternal haemorrhage.

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8. POST TERM PREGNANCY : INDUCTION OF LABOUR WITH PGE 2 PESSARIES – SVD: LIVE BABY

Name: L. M

Age: 27 years

IPNo: 0826459

DOA: 29/7/2002

DOD: 5.8.2002

Diagnosis: Postmaturity

Parity: 0 + 0

Presenting Complaints

The patient was admitted through the antenatal clinic due to delayed onset of labour.

History of Presenting Complaints:

The patient had not developed labour pains despite the fact that her last menstrual period (LMP) had been on 9/10/01 with the expected date of delivery being 16.07.2002 and the gestational age 42 weeks.

Obstetric and Gynecologic History:

She was a para 0 + 0 and had attended antenatal clinic at the Kenyatta National Hospital from 20 weeks gestation. The antenantal profile was done and tetanus taxoid given twice. The blood group was A-positive. VDRL- negative. HIV (-ve) and Hb – 11.6g/dl. Her menarche was at 16 years and she had regular menstrual flow lasting 4 days in a cycle of 35 days. She had never used any contraceptive method.

Past Medical History:

There was nothing of relevance.

Family and Social History:

She was married and lived with the husband at Harambee estate in Nairobi. She was unemployed, but the husband was in gainful employment. She neither smoked nor drank

alcohol. There was no history of chronic illness in the family.

Drugs:

She was not on any medication and had no known history of allergy to any drug.

Systematic enquiry:

There was nothing of significance elicited.

General physical examination:

She was a young lady in good general condition, afebrile, not pale and had no oedema. The blood pressure was 110/70mmHg the pulse 84 per minute and the respiratory rate 20 per minute.

Abdominal Examination:

The abdomen was distended and non-tender with the fundal height term. The fetus was in cephalic presentation, the head being 5/5 above pelvic brim.
The fetal heart rate was 142 per minute and regular.

Vaginal Examination:

This was done aseptically. The external genitalia appeared normal, the vaginal wall was normal with the cervix being posterior, closed, 1 cm long and of mid-consistency.

The Bishop score was 2.

Other Systems:

These were found to be normal.

Diagnosis: Post maturity based on the last menstrual period.

Plan of Management:

A decision to induce labour had been made based on the last menstrual period and the patient counseled on why it was relevant to do so by the admitting doctor at the antenatal clinic. One prostaglandid E2 pessary (PGE 2) was inserted at the posterior fornix of the

vagina and when the patient was reviewed 8 hours later, she was found to have developed moderate labour pains and the cervix was 6 cm dilated, well effaced and the membranes intact. Artificial rupture of the membranes was done and clear liquor amnii obtained.

The patient was started on intravenous infusion of 5% dextrose.
The labour progressed well and she had spontaneous vertex delivery of a female infant of weight 2700g and Apgar score 8 at 1 minute and 10 at 5 minutes. The placenta, membranes and the umbilical cord appeared normal.

The estimated blood loss was 250mls and there were only minor vaginal and cervical lacerations, episiotomy having not been given. She was injected with 0.5mgs of ergometrine.

The patient did well subsequently and was allowed home on 3.8.2002 and advised to go for advise on family planning methods at the female welfare clinic.

Discussion

L.M. was a 27 year old primigrarida admitted for induction of labour at 42 weeks gestation. This was successfully done with only one prostaglandin E2 pessary.

From the outset it is important to note that the optimal management of pregnancy beyond 42 gestational weeks remains a controversial issue in obstetrics. Induction might increase the likelihood of caesarian delivery, particularly if the cervix is unfavourable. Conversely, permitting the pregnancy to progress beyond 42 weeks might place the fetus at increased risk of morbidity or death (1).

Post pregnancy is defined as a gestation that has progressed beyond 42 completed weeks (294 days) from the first day of the last menstrual period (LMP).

The reported incidence of postterm pregnancy is 3% to 15%, with an average of about 10% (2). Elfenesh found an incidence of 4.9% at KNH & Pumwani Hospital (5). This wide range reflects. in part. the difficulty in accurately defining pregnancy dates. The most common criterion used to establish 'gestational age is the menstrual history, but this has been shown in many studies to be suspect when ultrasound scans in early pregnancy are compared with the dates. This could be influenced by uncertainty in the last menstrual period. recent oral contraceptive use or irregular menstrual cycles. (4. 5)

Sonopgraphic assessment of gestational age is most precise when performed in early pregnancy during which the crown – rump length. the fetal biparietal diameter and femur lengths are quite reliable. During the late second trimester. the best estimate is obtained from the average measurements of the biparietal diameter. head circumference. abdominal circumference. and femur length. (6). If the gestational age estimated by these measurements differs from that derived by the LMP by more than 2 weeks in the second trimester. consideration should be given to recalculating the dates (1). During the third trimester. sonographic gestational age assessment is of limited use in dating a pregnancy (7). The diagnosis of postterm status in my patient was based on the last menstrual period. The problem with this is that there was a risk of getting a preterm infant. Other methods of assessing fetal maturity such as n surfactant test should have been applied.

The persistently higher perinatal morbidity observed in posterm pregnancies is related to higher rates of fetal macrosomia, birth trauma, placental insufficiency, oligohydramnions, intrapartum fetal distress, and meconium aspiration. Additionally, in 10% to 20% of postterm pregnancies, chronic uteroplacental insufficiency may lead to growth restriction, loss of subcutaneous tissue, dry, wrinkled skin; and meconium staining characteristic of the "post maturity" or 'dysmaturity syndrome" (1).

Although the risks of expectant management might be mitigated somewhat by careful fetal surveillancee, they are avoided entirely by delivery. The likelihood of successful induction in a given patient depends on such factors as cervical status, parity, response to cervical ripening agents or oxytocin (or both), fetal weight, position and tolerance of labour, pelvic dimensions, and anaesthesia type (1, 2).

There are several methods of inducing labour depending on the Bishop score of the cervix. Oxytocin and amniotomy are very effective in the setting of a favourable cervix (8). If the cervix is unfavourable , preinduction cervical ripening may reduce the likelihood of failed induction. A wide variety of cervical ripening techniques have been reported, including mechanical (amniotomy) membrane stripping, hygroscopic cervical dilators, laminaria tents, inflatable intracervical ballons), hormonal (relaxin, estradiol), and brochemical methods (prostaglandin gels, tablets, and pessaries). Currently the most common cervical ripening strategies employ preparations of PGE2 (1, 9). Our patient had unfavourable cervix and had successful induction without need for augmentation with oxytocin after the use of only one PGE2 pessary placed at the posterior formix.

In the intrapartum period, the post term fetus is at particularly high risk for the seqeulae of uteroplancetal insufficiency, including mecomium passage, oligohydramnios, and umbilical cord compression. Continuous fetal cardiac monitoring is recommended. (2). As at the time of the induction of labour in our patient, the only fetal cardiac monitor in our institution was non-functional, however, intermittent monitoring of the fetal cardiac activity still proved reliable.

In the presence of oligohydramnios and thick meconium, intrapartum saline amnioinfusion has been shown to reduce the incidence and severity of variable decelerations as well as the rates of fetal distress, fetal acidedaemia, caesarian section for fetal distress, meconium aspiration, and meconium aspiration syndrome. (10).
In the presence of thick meconium, intubation and suctioning of the airways is often performed immediately after delivery. Indeed, in our unit, this is one of the main indications for suction currently, the latter being avoided in most cases due to fear of maternal – to – child transmission (MTCT) of HIV if the mother is infected.

Fortunately those problems were not encountered in the discussed here.

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9. CERVICAL INCOMPETENCE – MACDONALD STITCH INSERTION AND REMOVAL DUE TO THREATENED ABORTION.

Name: E. N.
Age: 26 years
IP No.: 0828954
DOA: 20.08.2002
DOD: 04.09.2002

Diagnosis: Cervical incompetence with habitual abortions.
Parity: 0 + 4

Presenting Complaint:
The patient complained of having had recurrent pregnancy losses.

History of presenting complaint:
She was admitted through the antenatal clinic where she had gone to book for followup due to the fact that she had had recurrent pregnancy losses as follows:
1999 – Spontaneous abortion at 5 months gestation
1999 – Spontaneous abortion at 3 months gestation
2000 - Spontaneous abortion at 3 months gestation
2001 – Spontaneous abortion at 3 months gestation

Evacuation of the uterus was not done on all these occasions.
She had no vaginal bleeding, discharge or abdominal pains.

Obstetric and Gynaecologic History:
Her last menstrual period had been on 2/5/2002, the expected date of delivery being 09/2/2002 and the gestational age 15 +.
Her menstrual flow lasted 3 days in a regular cycle of 28 days. There was no history of dysmenorrhoea. She had never used any family planning method.

Past Medical History:

There was nothing of significance.

Family and Social History:

She was married, worked as a tailor and had left school at form 2 level. She resided at Kibera slums. The grandmother had twins and one of her sisters was on treatment for pulmonary tuberculosis.

Drugs: She had no known history of allergy.

Systematic enquiry:

There was nothing significant elicited.

General Physical Examination:

She was in fair general condition, was not pale, clinically afebrile, had no jaundice, oedema or lymph node enlargement.

The blood pressure was 120/70mmHg, the pulse 82 per minute, temperature 37.2° c and the respiratory rate 18 per minute.

Abdominal Examination:

The abdomen was distended at the hypogastrium, was non – tender and the fundal heigh was 16 weeks. There were no palpable abnormal masses.

Vaginal Examination:

This was done aseptically. The normal genitalia appeared normal with normal hair distribution. The vaginal wall was normal, the cervix felt short, soft, posterior with a parousos . There was no blood or abnormal discharge on the examining fingers.

Other Systems:

These were found to be essentially normal

Investigation results:

Haemogram: Hb 10gldl

WBC count 3.4 x 10 a/l

U & E + Cr Nat – 140 } mmol/l

Kt – 4.9 }

BUN – 2.0

Cr 93 umol/ul

TORCHES screen (Toxoplasmosis, rubella, cytomagalovirus, herpes simplex, syphilis – These could not be done immediately due to financial constraints.

Urine - Normal findings

Blood sugar level – Normal

Blood group - O+ve

The patient was counseled on the need to have a Macdonald Stitch inserted, written consent obtained and then premedication given on 28.08.2002 with 0.6mgs of atropine intramusculalry before she was taken to theatre.

The patient was put in lithotomy position and vulvovaginal toilet done. Aseptic catheterization yielded clear urine. An Auvard speculum was inserted into the vagina to expose the cervix which was then held on both the anterior and posterior lips with ovum forceps and gentle traction applied. Using a number 2 silk suture cervical cerclage was done by introducing the needle through position equivalent to those of the clock as follows: through 2 O'clock and out through 1 O'clock, through 8 O'clock and out through 7 O'clock and finally through 5 – O'clock and out through 4 O'clock. A knot was made at around 2 O'clock and tightened just enough for the cervix to admit a finger tip. A strand of about 2 cm was left hanging to facilitate easy removal. There occurred mild bleeding subsequently but there was no evidence of drainage of liquor amni. General anaesthesia was reversed successfully.

Postperatively the vital signs were observed ½ hourly until she was fully wake then 4 hourly . She was given prophylactic 500mgs of ampiclox 6 hourly, with 30mgs of phenolarbitone 8 hourly. She was advised on the need to be on complete bed rest and that she should avoid sexual intercourse.

The patient, however, developed mild intermittent lower abdominal pains on 01.09.2002 when it was expected that she would be allowed home and this was subsequently followed by vaginal bleeding in clots. She was rushed to the labour ward where the Macdonald stitch was removed immediately and, unfortunately, labour progressed quite fast and the fetus was expelled complete plus the placenta. Exploration of the genitalia revealed no abnormal vaginal bleeding or injuries and the patient was transferred back to the post – natal ward, counseled and allowed home on 3.09.2002 to be followed up at the Gynaecology outpatient clinic after one week.

It was expected that the patient would undergo further counseling through the gynaecology outpatient clinic. There, further investigation as to the possible aetiological factors for the recurrent pregnancy losses rather than merely cervical incompetence would be investigated for.

Discussion

E. N. was a 26 year old para 0 + 4 who had MacDonald Stitch inserted at a gestational age of about 16 weeks. She, however, ended up having another abortion despite having the Macdonald stitch in situ coupled with bed rest.

Cervical incompetence refers to the inability of the cervix uteri to retain an intrauterine pregnancy to term secondary to some defect in structure or function. It is characterized by painless dilatation of the cervix in the second trimester or early third trimester of pregnancy, with prolapse of the membranes into the vaginal, followed by rupture of the membranes and subsequent expulsion of premature fetus. This sequence of events tends to be repeated in subsequent pregnancies (1)

The incidence of this problem varies globally, but has been estimated as approximately 0.05 to 1.0% (12). Locally Njagi found an incidence of 1:90 deliveries at the Kenyatta national Hospital (3)

The aetiology of cervical incompetence remains uncertain and it can be congenital, though acquired in most cases. Any surgical intervention tampering with the internal cervicalos such as operative vaginal delivery, dilatation and curretage and cone biopsy may be the cause (2). Exposure to diethyl - stilboestrol in utero has been thought to result in some cases of cervical incompetence. Our patient did not have a clear – cut pointer as to why she had an abnormally short incompetent cervix other than a probable congenital cause.

Cervical dilatation characteristic of cervical incompetence seldom becomes prominent before the sixteenth week of gestation. This is because prior to that period, the products of conception are not sufficiently large to cause cervical effacement and dilation except when there are uterine contractions (1).

The diagnosis of cervical incompetence is largely made from history and physical examination. In pregnancy, abdominal and notably transvaginal ultrasound has facilitated the diagnosis of cervical incompetence. It may show an open cervix with herniation of the membranes and is accurate in the assessment of the length of the cervix (4, 5). Outside pregnancy, several tests can be performed. Hysterogram may show funneling of the isthmus. Kaggia found evidence of cervical incompetence at the KNH in 82.6% of patients who had preterm deliveries six weeks later by use of hysterosalpingogram (6). Other tests include the passage of size 6 – 8 Heggars dilators through the cervix without much resistance, traction test by use of a Folley's catheter ballooned with 1 ml of water and application of traction of 600mg (1).
In the patient presented the diagnosis was made clinically.

The treatment of cervical incompetence is surgical, consisting of reinforcement of the weak cervix by some sort of a purse – string suture. It is best performed after the first trimester but before cervical dilation of 2 to 3 cm is reached (1). The best time for insertion is 14 weeks so that early abortion secondary to other causes such as congenital and genetic abnormalities may be excluded. Njagi found that the best results were found if Macdonald stitch was inserted between the 13^{th} and 19^{th}
weeks of gestation. (6)

Our patient had the stitch inserted at about 16 weeks but it unfortunately failed.
Ultrasound scan is useful prior to insertion of the stitch to exclude congenital anomalies and to confirm fetal viability. If substantial dilation of the cervix has occurred, or bulging of the membranes is evident, then the likelihood of success is lessened. An attempt may be made to replace the protruding membranes with a ballooned Folley's catheter and then placing the suture and knotting before the balloon is deflated and the catheter removed (2)
The types of operations used commonly during pregnancy are Macdonald, Shirodkar and modified Shirodkar. There is less trauma and blood loss with both Macdonald and modified Shirodkar that with the original Shirodkar procedure. Modified Shindkar is often preserved for previous failed MacDonald procedure and structural cervical

anomalies (1, 2) Transabdominal cerclage may be appropriate in rare instances such as traumatic cervical lacerations, congenital shortening of the cervix, advanced cervical dilatation and previous failed transvaginal cerclage. Disadvantages include the need to perform two operations (suture placement and caesarian section), and risk of injury to the uterine vessels and the ureter (2, 7).

The contraindications to cervical cerclage include ruptured membranes, uterine bleeding, uterine contractions, chorioamnionitis, cervical dilation greater than 4 cm, polyhydramnios and known fetal anomally. (2)

The patient under discussion did not have these complications prior to the insertion of the MacDonald Stitch but had Spontaneous rupture of membranes and per vaginal bleeding a few days later, necessitating removal of the stitch. The suture is removed at 37 completed weeks of gestation. or if there is vaginal bleeding, drainage of liquor amnii or incase of premature labour.

The success rates with both MacDonald and modified Shirodkar techniques approach 85 – 90% (1)

Njagi found the success rate in terms of term pregnancy to be 55% and 64.2% for fetal survival (3).

The patient discussed definitely needs further evaluation for the other causes of abortion as outlined in the management plan as cervical incompetence may not have been necessarily the case of the habitual abortions.

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10. TEENAGE PREGNANCY – SVD – LIVE BABY

Name: G. W.

Age: 14 years

IP. No.: 0837016

DOA: 17/9/2002

DOD: 19/9/2002

Diagnosis: Teenage pregnancy – labour

Parity: 0 + 0

Presenting Complaints:

The patient complained of having had lower abdominal pains for two days and watery vaginal discharge for one day.

History of Presenting Complaints:

She initially had mild irregular lower abdominal pains which progressively intensified and were followed by per vaginal discharge of a mixture of mucoid blood stained and watery fluid. The latter had lasted about 24 hours.

Obstetric and gynaecologic history:

She was a primigravida who was unsure of her last menstrual period. She could not remember when she had quickening. She had been seen twice at Ngong health center where the blood group was found to be O rhesus factor positive.

The VDRL was negative. the haemoglobin level on 26/8/2002 11g/dl and the urine was reported as normal. HIV test was not done. Menstrual periods were irregular with the flow lasting 4 days. She was too shy to reveal when she had her first sexual contact. She had never used any contraceptive method.

Past Medical History:

This was not significant.

Family and Social History:

She was single and lived with the mother in a slum. The parents had lived separately over many years. She never got any formal education, had never smoked cigarettes and did not drink alcohol. There was no known history of chronic ailment in her family.

Drugs: She was unaware of any drug she was allergic to.

Systemic Enquiry:

There was nothing of relevance elicited.

General Physical Examination:

The patient was found to be a young lady in fair general condition. She appeared unkempt and the clothes had the smell of urine. She was not pale, had no jaundice, no oedema and was a febrile. The temperature was 37.2°c , the pulse rate 78 per minute and the blood pressure 110/60 mmHg. The respiratory rate was 20 per minute.

Abdominal examination:

The abdomen was distended with palpable moderate uterine contractions. The fundal height felt term and the fetus was in longitudinal lie. cephalic presentation with the descent being 2/5 above the pelvic brim. The fetal heart sounds were normal.

Vaginal examination:

The patient was counseled on what type of examination she was to undergo and then vulvovaginal toilet done. There was show at the introitus and the vaginal wall felt normal. There was evidence of drainage of clear liquor amnii that did not have a foul small. The cervix was effaced, soft and 8 cm dilated. The pelvis felt adequate clinically.

Other systems – these were found to be normal.

Diagnosis: Established labour in a teenager

Plan of Management:

The clinical findings were explained to the patient who was started on 2mu of

intravenous crystalline penicillin 6 hourly 80mg of gentamincin 8 hourly and 500mg of metronidazole 8 hourly. These were to be continued for at least 24 hours. This was necessitated by the fact that she had prolonged rupture of the membranes.

Labour was monitored by the use of partogram and it progressed quite well ending in spontaneous vertex delivery of a female infant of weight 2800g and Apgar score 8 at one minute and 9 at ten minutes. The estimated blood loss was about 100mls. The episiotomy was repaired after it was confirmed that she only had minor cervical and vulval lacerations.

The patient was taught on the technique of breast feeding and general baby care then allowed home on antibiotics on 19/9/2002. She was also advised on the need to be reviewed at the high risk clinic and family welfare clinic

Discussion:

Teenage pregnancy has been defined as the age between 11 years and 19 years and pregnancy occurring in this age group has been found to be complicated by a series of adverse effects on both the mother and the foetus. Our patient was 14 years old.

Teenage pregnancy has gradually grown to become a major public health problem in many countries. At the Kenyatta national hospital, Muraya found the rate to be 11.1% of all pregnancies while in Nairobi it has been found to account for 18.6% of deliveries. (1, 2).

Despite the rise in the rate of this problem globally, the mass media has continued to purvey and exploit the excitement of sex without giving comparable attention to its dangers or to means for preventing pregnancy and disease (3).

The lifestyle of an adolescent girl may be detrimental to the pregnancy. Many of the adolescent girls come from low socioeconomic backgrounds, have poor education and, perhaps, poor general health due to inadequate nutrition, cigarette smoking, drug abuse, or sexually transmitted diseases. Nutrition is an important problem. Bone mineral content, iron stores, and caloric intake are often reduced among adolescent girls, and iron deficiency anaemia is frequently found.

Proper education and dietary counseling may improve nutritional status and prevent anaemia (3, 4) The patient discussed here had parents who lived apart and she had no formal education. She lived in a slum. Despite sexuality amongst the adolescent girls being quite high, the majority do not use any reliable method of contraception. The patient discussed here had never used any contraceptive method. In deed, these girls are likely to become pregnant again within a very short interval. Some teenage mothers have even become grandmultiparous at the age of 19 years (1). Our patient was counseled on the need for prompt utilization of the various contraceptive methods. Many other medical problems are more likely to be encountered amongst the adolescent mothers. For instance, it has been shown that 38% of all eclamptic mothers are teenagers with a high rate of fetal growth restriction, genital fistulae are also more likely to occur amongst other poor obstetric outcome indicators due to the fact that many of these patients receive

little or no antenatal care. Our patient did, at least attend antenatal clinic. They are also more likely to have prolonged labour, fetal distress, high perinatal morbidity and mortality than that of other women (2).Fortunately, this patient had normal labour with spantenous vextex delivery of a normal infant.

Teenagers often cite physicians as the most credible and preferred source of information, but they usually seek counsel about pregnancy alternatives from their mother, partner, or best friend. The physician may be inaccessible because of time, logistics, or financial constraints. The teenager may fear exposing her ignorance and frustration in not knowing what she wants or needs from the physician. The obstetrician must deal with low reading levels, language barriers, and erratic attendance, even by the most mature and dedicated adolescent (5).

Close to 40% of all adolescent pregnancies are terminated by induced abortion, yet others opt to place their babies for adoption since most of the adolescent pregnancies are unwanted. Omuga found that girls between 12 – 19 years accounted for 18% of the patients seen at Kenyatta national hospital with incomplete abortion 76% of these were unwanted pregnancies (6).

The prevention of adolescent pregnancy is usually marked with political, social, legal and religious contoversies. It is generally agreed that the prevention of this problem needs, to a great extent, the provision of relevant information and education as reproductive health matters to the teenagers, but this has been unacceptable to certain sections of the society like some church organizations. The only option left in most cases in for the young girls to gain access to distorted information, but at least some efforts are being made to pay special attention to this group. For instance, there is a high risk clinic at the Kenyatta National Hospital where counseling of the adolescents takes place. The patient discussed here was referred for further support through the said clinic. Burying our heads in the sand like the proverbial ostrich may not be of any use on the long run since adolescent sexuality is not only complicated by pregnancy, but by other more serious diseases such as Human immune deficiency virus (HIV) and genital warts.

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11. PUERPERAL SEPSIS COMPLICATING PRETERM PREMATURE RUPTURE OF MEMBRANES (PPROM)

Name: J.N.

Age : 25 years

IP No: 0824853

DOA: 27.07.2002

DOD: 06.08.2002

Diagnosis: Puerperal Sepsis complicating PPROM

Party: 4 + 0

Presenting Complaints:

- The patient presented with 3 days history of drainage of liquar amnii, fever, chills and one day history of abdominal pains and backache.

History of Presenting illness:

She developed spontaneous rupture of the membranes without any preceding history of trauma and subsequently became weak with history of fever, chills and sought treatment at a private clinic where she was put on some antimalarial drugs. The liquor amnii was initially much in quantity, flowing upto the feet and soaking the pads, but had progressively lessened. On the day of admission the patient had noticed intermittent lower abdominal pains radiating to the back and the lower limbs.

Obstetric and Gynecological History:

She was a para 4 + 0, gravida 5 with the past deliveries having been as follows:

1st – 1992, SVD, Female
2nd – 1995, SVD, Female } Alive and well.
3rd – 1997, SVD, Male
4th – 2000, SVD, Male

She was unsure of her last menstrual period and had not attended antenatal clinic. Her menarche was at 14 years and her menstrual periods lasted 3 to 4 days in a regular cycle of 28 days. She had never used any contraceptives.

Family and Social History:

She was married, from the age of 14 years, unemployed and lived in Nairobi. She did not drink alcohol and never smoked cigarettes. Her mother and a sister had twins. There was no history chronic illness in the family. All the children were from the husband.

Past Medical History:

This was non-contributory.

Drugs: There was no known history of allergy.

Systemic enquiry:

There was nothing of much relevance.

General Physical Examination:

She was a young lady in fair general condition with no jaundice, oedema or pallor. The blood pressure was 120/70 mmHg, the pulse rate 90 per minute, the respiratory rate 20 per minute and the temperature 36.4°c.

Abdominal Examination:

The abdomen was noted to be asymmetrically distended and moved with respiration. The fundal height was 28 weeks. The fetus was in longitudinal lie, cephalic presentation with normal cardiac activity.

Vaginal Examination

Aseptic speculum examination was done during which it was noted that the external genitalia were normal , the vaginal wall appeared healthy while the cervix was effaced with evidence of drainage of clear liquor amnii through the os. The cervix was 3cm dilated , soft and central. Endocervical swab was taken for microscopy, culture and sensitivity. Other systems - were essentially normal.

Diagnosis:

Preterm premature rupture of membranes with chorioamnionitis.

Management:

The findings were explained to the patient and the following investigations carried out:

- Blood smear for malaria parasites - negative x 2

Haemogram – WBC 11.5 x 10 a/l

- Hb – 12.3g/dl

The patient was started on parenteral antibiotics (crystalline penicillin, gentamicin, flagyl) and labour allowed to progress. It ended in spontaneous vertex delivery of a male infant of weight 1000g and Apgar score 2 at 1 minute and 3 at 5 minutes.

Two days after delivery, the patient complained of severe progressive abdominal pains and loss of foul smelling lochia rubra. The pains were worsened by movement and the patient preferred to lie still. She was noted to be mildly pale but afebrile. There was marked generalized abdominal tenderness notably around the right iliac fossa. The uterus was equivalent in size to a gestation of 18 weeks and well contracted. Vaginal examination revealed foul smelling lochia and an endocervical swab was taken for microscopy, culture and sensitivity. Blood specimen was also taken for full haemogram and the patient started on intravenous zinacef and intramuscular pacimol.

She showed remarkable improvement and was allowed home on 6/8/2002 on zinnat and ranferon (a haematinic) to be reviewed at the postnatal clinic one week later. The rest of the investigation results were never obtained and she had improved quite well by the time she was reviewed at the postnatal clinic.

Discussion:

Puerperal infection is a general term used to describe any bacterial infection of the genital tract after delivery (1).

Pelvic infections are the most serious complications of the puerperium and along with pre-eclampsia plus obsteric haemorrhage have formed the lethal triad of causes of maternal deaths. The magnitude of infections has dropped to some extent due to the use of antibiotics, but it is still associated with threat of serious disability and death (2).

Puerperal morbidity due to infection has occurred if the patient's temperature is higher than 38°c on 2 separate occasions at least 24 hours apart following the first 24 hours after delivery. Overt infections can and do occur in the absence of these criteria, but fever of some degree remains the hallmark of puerperal infection, and the patient with fever can be assumed to have a genital infection until proved otherwise (1,2). Other causes of fever could, however, be breast engorgement, respiratory complications, pyelonephritis and thrombophlebitis. (1). Our patient had fever prior to admission and had been treated elsewhere. It had been assumed that she could have been suffering from malaria.

Uterine infections are relatively uncommon following uncomplicated vaginal delivery, but they continue to be a major problem on women delivered by caesarian section. Puerperal infectious morbidity affects 2 to 8% of pregnant women and is more common in those of low socioecomomic status, those who have undergone operative delivery, those with long labour (> 12 hours) and those with multiple pelvic examinations. Other predisposing circumstances are prolonged rupture of the membranes (> 24 hours), chorioamnionitis, intrauterine pressure catheters (> 8 hours, fetal scalp electrode monitoring, pre-existing vaginitis or cervicitis, intrapartum or postpartum anaemia, poor nutrition, obesity and coitus near term. (1,2,3) Young maternal age and nulliparity are also associated with a higher incidence of metritis following caesarian delivery. (4). Three or more courses of betamethasone given to women at risk of preterm delivery have been shown to increase the infection – related maternal morbidity (5). The patient discussed here had prolonged

preterm premature rupture of the membranes and features of chorioamionitis.
The premature rupture of the membranes might have been caused by some undiagnosed cervicitis or vaginitis.
Organisms that invade the placental implantation site, incisions, or lacerations as a consequence of delivery typically are those that normally colonize the cervix, vagina and perineum. Usually, multiple species of bacteria are isolated, and although typically considered to be of relatively low virulence, they may become pathogenic as a result of hematomas and devitalised tissue. (1).

Although the cervix and lower genital tract usually harbour such bacteria, the uterine cavity is usually sterile before rupture of the amniotic sac. As the consequence of labour and delivery and associated manipulations, the amniotic fluid and perhaps the uterus commonly become contaminated with anaerobic and aerobic bacteria. Some of the anaemobic bacteria could be peptococcus species, peptostreptococcus species, bacteroides fragilis group, clostridium species, fusobacterium species and moobiluncus species, while the aerobes could be Group A, B, and D streptococci, Enterococcus, Gram negative bacteria such as E. coli, Klebsiella and proteus, staplylococcus aureus and Gardnerella vaginalis. Other organisms are mycoplasma species , chlamydia trachomatis and Neisseria gonorrhoeae. Chlamydia trachomatis has been implicated as a cause of late-onset, indolent metritis (6).
Precise identification of bacteria specifically responsible for any puerperal infection is quite difficult and routine pretreatment genital tract cultures are of little clinical utility, and they add significantly to hospitalization costs. (1).

Puerperal infection following vaginal delivery primarily involves the placental implantation site and the decidua and adjacent myometrium. In some cases, the discharge is foul, profuse, bloody, and sometimes frothy. In others, the discharge is scant. Uterine involution may be retarded. Fever is probably proportional to the extent of infection, and when confined to the endometrium (deciduas) and superficial myometrium, cases are mild and associated with minimal fever. More commonly, temperature exceeds 38 to 39°c. Chills may accompany fever and suggest

bacteraemia. The pulse rate also follows the temperature curve. The woman complains of abdominal pain, and parametrial tenderness is elicited upon abdominal and bimanual examination. This is more relevant following vaginal delivery, leukocytosis may be present, but this may occur without sepsis. (1,2,7). The patient presented had marked lower abdominal pain and had had fever before being admitted to the hospital. She also had foul smelling lochia. Without treatment, uterine and pelvic cellulitis worsens. However, resolution usually is prompt with appropriate antimicrobial therapy which may be oral or parenteral, depending on the severity of the illness. The antibiotics should be broadspectrum. Improvement will follow in 48 – 72 hours in nearly 90% of the women. Persistence of fever or other symptoms and signs mandates a careful search for causes of refractory pelvic infection, although nonpelvic sources are occasionally found. Complications of metritis that cause persistent fever despite appropriate therapy include parametrial phlegmons or intense cellulitis, surgical incisional and pelvic abscesses, infected haematomas, septic pelvic thrombophlebitis.

Bacteria resistant to initial therapy occasionally may be a cause of persistent fever. Drug fever is also uncommon. (1,2). Intravenous antibiotics are continued until the patient has been afebrile for 24 to 48 hours (7) and some investigations have found that additional oral antibiotics is unnecessary (8). Our patient was managed on both intravenous and oral antibiotics based on clinical parameters with good response.

The long term sequele of puerperal sepsis could be chronic pelvic inflammatory disease and secondary infertility, therefore, prompt and effective treatment is mandatory (1). Prevention like appropriate management of patients with prolonged or premature rupture of the membranes could also be of much help. The patient discussed here was seen at a private clinic with drainage of liquor, but she was instead treated for malaria. The complications that arose could, probably, have been avoided.

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12. DIABETES MELLITUS – CAESARIAN SECTION: DUE TTO CPD LIVE BABY

Name: E.M.

Age: 28 years

Ip. No: 0650442

DOA: 04.04.2000

DOD: 18.04.2000

Diagnosis : Diabetes Mellitus in pregnancy

Party: 2 + 0

Presenting Complaints:

The patient complained of having had poor vision over a period of one month.

History of Presenting Illness:

The patient was known to have diabetes mellitus over a period of about 5 years and was admitted through the antenatal clinic for induction of labour, having been followed up at the medical outpatient clinic previously.

She complained of having had poor vision over a period of one month without pain in the eyes. An opthalmologist had reviewed her and given her no treatment there was no history of polyuria or polydipsia. She had been on lente insulin previously, but this had been stopped a year earlier and she had had good control of blood sugar on diet alone. She had been managed an inpatient when diabetes mellitus was diagnosed 5 years earlier.

Obstetric and Gynaecologic History:

She was a para 2 + 0 with one living child.

The first delivery was in 1989 at Pumwani maternity hospital and the male baby who weighed 3 Kg died at the age of 2 years. The 2nd child was born in 1991 the same hospital, weighed 3.7Kgs and was alive and well. There was no history of diabetes mellitus or any other complications during those pregnancies. Her menarche was at the age of 15 years. She had menstrual periods which lasted 3 days in a regular cycle of 28 days. There was no associated dysmenoorrhoea. She had used microgynon for contraception after the previous delivery in 1991.

Her last menstrual history was on 26.6 1999, giving the estimated date of delivery as 02.04.2000 and the gestation age as 40 weeks plus 2 days. She attended the antenatal clinic at the Kenyatta National Hospital from 28 weeks gestation where the blood sugar levels remained within the normal range all through.

Past Medical History:

- There was nothing else of importance.

Family and Social History:

She was married and unemployed. She lived at Kariokor in Nairobi. She neither smoked nor drank alcohol. She had a cousin who also had diabetes mellitus. There was no history of another chronic ailment in the family.

Drugs: No known history of allergy.

Systemic enquiry:

- There was nothing significant elicited.

General Physical Examination:

The patient was in good general condition. She was not pale, was afebrile, had no jaundice, no lymph node enlargement and no oedema.

The blood pressure was 120/70mmHg, the pulse rate 84 per minute and the respiratory rate 18 per minute.

Abdominal Examination:

The abdomen was grossly distended and moved with respiration. There were no areas of tenderness. The fundus felt term with the fetus being in longitudinal lie, cephalic presentation with a descent of five fifths above the pelvic brim. The fetal heart sounds were normal.

Vaginal Examination:

This was done aseptically. The external genitalia appeared normal, the cervix was 3cm dilated, central, partially effaced and the membranes were intact. The pelvic felt clinically adequate.

Other systems – these were basically normal.

Diagnosis:

Diabetes mellitus in term pregnancy.

Management:

The clinical findings and their implications were explained to the patient who then had the following investigations carried out:

- Serial blood sugar – remained within acceptable range. The initial one was 6.2 mmol/l
- Urinalysis - normal findings
- Amniocentesis for surfactant test: 1:1 positive
  1:2 positive
- H b level – 10.5g/dl.
- Blood group – 0+ve.
- VDRL – Negative.

  On 07.04.2000, the patient was transferred from the antenatal ward to labour ward for induction of labour where the earlier examination findings were confirmed.

Initially, artificial rupture of the membranes was not feasible and this was deferred until 4 hours later when it was done when the cervix was already about 6 cm dilated. She had stripping of the membranes done in the first examination. The patient was then started on intravenous syntocinon infusion and when she was reviewed 4 hours down the line, the cervical dilatation was found to be still 6cm with 3rd degree moulding of the fetal head. The descent was 3/5 above the pelvic brim. A diagnosis of cephalopelvic disproportion was made and the patient prepared for an emergency caesarian section. Blood specimen was taken for grouping and cross matching and informed consent obtained from the patient. 0.6 mg of intramuscular adrenaline was given for premedication and the patient wheeled to theatre. She was aseptically catheterized and about 100mls of clear urine drained. The abdomen was then cleaned, draped and general anaesthesia induced and maintained. The abdomen.

was then opened via an infraumbilical midline incision, the paracolic gutters packed and routine lower uterine segment caesarian delivery performed. The outcome was a female infant whose weight was 3800g and Apgar score 8/1 minute , 10/5 minutes. The placenta, which weighed 500g, was delivered complete by controlled cord traction. The estimated blood loss was 1000mls. The abdomen was then closed in anatomical layers after the swabs and instruments were counted and found to be of the correct number. Vulvovaginal toilet was done and it was noted that there was no abnormal bleeding per vaginum. The catheter was removed, the urine being confirmed to be clear. The baby was taken to the newborn unit for observation and assessment of the blood sugar levels.

Post-operatively, the vital signs were observed ½ hourly then 4 hourly. Intravenous 500mls of 5% dextrose alternating with 500ml of normal saline 6 hourly was maintained and the patient put on prophylactic injections of 80mg of gentamicin 8 hourly, and 100mg of pethidine 8 hourly to relieve pain.

The blood sugar level soon after delivery was 10.8mmol/l and serial subsequent levels remained within acceptable limits such that it was possible to maintain the patient on diabetic diet without hypoglycaemic agents being used.

On the 3rd day post-operatively, the Hb was 9.2g/dl and the patient was started on 200mgs three times a day of ferrous sulphate and 5mg of folic acid daily.
She improved quite well and was discharged home on the 7th post-operative day after the stitches were removed. She was to be followed up subsequently at the diabetic clinic and was also to be reviewed at the postnatal clinic six weeks after the day of the surgery. She was found to be doing well with no untoward complication during the subsequent review, with the blood sugar level being well controlled on diet alone. She was advised to go for counseling on family planning at the family welfare clinic.

Discussion:

Diabetes mellitus is a heterogenous disorder characterized by hyperglycaemia, which is a result of relative or absolute insuline deficiency. (1). It is a chronic disorder of metabolism affecting the metabolism of carbohydrates, proteins and fats (2).

Before 1856, there were few reports of pregnancy-complicated diabetes and diabetes was a disease with a dismal prognosis with infertility being the order of the day in the patients. The advent of insulin, however, brought about a dramatic change in the overall outlook for diabetics and their reproductive potential. The maternal mortality dropped from about 45% to just over 2%, but the decline in perinatal mortality was achieved more gradually. Infant survival can be credited to a better understanding of metabolism in diabetic patients, a recognition of the need for stringent metabolic control to achieve glucose levels as close as possible to non-diabetic values to ensure better pregnancy outcome, the improvement in neonatal intensive care units, new techniques for fetal surveillance, and devices for self monitoring of blood glucose. Unresolved problems are macrosomia and congenital anomalies (1, 2).

Diabetes is classified as type 1 (insulin dependent) or type 2 (non-insulin dependent) according to whether the patient requires exogenous insulin to prevent ketoacidosis. Type 1 diabetes is immune mediated and develops in genetically susceptible persons. The disease is probably triggered by a viral infection with immune antibodies being stimulated against the B-cell. There is an agreement that there is an association with the HLA – D histocompatibility complex located on chromosome 6. There is a low vertical transmission rate in type 1 disease, with the concordance rate for diabetes in monozygous twins, rather than being nearly 100% if diabetes were solely genetic in origin, being less than 50%. (3).

Type 2, non-insulin dependent diabetes, has no HLA association. It has a familial occurrence and concordance in monozygotic twins is 100%. Nearly 40% of siblings and 1/3 of offspring develop an abnormal glucose tolerance or overt diabetes. Its pathophysiology is abnormal insulin secretion and insulin resistance in target tissues.

Most patients are overly obese, and there is speculation that peripheral insulin resistance induced by obesity leads to B-cell exhaustion. (4).

The incidence of type I diabetes in the general population is 0.1 – 0.4% in various age groups under 30 years of age. (2).
Muhiu found an incidence of 0.15% at the Kenyatta National Hospital and 65.7% of them were between the ages of 25 and 34 years, with only one patient being below 20 years. (5). Our patient was 28 years old.

Diabetes is the most common medical complication of pregnancy. Patients can be separated into those who were known to have diabetes before pregnancy (overt) and those diagnosed during pregnancy (gestational). It is estimated that 90% of all pregnancies complicated by diabetes are due to gestational diabetes (4).
Pregnancy is a diabetogenic condition. This is due to insulin antagonism as a result of the action of human plancetal lactogen (HPL), estrogen and progesterone. Placental insulinase may also contribute by accelerating insulin degradation. Other steroids like cortisol are also elevated in pregnancy.

The patient discussed here had overt diabetes mellitus.
Modified white's classification is still commonly used in diabetes mellitus complicating pregnancy (2).

Class A – Chemical diabetes diagnosed before pregnancy; managed by diet alone, any age of onset or duration.

Class B – Insulin treatment necessary before pregnancy; onset after age 20; duration of less than 10 years.

Class C - Onset at age 10 – 19; or duration of 10-19year

Class D - Onset before age 10; or duration of 20 or more years; or chronic hypertension; or background retinopathy.

Class F- Renal disease

Class H- Coronary artery disease

Class R - Proliferative retinopathy

Class T - Renal Transplant

For most clinical purposes, diabetic pregnant women can be divided into 3 groups in determining perinatal and maternal risk (1).

Class I - Non-insulin – requiring glucose intolerance responsive to dietary management (pregnancy induced glucose intolerance).

Class II - Insulin requiring glucose intoleration with no associated vasculopathy

Class III - Insulin requiring glucose intolerance with associated vasculopathy

The patient presented was Class B according to the modified White's classification and Class II according to the other classification. Muhiu found that 65.7% of the patients at the Kenyatta National Hospital were of Class B while 23.7% were of class A.

The woman with high plasma glucose levels, glucosuria, and Ketoacidosis presents no problem in diagnosis. Similarly, women with a random blood glucose level greater than 11mmol/l plus classical signs and symptoms such as polydipsia, polyuria, and unexplained weight loss or fasting glucose of 7 mmol/l or higher should be considerd to have overt diabetes (6). The likelihood of impaired carbohydrate metabolism is increased appreciably in women who have a strong familial history of diabetes, have given birth to large infants, demonstrate persistent glycosuria / or have unexplained fetal losses (4).

The patient under discussion had a cousin who also had diabetes mellitus.

Mild glycosuria most often does not reflect impaired glucose tolerance, but rather augmented glomerular filtration, but it warrants further investigation during pregnancy (7).

Gestational diabetes mellitus is defined as carbohydrate intolerance of variable severity with onset or first recognition during pregnancy. Undoubtedly, some women with gestational diabetes have previously unrecognized overt diabetes. Sheffield and

co-workers found that women with fasting hyperglycaemia diagnosed before 24 weeks had pregnancy outcomes similar to those for women in classes B through FR, indicating that fasting hyperglycaemia early in pregnancy likely represents overt diabetes rather than gestational diabetes. (8). More than half of women with gestatinal diazetes ultimately develop overt diabetes in the ensuing 20 years.

There is lack of consensus regarding investigation for gestational diabetes. The major tissues include whether universal or electric screening should be used. In 1997, prior recommendations for universal screening were changed to selective screening and that this should be done between 24 and 28 weeks in those women not known to have glucose intolerance earlier in pregnancy. (4).

Diabetes mellitus in pregnancy has been associated with increased perinatal mortality, an increased rate of caesarian section, significant risk of macrosomia and other neonatal morbidities, including birth trauma, hypoglycaemia, hypocalcaemia, polycythemia and hyperbilirubinaemia. (1) Our patient under went caesarian section due to caphalopelvic disproportion and the baby weighed 3800g. She, however, never developed any major complication.

The management of diabetes in pregnancy is directed towards reducing peninatal mortality and morbidity, a goal that may be achieved by mainfaining close surveillance of the mother and fetus. Maternal surveillance includes close monitoring of glucose levels. The patients should receive nutritional counseling as this is the mainstay of treatment in this group of patients. Insulin therapy should be instituted when appropriate. During pregnancy, control of diabetes mellitus is usually made more difficult by other complications such as nausea and vomiting. The pregnant woman, even in the absence of diabetes is more prone to develop metabolic acidosis than when not pregnant. Presumably, placental lactogen is responsible for this tendency by virtue of its carbohydrate sparing and lipolytic action. Infection during pregnancy commonly causes insulin resitance and acidosis. The vigorous muscular exertion of labour accompanied by intake of little or no carbohydrate may result in troublesome hypoglycaemia unless the amount of insulin is reduced appropriately or an intravenous infusion of glucose is provided (4).

A combination of intermediate acting and regular insulin before breakfast and at dinner time is commonly employed. As a general rule, the amount of intermediate acting insulin taken in the moring will exceed that of regular by a two to one ratio. Patients usually receive two thirds of their total insulin dose at breakfast and the remaining third at dinner time (9).

All patients should be instructed on the features of hypoglycaenia and its management. The presence of maternal resculopathy should be thoroughly assessed early in pregnancy and the opthalmologist be involved to evaluate the eye functions. Renal function test and urine culture should be obtained and if possible, electrocardiography (ECG) (10). The patient discussed here had been followed up by a physician who had ruled out the existence of any of these complications (3)

Utrasound has been shown to be an extremely valuable tool in evaluating fetal growth, estimating fetal weight, and detecting hydrmines and malformation. A determmation of material serum fetoprotein at 16 weeks gestation to detect neural tribe defects and echocardiography may be done if possible (10).

In the past, elective proterm delivery of the insulin dependent patient to avoid an unexpected intrantenine fetal demise was commonplace and often resulted in a high incidence of neonatal morbidity and mortality due to fetal lung immaturity. With improved glycaenic control and better methods of antepartum fetal surveillance many patients are now delivered at term. But earlier deliveries may be instituted depending on factors such as glycemic control, by the existence of hypertension, nephropathy and the patients ophthalmologic status. An amniocentesis should be perormed prior to elective delivery to document fetal pulmonary maturity. (2,4,10,). The patient discussed here was allowed to go upto term, the sugar levels having remained within the normal range throughout the following period. Amniocentesis was performed and it confirmed fetal lung maturity.

During labour, close monitoring of fetal heart rate is mandatory. Labour is allowed to progress as long as normal rates of cervical dilatation and descent of the fetal vertex are documented. (10) .

Because neonatal hypoglycaemia is related directly to maternal glucose levels during labour as well as to the degree of antepartum metabolic control, it is important to

maintain maternal plasma glucose levels at approximately 5.5 mmol/l during labour. Neonatal hypoglycaemia may result from B-cell stimulation in utero as a result of elevated blood glucose levels during labour. Blood glucose levels are monitored hourly and the rate of glucose infusion with regualar insulin added to it adjusted accordingly where this is used. It is not unusual for the patient to require vitually no insulin for the first 24 hours or so and then for insulin requirements to fluctuate markedly during the next few days. Infection must be promptly detected and treated, (4, 10). Our patient was managed on diet alone.

There is no single contraceptive method appropriate for all women with diabetes mellitus. Estrogens in oral contraceptives increase the risk of thromboembolism, stroke and myocardial infarction. The safety of oral contraceptives still remains controversial (11, 12). If these drug are used, the lowest dose of estrogen and progesterone should be used, and the patient should be devoid of any cardiovascular or thromboembolic disease (13). Progestion only contraceptives may also be used because of minimal effects on carbohydrate metabolism. Intrauteirine devices are also thought by some physicians to increase the risk of pelvic infections, but some authors disagree with this belief. Puerperal sterilization remains appropriate method (4).

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13. HIV IN PREGNANCY – SPONTANEOUS VERTEX DELIVERY: AFTER INDUCTION OF LABOUR

Name : M.W.G.

Age : 36 years

IP NO. : 08266468

DOA : 31.07.2002

DOD : 21.09.2002

Diagnosis : HIV in pregnancy with convulsions

Parity : 4 + 0

Presenting complaint:

The patient was admitted following convulsion over a period of one day.

History of presenting illness:

The patient was said to have been having long standing episodes of generalized headache associated with nausea and vomiting. She had multiple generalized convulsions over a period of one day and had been managed at a private clinic without much improvement. She had had a similar episode in May, 2002 and had been treated at Kikuyu Mission Hospital around that time due to blurring of vision with improvement. She was not known to be epileptic.

Obstetric and gynaecologic history:

She was a para 4 + 0 whose past deliveries were as follows:

1982 - Spontaneous vertex delivery – male infant

1987- Spontaneous vertex delivery – male infant

1990- Spontaneous vertex delivery – male infant

1991- Spontaneous vertex delivery – female infant

All the children were alive and well. Her last menstrual period had been on 05.12.2001, giving the expected date of delivery as 12.09.2002 and a gestational age of 34 weeks. She has attended antenatal clinic at Ngara Health Centre. VDRL was found to be negative, while the rest of the antenatal profile was not done. She had regular menses which lasted 5 days in a cycle of 26 – 28 days. She had not used any form of contraception.

Past medical history:

She was treated for pulmonary tuberculosis in 1999 and also developed herpes zooster the same year.

Family and social history:

The patient was married and unemployed. She never smoked cigarettes and did not drink alcohol. The husband was a casual labourer and was in good health status.

Drugs: there was no history of allergy known to her.

Systematic enquiry:

- There were no other complaints.

General physical examination :

She was found to be in fair general condition, was not pale, had no jaundice, was a febrile and had no oedema.

The temperature was 37.2^0c, the pulse rate 82/minute, the respiratory rate 22 per minute and the blood pressure 120/60 mmHg.

Abdominal examination:

The abdomen had striae gravidarum, was distended and moved with respiration. The fundal height was 34 weeks with the fetus in longitudinal lie, cephalic presentation and of descent 5/5 above the pelvic brim. The fetal heart sounds were normal.

Vaginal examination:

The external genitalia appeared normal, the cervix had a porous os and was long and posterior.

Central nervous system:

She was well kempt and was noted to have episodes of confusion. There were no lateralizing signs.

Fundoscopy was not done.

Chest examination:

She had a scar on the T4 dermatomal distribution on the left side, but was not dyspnoeic. The breath sounds were vesicular.

Diagnosis :

A diagnosis of HIV in pregnancy plus convulsive disorder was made.

Management:

She was started on phenytoin sodium injection and then tablets and the following investigations carried out:

Random blood sugar - 5.3 mmol/l

Urea and electrolytes - Normal

HIV test (after counselling) - Positive

She was counselled on the modalities of the prevention of maternal to child transmission of HIV but she declined to take the medications. She improved and was allowed to go home on 20.8.2002, but she never went due to financial constraints.

On 8.9.2002, she complained of lower abdominal pains and per vaginal discharge which was found to be greenish in colour and thick. She was given clotrimazole vaginal pessaries, metronidazole tablets and ampiclox capsules with improvement.

At 41 weeks gestation on 19.9.2002, Bishop scoring was done and the cervix found to be already 4 cm dilated, soft, central and partially effaced. Stripping of the membranes was done and the patient developed labour pains about 6 hours later. The outcome was a spontaneous vertex delivery of a female baby who weighed 2600g and had Apgar score of 8 at one minute 10 at 5 minutes and 10 at 10 minutes. The estimated blood loss was 100m/s.

She did well subsequently and the baby also did well and was breastfeeding normally by the time she was allowed home on 21.09.2002 to be followed up at the postnatal clinic.

Discussion

Acquired immunodeficiency syndrome (AIDS) was first described in 1981 when a cluster of patients was found to have defective cellular immunity and pneumocystis carinii pneumonia. Infections in women are increasing overall and the worldwide prevalence of this devastating disease has progressed almost geometrically. (1)

The seroprevalence of HIV in pregnancy amongst screened antenatal mothers in East Africa is about 20 – 32%, with upto 41% being reported from South Africa (2,3). At the Kenyatta National Hospital, Kiragu found a prevalence of maternal HIV – seropostivity of 7% among the women who had live births at term. (4).

Causative agents of the immunodeficiency syndrome are DNA retroviruses termed human immunodeficiency viruses, HIV-1 and HIV-2. Most cases worldwide are caused by HIV-1 infection, while HIV-2 is endemic in West-Africa. (1)

Transmission is by sexual intercourse, exposure to blood and blood-contaminated products, and by the vertical route. The most rapidly increasing population of patients infected with HIV has been young women who have acquired the disease through heterosexual contact (5). Our patient was 36 years old and had most likely acquired the infection through sexual intercourse.

The common denominator of clinical illness with AIDS is profound immunosuppression, principally of cell-mediated immunity, which gives rise to a variety of opportunistic infections and neoplasms. Thymus – derived lymphocytes (T-lymphocytes) – defined phenotypically by the CD4 surface antigen, are the principal targets. The CD4 site serves as a receptor for the virus. After attachment, the virus is internalized and uses reverse transcriptase to transcribe its genomic RNA and DNA. Viral DNA thus is integrated into cellular DNA for the life of the cell, which is shortened by infection. After initial infection, the level of viraemia usually decreases to a set-point, and patients with the highest viral burden progress more rapidly to AIDS and death (6). After infection over time the number of T-cells drops insidiously and progressively, resulting eventually in

profound immunosuppression. Monocyte – macrophages may also be infected, and microglial brain cell infection may cause neuropsychiatric abnormalities. HIV-infected persons also have an increased incidence of neoplasms, notably Kaposi Sarcoma, B-cell and non-Hodgkin lymphomas and some carcinomas (1).

The incubation period from exposure to clinical disease is usually within days to weeks. Acute illness is similar to many other viral syndromes and usually lasts less than 10 days. Common symptoms include fever and night sweats, fatigue, rash, headache, lymphadenopathy, pharyingitis, myalgias, arthralgias, nausea, vomiting and diarrhoea. (6). After symptoms abate, the set-point of chronic viraemia begins. Further progression to immunodeficiency syndrome may take upto 10 years (7).

When HIV-positivity is associated with any number of clinical findings, then AIDS is diagnosed. Generalized lymphadenopathy, oral hairy leukoplakia, aphthous ulcers, and thrombocytopaemia are common. A number of opportunistic infections that may herald AIDS include oesophageal or pulmonary candidiasis, persistent herpes simplex or zoster, condylomata acuminata, tuberculosis, cytomegalovirus, molluscum contangiosum, pneumocystis, toxoplasmosis and others. Neurological disease is common, and about half of the patients have central nervous system symptoms. A CD4+ count of less than 200/µl is also considered definitive for the diagnosis of AIDS (1.6.7). The patient under discussion presented with convulsion and had had herpes zoster and pulmonary tuberculosis, but the CD4 count was never determined.

The enzyme linked immunoassay (ELISA) is need as a screening test which may be confirmed by Western blot or immunoflourescence assay (IFA). Antibody can be detected in 95% of patients within 6 months of infection, and thus, antibody serotesting does not exclude earlier infection. For acute primary HIV-infection, identification of viral p24 core antigen or viral RNA is necessary (8).

Controversy remains on the question of routine antepartum testing for HIV antibodies (9). At the Kenyatta National Hospital acceptance rate for HIV-testing perinatally has been found to be 99.4% (10). Our patient underwent counseling in the ward and this involved only the pre and post test sessions.

It is now well established that mother to child transmission accounts for most HIV infections among children. It is estimated that upto 300,000 children are infected yearly globally (11). Transplacental transmission can occur early and the virus has been identified in early pregnancies terminated by elective abortion. (12). In most cases, however, transmission occurs at birth (1). The maternal to child transmission rate is overally estimated to be between 20 to 40%, with 80% of the children dying before their 5th birthday (2). The transmission is related to the viral load, how advanced the disease is, the CD4 cell count and P24 antigenaemia (11).

The risk of intrapartum transmission is further increased with preterm delivery, ruptured membranes for more than 4 hours. Breastfeeding increases post natal HIV-1 transmission by 10 to 20%. (1). No tests were carried out on the baby's blood to rule out possibility of HIV infection

Maternal morbidity and mortality have not been conclusively shown to be increased by pregnancy in seropositive but otherwise asymptomatic women. Conversely adverse fetal outcomes may be increased with maternal HIV – infection. There could occur preterm births, fetal growth restriction or still births (1,9)

Counselling is mandatory for the HIV-positive woman. This is preferable early in pregnancy, and if she chooses to continue pregnancy, ongoing counselling for psychological support is important. Current standards dictate that the pregnant woman and her fetus are entitled to the most efficacious therapy available. A shift has gradually occurred from an eclusive focus on the fetal protection to a more balanced approach to treatment of mother and fetus (13). Our patient declined to make use of the antiretroviral drugs.

Precautions for antepartum, peripartum and paediatric care of infected mothers and infants are similar to those of other infections transmitted through blood and other body fluids. (1).

The two principal approaches suggested for prevention of maternal – infant transmission of HIV infection are antiretroviral therapy and caesarian delivery (1, 9).

The paediatric AIDS clinical trial group protol 076 (PACTG 076) was a randomised, placebo controlled, double-blind trial carried out in 43 centres in the United States and France. In the antepartum period zidovadine (AZT) was administered orally in a dose of 100mgs 5 times daily. The mother was then given an intrapartum dose of 2mg per kg of body weight over one hour, followed by a continuous infusion of 1mg per kg body weight per hour until delivery. The neonate was the given AZT in a dose of 2mg per kg body weight 6 hourly for the first 6 weeks of life, beginning 8 – 12 hours after birth. The efficacy was 68%. The short course regime of AZT use is used at the Kenyatta National Hospital. Nevirapine, given orally in a dose of 200mgs during labour and then to the neonate in a single dose of 2mg per kg within 72 hours of birth has also been shown to be effective. AZT may also be given in a dose of 600mg stat, followed by 300gmg 3 hourly during labour and 4mg/kg given orally twice daily to the infant for 7 days after birth. This was the HIV NET 012 trial comparing the efficacy of AZT. versus nevirapine. Nearly all the babies were breastfed. The efficacy of nevirapine compared with AZT was 47% upto age 14-16 weeks.

Chlorhexidine for cleansing the birth canal in a concentration of 0.25% has uncertain role in prevention of HIV- transmission to the neonate. (11)

The role of caesarian delivery remains controversial with some obstetricians maintaining that it may increase morbidity. (1)

I believe that this patient required more detailed counseling sessions like that offered at the voluntary counseling and testing (VCT) center before assuming that she had refused to comply with the requirements such as the use of antiretroviral drugs to prevent maternal to child transmission of HIV

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14. ANAEMIA IN PREGNANCY: PRETERM LABOUR- LIVE BABY

Name : R.M.

Age : 20 years

Ip.No. : 0827703

DOA : 05/08/2002

DOD : 13/08/2002

Diagnosis: Anaemia in pregnancy

Parity : 0 + 0

Presenting Complaints:

The patient had had dizziness, generalized body weakness and swelling of the lower limbs over a period of a few weeks.

History of Presenting Complaints:

She said she was previously well then noticed insidious onset of general malaise associated with episodes of dizziness. palpitations and swelling of the lower limbs. The palpitations and the mild dyspnoea were worsened by moderate activity. She had no history or orthopnoea or paroxysmal norcturnal dyspnoea. There was history of recent mild blood loss when she developed epistaxis on two occasions in the few preceding weeks. She had episodes of generalized headache.

Obstetric and Gynaecologic History:

She was a primigravida whose last menstrual period had been on 23/1/2002, giving an expected date of delivery of 30/10/2002 and gestational age of 27 weeks and five days. She had attended antenatal clinic at a health center in Vihiga initially and subsequently at a private clinic in Kibera, Nairobi.

Antenatal profile was not done. She was unsure of when quickening occurred.

Her menarche was at 13 years and she had menstrual periods which lasted 4 days in a cycle of 18 to 28 days. They were of normal flow. She had never used any contraceptive method.

Post Medical History:

This was not significant.

Family and Social History:

She was single, unemployed and never smoked or drank alcohol. There was no family history of chronic ailment. She lived with her parents in ihiga, but had traveled to Nairobi to visit a sister.

Drugs: She was not on any medication and had no known history of allergy.

Systemic enquiry: Nothing of much relevance was elicited.

General Physical Examination:

She was found to be a young lady who was sick looking, was extremely pale (+++), but had no jaundice, or lymphnode enlargement. She had bilateral pedal pitting oedema.

The temperature was 37°c, the pulse rate 108 per minute and regular, the respiratory rate 24 per minute with a blood pressure of 100/40 mmHg.

Cardiovascular System Examination:

All the pulses were palpable and bounding. The heart sounds were essentially normal.

Abdominal Examination:

The abdomen was grossly distended and moved with respiration. There were no areas of tenderness, but there was mild hepatomegally.

It was non-tender. The spleen was not palpable. The fundal height was 32 weeks with the fetus in longitudinal lie, cephalic presentation and a descent of five fifths above the pelvic brim.

The fetal heart rate was 150 per minute.

Respiratory System:

The patient was not dyspnoeic and had vesicular breath sounds.

Other systems – These were basically normal.

Diagnosis: Severe anaemia in pregnancy.

Investigations:

Blood specimen was taken for urgent packed cell volume and this was found to be 10%. Blood specimen was also taken for grouping and crossmatching and the patient transfused 2 units of packed cells immediately.

- Stool for microscopy and occult blood – Normal findings
- Urinalysis - Normal findings
- Sickle cell test – Negative
- Haemoglobin electrophoresis – Hb AA.
- Liver function tests – Protein 68.3g/l
  Albumin 30g/l
  Total bilirubin 28.4 umol/l
- Haemogram on 8/8/2002 (after transfusion)
  WBC – 6 x 10^9/l
  Hb – 5.9g/dl
  MCH – 27.2 Pg
  MCV 85.5Fl
  MCHC – 31.8

Polychromasia. macrocytosis. Red blood cell fragments.

Platelets – 100 x 10^9/l (low).

The patient was counseled on the need to have the complete antenatal profile. but she was hesistant to have HIV test done. On 7/8/2002. she developed labour which progressed well with resultant spontaneous vertex delivery of a female infant who weighed 2300g and had an Apgar score of 10 at one minute and 10 at five minutes. The estimated blood loss was 100mls.

The patient was further maintained of haemotinics (Ranferon – 1 capsule twice a day) and given a balanced diet and she showed marked improvement. She was allowed home on 13/8/2002 on haematinics to be reviewed at the postnatal clinic after 2 weeks. She did quite well subsequently and was advised to go to the family welfare clinic for advise on family planning methods

Discussion

Anaemia is usually defined as a haemoglobin (Hb) value below the lower limits of normal that is not explained by the state of hydration. The normal level of Hb for the adult woman is 14 +2g/dl (1, 2).

Using the normal Hb level, 20 to 60% of prenatal patients are found to be anaemic at some time during pregnancy. Some centers have chosen to use a slightly lower Hb values (11.0 or 10.5g per dl) to define anaemia during pregnancy. (2). Anaemia in pregnancy is a major health problem in tropical countries and it has been reported that 75% of pregnant women in the South East Asia region were anaemic according to a world health organization document in comparison to an 17% in Europe and North America. In Africa, more than 50% of pregnant women are anaemic and in Latin America, 39% (3). Sineu et al found an incidence of 7.4% in rural Kenya (4), while Miyoro found that 18.1% of pregnant Maasai women in Western Rift Valley, Kenya, had Hb less than 10g/dl (5). In the Nairobi birth survey, Mati and Sanghni found a prevalence of 1.6% (6). This means that the prevalence of anaemia varies from country to country and region to region even in the same country depending on local environmental factors and genetic problems such as sickle cell disease (4).

Anaemia in pregnancy tends to occur in the younger age groups (4, 6). In Miyoro's study, the mean age of the anaemic patients was 23.7 (5). Early marriages and ignorance of availability of obstetric care among these patients may be a contributory factor (6, 7). Our patient was a 22 year old primigravida who was single and seemed not to be certain about her last menstrual period.

The causes of anaemia are varied and may be classified by pathophysiologic mechanism as follows: (2).

I. Dilutional (expansion of the plasma volume)
   - A. Pregnancy
   - B. Hyperglobulinaemia
   - C. Massive spleromegaly

II: Decreased red blood cell (RBC) production.

A. Bone marrow failure

1. Decreased building blocks or stimulation

a) Iron, Protein

b) Chronic infection, chronic renal disease.

2. Decreased erythron

a) Hypoplasia (hereditary, drugs, radiation, toxins)

b) Marrow replacement (tumour, fibrosis, infection).

B. Ineffective production:

1. Megaloblastic (B12 and folate deficiency , myelodysplasia, erythroleukaemia)
2. normoblastic (refractory anaemia, thalacemia)

III: Increased RBC loss

A. Acute haemorrhage

B. Haemolysis

I. Intrinsic RBC disorders

a) Hereditary

(i) Haemoglobinopathies.

(ii) RBC enzyme deficiency

(iii) Porphyrias

b. Acquired

(i) Paroxysmal nocturnal haemoglobinuria

(ii) Lead poisoning

2. Extrinsic RBC disorders

a). Immune

b). Mechanical

c) Infection

d) Chemical agents

e) Burns

f) Hypersplenism

g) Liver disease

It is unfortunate that the patient discussed here was transfused before specimens was taken for full analysis to determine the possible cause of the anaemia, although she reported having had epistoxis a few weeks earlier.

Anaemia is not a diagnosis but a sign, such as fever or oedema. Symptoms of anaemia are those of tissue hypoxia, or those due to an underlying disease. Tissue hypoxia produces fatigue, light-headedness, weakness, and exertional dyspnoea (2).

Our patient had dizziness, weakness, palpitations and mild dyspnoea. She was obviously pale. Anaemia in pregnancy results in high incidence of premature births and perinatal mortality, significant maternal deaths, fetal distress, toxaemia, premature rupture of the membranes, maternal febrile illness, puerperal sepsis and postpartum haemorrhage (8). It has been suggested that certain speech, learning and behavioural abdomalities occurred later in children whose mothers had gestational anaemia. The frequency and severity of complications resulting from anaemia have been reported to be proportional to its severity. (9)

Anaemia also reduces the resistance to infection particularly during the puerperium and it can result in death due to cardiac insufficiency (2). Our patient had a preterm delivery. Laboratory findings as to the type of the anaemia and its probable cause should give a guide in the treatment, rather than merely carrying out symptomatic treatment which would result in high recurrence rate. These could involve full haemogram plus blood film analysis, bone marrow biopsy; serum folate, iron, B12, transfer in levels and total iron binding capacity. Other tests could be the total bilirubin level, haemoglobin electrophosesis, sickle cell test and stool examination. (2, 80.

The mode of treatment used will depend not only on the cause of the anaemia, but also on the severity and the gestational age. Concerted efforts should, however, be made to ensure that anaemia in pregnancy is detected early to avoid further deterioration. It is also useful to give prophylactic drugs, especially in regions where the prevalence of anaemia is high.

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15. TWIN GESTATION IN A RHESUS FACTOR NEGATIVE MOTHER WITH ONE PREVIOUS CAESARIAN SECTION SCAR – EMERGENCY CAESERIAN SECTION.

Name : J.W.N.

Age: 29years

IP. No. 0484817

DOA: 28.5.2002

DOD: 3/06/2002

Diagnosis: Twin gestation, Rh-negative, 1 previous caesarian cross section scar

Parity: 1 + 0

Presenting – complaints:

The patient was admitted with history of lower abdominal pains and backache over a period of a few hours.

History of - presenting complaints:

She had insidious onset of mild intermittent lower abdominal pains radiating to the back a few hours prior to admission. There was no abnormal vaginal discharge or bleeding.

Obstetric and Gynaecologic History:

She was a para 1 + 0 whose last delivery was by caesarian section due to preterm premature rupture of membranes (PPROM) with failed induction of labour. The baby had weighed 2.5Kg and was treated for neonatal jaundice with full recovery. .

Her last menstrual period was an 3.9.2001. the expected date of delivery 10.6.2002 and the gestational age 38 weeks. She had been on oral contraceptive pills upto August, 2001. Her menarche was at 12 years and her menstrual flow lasted 3 – 4 days in a cycle of 28 days.

The patient had attended antenatal clinic at the Kenyatta National Hospital where the haemoglobin level at booking was 12g/dl, VDRL was negative, blood group was found

to be B – rhesus negative and the indirect coomb's test was negative. She declined to have HIV test done. She was given tetanus toxoid twice. Twin gestation had been suspected on clinical examination and confirmed by ultrasound scan on 8.5.02 at 35 weeks and 2 days. The first twin was reported to be in cephalic presentation while the second in breech presentation.

Past Medical History:

There was nothing of much significance.

Family and Social History:

She was married. The husbands blood group was undetermined. She was unemployed while the husband worked as a motor vehicle mechanic. The patient was herself a twin. She never drank alcohol and did not smoke cigarettes.

Drug:

There was no known history of allergy.

Systemic enquiry:

- There was nothing significant obtained.

General Physical Examination:

She was in fair general condition. was not pale. had no jaundice or oedema and was afebrile.

The blood pressure was 110/70mmHg. the pulse rate 78 per minute. the temperature 36.8° c and the respiratory rate 18 per minute.

Abdominal Examination:

The abdomen appeared quite distended and there were mild uterine contractions. The fundal height was term. there were multiple fetal parts palpable. The descent of the head of the first twin was 5/5 above the pelvic brim. The heart sounds of both fetuses were within the normal range.

Vaginal Examination:

This was done aseptically. The external genitalia appeared normal. The vaginal wall was also normal while the cervix was 3 cm dilated, soft, central and partially effaced. There was show on the examining finger and the membranes were found to be bulging.

Other Systems were essentially normal.

Diagnosis: Established labour in a patient with twin gestation, one previus caeserian section scar and rhesus factor negative status.

Management:

The clinical findings and their implications were explained to the patient who then consented to undergo emergency caesarian section. Blood specimen was taken for grouping and crossmatching of at leat 2 units of screened blood and the following investigations requested for.

Haemogram - WBC 6.3 x 10 g/l
RBC 4.02 x 10 a /l
Hb – 11.8g idl
Platelet count – 236 x 10 g / l

Urea and electrolytes + creative – N+ - 142
K+ - 4.3 } mmol/l
Urea – 2.8
Cr – 65.9 umol/l

Premedication of 0.6mg of intramuscular atropine was given and the patient wheeled to theatre. Aseptic catheterization yieled clear urine and vaginal examination confirmed earlier findings. With the patient supine an the operation table, the abdomen was then cleaned, draped and general anaesthesia induced and maintained. The peritoneal carity was accessed by excision of the subumbilical midline scar, the paracolic gutters packed and a transverse lower uterine segment incision made, the urinary bladder being pushed- away from the operating site in the process. The first twin was found to be in cephalic presentation and delivered in the usual manner.

The second twin was in breech presentation and breech extraction was successfully

done after the membranes were ruptured. The first twin weighed 2600g and had an Apgar score of 7 at 1 minute, 9 at 5 minutes and 10 at 10 minutes, while the second twin weighed 2400g and the Apgar score was 6 at 1 minute, 8 at 5 minutes and 9 at 10 minutes. Umbilical cord blood was taken for both babies for blood group assessment of bilirubin level and direct coomb's test. The placentae and membranes were removed complete, the uterine cavity cleaned and then stitching of the uterus done in 2 layers followed by repair of the uterovesical peritoneum. Haemostasis was achieved. The swabs and instruments were counted and found to be of the correct number then the abdomen closed in anatomical layers. Vulvovaginal toilet was done and there was no abnormal vaginal bleeding noted. The catheter was then removed after it was confirmed that the urine was clear.

Postoperatively, the vital signs were observed ½ hourly until the patient was fully awake then 4 hourly. The patient was maintained on intravenous dextrose (500mls) alternating with 500mls of normal saline 6 hourly until she was allowed to have oral sips of fluids. Prophylactic crystalline penicillin and gentamicin were given for 24 hours then the patient put on ampiclox capsules. She was initially given 100mgs of intramuscular pethidine 8 hourly to relieve pain and was subsequently stopped and the patient given mefenamic acid.

The blood group of the first and second twins were found to be B-rhesus positive and O – rhesus positive respectively necessitating the administration of 300 ug of intramuscular immune globuline (anti – D).

She did well and was allowed home as the 4th postoperative day to be reviewed at the postnatal clinic six weeks later.

Discussion:

The patient presented here is a 29 year old para 1 + 0 who was admitted at 38 weeks gestation in labour. She was destined to have caesarian section done from the fact that her last delivery had been by caesarian section. It is the practice at the Kenyatta National Hospital not to allow patients with caesarian section scan and twin gestation to try to deliver vaginally. Our patient was also rhesus factor negative while the babies were found to be rhesus positive.

In the socalled Western Countries , the number of twin births has increased dramatically in recent years due, partly, to the increasing use of assisted reproductive technology and also a trend in delaying pregnancy and childbirth to a later maternal age.

(1) . Oyieke reported an incidence of 1 in 58.8 deliveries at the Kenyatta National Hopital in 1978, while Njuki found a prevalence of 3.5% at the same center in 1979.

(2, 3).

The extensively quoted hypothesis of Hellin. that the natural occurrence of twins is 1 in 80, of triplets 1 in 80^2 and of quadruplets 1 in 80^3 , is now known to underestimate the true incidence of multiple pregnancy. Indeed. it is difficult to determine the incidence of twins and higher order multiple pregnancy. for serial ultrasound imaging at intervals throughout the same pregnancies has revealed that one or more fetuses often dies in uterus during the first trimester. This may or may not be symptomatic. In human, as the number of fetuses per pregnancy increases. the percentage of male fetuses diminishes. While the cause is unclear. it is in keeping with the well-known observation of the increased mortality of males in all age groups from infancy to old age. (1).

Twins are either dizygotic, binovular. fraternal or unlike when they are from 2 zygotes or they may be monozygotic, uniovular, identical or like when from one zygote. Determination of zygosity is useful for the following purposes.

- Legal reasons
- If the twins are to be used for genetic studies
- To satisfy quarries of twins and their relatives concerning their relationships
- To assist in diagnosis of the twin-twin transfusion syndrome

- Determining feasibility of organ transplantation from one twin to the other
- To exclude monozygosity when one twin has a lethal abnormality.
- Before selective feticide when separate placenta can not be visualized.
  (1, 4).

Multiple pregnancy provides the obstetrician with the challenge of increased risks to the mother and of both the fetal morbidity and mortality. Of greatest concern is fetal loss due, largely, but not exclusively, to preterm delivery. The duration of pregnancy in multiple gestation decreases in proportion to the increase in the number of fetuses and the perinatal mortality rises. (5 other factors contributing to the increased fetal wastage include fetal malformations, intrauterine growth restriction (IUGR) and the twin – twin transfusion syndrome (1, 4).

All the physiological changes seen in singleton pregnancy occur to a greater degree in multiple pregnancy and degree in multiple pregnancy and this may be due to the increase in the production of steroid and protein hormones by the feto-placental unit e.g. estrogen and pregnancy specific glycoproteins. Of note are the mechanical effects leading to humbon lordosis complicated by backache, dyspnoea and dyspepsia due to upward displacement of the diaphragm. There may also be partial ureteric obstruction predisposing to hydroureter, urinary stasis and urinary infection. Pressure on the inferior vena cara may result in supine hypotensive syndrome, varicorse veins and oedema due to hydrostatic pressure within the veins. Polyhydraminous, notably the acute type and more so in the monozygotic twins, will worsen these. (1,4). At the Kenyatta hospital, Oyieke found the frequency of preedampsia to be 14.4%, preterm rupture of membranes to be 15.7%, polyhydramnios, 7.5%, antepartum haemorrhage, 44% and anaemia, 22.6%. The prevalence of postpartum haemorhage (PPH) was 24.5%, 79.2% of which was due to uterine atanx, the rest being as a result of cervical or vaginal lacerations (2)

Family history of twins, hyperemesis and unexpected increased uterine size in early prequency and excess of fetal parts with more than two fetal poles unless hydramnios exists should make one suspect the existence of twin gestation. Auscultation for the fetal heart activities and ultrasound examination as further diagnostic aids. Oyieke found that

the correct diagnosis of twin gestation before term was made in 54.1% of the patients at the Kenyatta hospital (2).

The patients should be regarded as being in the high risk category and more intensive antenantal surveillance instituted. Serial ultrasound scans may be of use and umbilical artery Doppler flow studies may be called for from time to time. Where accessible, antenatal cardiotocography with non–stress testing would be useful. If one twin is abnormal, efforts are made to ensure that the normal one is not compromised. Selective feticide is applied in some centers.

Delivery should as much as possible be carried out in a hospital and the patient should be well versed with the implications of having a twin pregnancy and the possible complications such as spontaneous abortion, pre-eclampsia, pricterm labour, anaemia, polyhyframinios, post partum haemorihage, locking of twins if the first twin is in breech presentation she should be informed about the risk of having prolonged gestation, especially in relation to the deterioration of placental function. Our patient went into labour spontaneously at 38 weeks.

The patient may at times require admission before term if she develops complication such as premature labour.

Elective cerrical suture of twin pregnancies has been shown to be unsuccessful in some studies .The role bed rest has also debatable. (1)

Labour should be conducted so that so that immediate caesarian section can be performed if required. Our patient could not be allowed to undergo trial of labour since she had previous caesarian delivery. Blood should be typed and matched: 2 units should be available for transfusion. An intravenous line should be established with a large bore needle. Analgesia should be limited during labour.

Vaginal delivery is facilitated by making a deep episiotomy incision just prior to the delivery of the first twin. A vaginal examination is penformed immediately after this and to note the presentation of the second twin, the presence of a second sac, an occult cord prolapse, or cord entanglement. The cord is cut as far outside the vagina as possible so that it can hang loose to permit vaginal examination or manipulation. This eliminates

inadvertent cord traction on the placenta. The cords are labeled as first and second so that they may be associated with the proper placenta or placentae. Delivery of the second twin should be expeditions and appropriate fetal heart rate monitoring is necessary. The well – being of the second twin can be assured and delivery need not be rushed unless ominous signs develop.

To prevent postpartum haemorhage, increased intravenous oxytocin, eleration and light massage of the fundus and an intravenous orgot or prostaglandin product (only after the last fetus is delivered) may be required.

Our patient has given anti-D because the babies turned out to be rhesus factor positive. Indeed, multiple pregnancy is known to be a risk factor for fetomaternal hemorrhage. (1. 4)

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OBSTETRIC LONG COMMENTARY

The current management of patients with primary caesarian section scar at the Kenyatta National Hospital

ABSTRACT

Background

Vaginal birth after caesarian section has been shown to be feasible in many patients allowed trial of scar globally. It is not clear to what extent this is practiced at the Kenyatta National Hospital currently.

Objective

The objective of the study was to review the management of patients with one previous caesarian section scar at the Kenyatta National Hospital, Nairobi.

Methodology

The study was a cross sectional descriptive survey carried out between April and October, 2002 at the obstetrics unit of the Kenyatta National Hospital. A structured questionnaire was used to collect data from the case files and the patients themselves were also interviewed after consent to participate in the study was obtained verbally.

Results

A total of 110 patients were enrolled in this.

The study showed that upto 53.2% of the patients had attended antenatal clinic at the Kenyatta National Hospital, 0.9% at the Pumwani Maternity, 41.3% at other health institutions and 4.6% never attended any antenatal clinic.

Only 38.5% of the patients had pelvic assessment carried out antenatally with 22% having been done radiologically and 7.3% both clinically and radiologically. The mean gestation at the time of pelvic assessment was 36.3 weeks, but the mode of delivery was based on the findings in only 29.5%.

The weight of the baby was never assessed antepartum in 67% of the patients.

The mean gestation age at delivery was 38.8 with repeat caesarian section being carried

out in 92.5% of the patients and 7.5% having vaginal birth after caesarian section. About 70.5% of the repeat caesarian deliveries were on emergency basis. The majority (43.4%) of the repeat caesarian deliveries were due to cephalopelvic disproportion (CPD).

A bout 90.8% of the patients in general had no major complications, while 4.6% of them had uterine rupture.

Conclusion and Recommendations

It was found in this study that the repeat ceaserian section rate is quite high. There is, however , need to strive to adhere to the international guidelines as the management of patients with one previous caesarian section scar as this may lead to a drop in the repeat caesarian delivery rate.

INTRODUCTION:

Caesarian section (CS) is attended by many disadvantages in terms of morbidity and adverse economic implications in comparison to vaginal delivery. There is an international concern on the rising rates of caesarian sections and it is known that previous (CS) scar contribute significantly towards this (1,2,). A concerted effort should, therefore, be made to reduce both the primary caesarian section rate as well as the subsequent ones (3)

Studies have indeed, shown that by careful selection of patients, it is feasible to reduce the number of caesarian sections carried out due to previous C.S. On average, many reports indicate a success rare of between 60% and 80% in those carefully selected and allowed trial of scar. (12)

Whereas there are guidelines on what needs to be done in order to achieve a high success rate by way of vaginal birth after caesarian section (VBAC), it remains unclear to what extent they are followed and how this eventually impacts on the obstetric outcome in such patients. For instance, at the Kenyatta National Hospital, Walton's study in 1975 revealed a success rate of 73.9% in those allowed trial of scar and recommended certain guidelines to be followed in the said institution. What needs to be evaluated is to what extent these guidelines have been adhered to at this health institution. This study, therefore, aims at reviewing how the women seen with one previous caesarian section scar at The Kenyatta National Hospital obstetrics unit are managed in relation to the agreed norms and other factors influencing the obstetric outcome in such patients.

LITERATURE REVIEW:

The term caesarian section denotes the delivery of fetus, placenta and membranes through an incision in the abdominal and anterior uterine walls (1,2,3,).

The first caesarian section performed on a patient is known as primary caesarian section; subsequent procedures are referred to as secondary, tertiary and so on, or simply as repeat caesarian section (1,2)

Although caesarian delivery with the expectation of survival of both the mother and fetus was proposed in the late 18th century and first operation was preformed in the early 19th century the technique was not widely used until 1920s. In deed, improved surgical and anesthesia skills, antibiotic coverage, aseptic techniques, and availability of blood have decreased the risks of this procedure (1,2,3,4,45). However, caesarian birth still poses a much greater risk to the mother in comparison to a vaginal delivery in terms of morbidity (5,6,7,8). Since its introduction by Munro Kerr in 1921 and subsequent popularization by St. George Wilson, Bailey, and Harvey Evers, the lower segment caesarian section has satisfactorily fulfilled its two objectives: the immediate maternal morbidity and mortality attending abdominal delivery have been lowered, and the incision, mainly due to its site, has proved of great integrity than the upper segment scar in subsequent deliveries (1,2,3,6). Currently, a low transverse incision is employed in more than 90% of the Caesarian births. [2,3]

THE CHANGING RATES OF CAESARIAN DELIVERIES

Uncertainty still exists about the relative risks and benefits of caesarian sections, as the indications are progressively widened, and concern is expressed among health professionals and the lay communities about its increasing use in both the developing and developed countries. It is now accepted that caesarian section should not account for more than 15% of all deliveries. Rates of caesarian section below 5% are considered to be associated with higher maternal mortality rates, whereas rates beyond 15% do not seem to improve either the maternal or infant health.[52]

This increase also raises concerns regarding the management of subsequent labour. Some of the factors attributed to the increase are: -

(i) Increasing avoidance of midforceps delivery and vaginal breech deliveries.

(ii) Greater awareness of serious fetal distress with the use of fetal monitoring during labor.

(iii) The belief in some centers that once a woman has had a caesarian delivery, all subsequent pregnancies must be delivered by caesarian sections.

(iv) Greater emphasis on the importance of "quality survival" for the newborn, not simply survival.

(v) Medicolegal pressures.

(vi) Advanced age at first delivery.

It is also important to note that in developing countries the prevalence of cephalopelvic disproportion, anteportum haemorrahge and cord prolapse necessitate a high operative delivery rate. As indications for primary caesarian section were expanded, it is not surprising that "prior caesarian delivery" became an ever increasing indication for caesarian birth. By 1964, nearly half of all caesarian deliveries at the New York Hospital were based on the indication of prior caesarian birth and similar data were reported from Carlifornia in 1970, where repeat caesarian sections accounted for 35% to 50% of all caesarian deliveries (1,2). At The Kenyatta National Hospital in 1980, Karanja reported that 51.2% of caesarian sections were of the repeat type, the overall caesarian section rate having been 17.8%, one previous caesarian section scar accounted for about 27.6% of

these (14) in 1991 A study at The Pumwani Maternity Hospital, Nairobi, reported that repeat caesarian sections accounted for 64% of the total caesarian sections performed in that year (15). It is currently estimated that caesarian section account for close to 30% of the deliveries at the Kenyatta Hospital. [52]

Reducing the current caesarian section rate

A concerted effort should be made to reduce the current caesarian section rate since caesarian births increase healthcare costs and pose considerable additional risks for maternal morbidity and mortality (11,16). Bottoms et al concluded that if primary indications for caesarian sections are more tightly controlled, the number of candidates for repeat caesarian sections would be reduced accordingly (17).

Because repeat caesarian sections contribute significantly towards the total number performed, the role of vaginal birth after caesarian section (VBAC) can not be underestimated and few changes within the specialty of obstetrics and gynecology offer greater potential impact to more women than this. The previously held concept of "once a caesarian section, always a caesarian section" is no longer mandated.

The safety of vaginal birth after caesarian section (VBAC) has been documented in many studies. Recent data indicate that a trial of labour is successful in 60% -80% of patients who had transverse lower uterine segment incision for previous deliveries and who were candidates for vaginal birth in subsequent pregnancies (12,18,19,20).

At the Kenyatta National Hospital, Walton obtained a successful trial in 73.9% of his patients that were allowed "trial of scar" and he also noted that 50% of the caesarian sections were performed solely due to prior caesarian section. In the same study, 36.2% of those delivered abdominally previously for mechanical reasons also had vaginal delivery after caesarian section (6)

Despite reports in the 1960s that the concept of vaginal birth after caesarian section was both feasible and safe, many obstetricians remained reluctant to accept this major modification in healthcare delivery. As late as 1987, more than 90% of women in United States of America (USA) with prior caesarian section deliveries had repeat caesarian section. However, rising rates of vaginal birth after caesarian section indicate that clinicians have become confident with this approach. (21).

Obara et al found out at the Jichi Medical School Hospital in Japan that vaginal birth after caesarian section significantly reduced the rate of caesarian sections. They recommended further that although the rates of uterine rupture and neonatal asphyxia were slightly higher in women who attempted vaginal birth after caesarian section, obstetricians should offer the option of trial of labour because more than one-half of the women with a previous caesarian delivery might have a successful vaginal delivery and the vaginal birth after caesarian delivery –related maternal mortality does not reportedly differ between women undergoing a trial of labour and women undergoing an elective caesarian section (22).

Perveen and Shah had a VBAC rate of 64.28% in their study and recommended that fixed protocol be applied to all patients for even better results. (23).

Khan and Rizvi suggested that since in their study the partographic zone 2-3 hours after the alert line represented a time of high risk of scar rupture, an action line in this time zone would probably help reduce the rupture rate without an unacceptable increase in the rate of caesarian sections (24).

In a meta-analysis from sub-Saharan Africa, Boulvain et al concluded that the practice of trial of labour after one caesarian section is feasible and relatively safe and that the success rate is similar to that of the developed countries, which ranges from 64% to 84% (12). They suggested that having a more permissive approach to a trial of labour may encourage the women to return to hospital for supervision of a subsequent labour, for if the perception is that a further caesarian section is inevitable, a woman is less likely to

return. Some women with a past history of caesarian section only report to hospital when a complication arises after trial of labour at home in many of the developing countries and in these cases, emergency procedures are required, and the management option between elective caesarian section and trial of labour are irrelevant. In these countries, primary caesarian section is frequently an emergency procedure in women whose labours are complicated by severe dystocia, infection or other conditions which could have an impact on wound healing. For these women, the capacity of the uterine scar to withstand the stress induced by a subsequent labour may be compromised (12).

The role of Pelvimetry in trial of Scar:

Diagnostic criteria which are considered to justify a caesarian birth for dystocia vary from clinician to clinician (5). The role of radiological pelvimetry in relation to clinical pelvimetry remains a controversial subject.

Hofmeyr recommends that the presence or absence of caphalopelvic disproportion (CPD) should be diagnosed by trial of labour using a portogram and that imaging pelvimetry by X-ray or CT- Scan should be reserved for cases in which specific pelvic inadequacy is suspected (25). In a randomized controlled trial in South Africa, X –ray pelvimetry was found to be of little value (1.26). According to Walton's study at the Kenyatta National Hospital (6) radiological pelvimetry is the single most important investigation in the selection of patients for trial of scar. He found out that 67.7% of those who failed a trial of Scar and two thirds of the uterine ruptures had had no radiological pelvic assessment and radiology appeared to be the only investigation not available to those patients attending other centers for antenatal care compared to the ones attending the central hospital and the high failure and rupture rates in these non- booked cases emphasizes the importance of this facility. Fraser (27) and Ogutu (28) suggested that X-ray pelvimetry is important for those found to have borderline pelvis and should not necessarily be done routinely in all patients so as to avoid unnecessary irradiation of the fetus. Ogutu found out that the patients who had ruptured or impending rupture of the uterus had a true conjugate which was less than 10.5 cm and this correlated well with Walton's study.

Pritchard et al found that pelrimetry provides accurate measurements of pelvic dimensions and when the diagonal conjugate is more than 11.5cm, the anteroposterior diameter (the obstetric conjugate) in rarely contracted. (29).

It, therefore, appears that radiological pelvimetry in combination with clinical assessment of the pelvis would be quite useful in the selection of patients for trial of Scar and given that walton's study is an important benchmark in this study, the extent to which pelvimetry is applied at the Kenyatta National Hospital obstetrics unit shall be a point of review.

Use of Oxytocic Drugs in Patients with Previous Caesarian Delivery.

The decision to use oxytocin in trial of scar is controversial because of a hypothesized increase in the risk of uterine rupture. but some authors report that its use and the duration of its administration have not had a major impact on the rate of uterine rupture (3.30).

Phelan et al suggested that the use of oxytocin is integral to a successful vaginal birth after caesarian section (32). In deed. a carefully monitored augmentation of labour may be safely attempted in women presenting with minor degrees of dysfunctional labour without evidence of cephalopelvic disproportion (3.37.38). At the Kenyatta National Hospital. syntocinon is hardly used in patients with previous caesarian deliveries because of lack of proper monitoring equipment.

Fetal Weight Assessment.

An estimated fetal weight above 4000g increases the likelihood of labour distocia particularly when the estimate exceeds 4500g. When attempting a trial of scar, the use of oxytocin and a birth weight of at least 4000g is associated with a significantly lower probalflity of success. (32). The fetal size can be estimated ultrasonographically and also by the use of the symphysiofundal length multiplied by the abdominal circumference at the level of the umbilicus minus 450g

The role of prostaglandin in ripening the cervix in patients with previous caesarian section also remains inconclusive since there is scanty published information to make decision either way possible (33). It is a practice which is currently discouraged at the Kenyatta national Hospital.

Epidural anaesthesia in trial of scar:

The use of epidural anaesthesia in patients undergoing trial of scar remains a controversial issue. Some obstetricians believe that the theoretical risk of scar dehiscence or rupture is small when compared with the benefit of pain relief (34,35). A more legitimate, though controversial, concern is that epidural anaesthesia, particularly when used with epinephrine, many increase the need for caesarian section delivery or operative vaginal delivery by reducing uterine activity.

The risk of epidural anaesthesia in inhibiting maternal cardiovascular response to haemorrhage from sympathetic blockade has not been adequately studied, but the possibility is worrisome and if it is used, internal electronic monitoring of fetal heart rate and intrauterine pressure is recommended along with continuous bedside attendance by obstetrical nurse or physician (36). Epidural anaesthesia is not routinely used at the Kenyatta National Hospital, but should its use be implemented in future, then these concerns must be considered.

Multiple gestations and abnormal fetal lie in patients with previous caesarian delivery:

Clinical acceptance of trial of scar in patients with multiple gestations or breech presentation remains highly controversial. Logically, any condition that results in overdistension of the uterus poses a risk of rupturing a uterine scar. Trial of scar in such circumstances should preferably be avoided until more scientific data about its safety become available (3,4).

Prior indication for caesarian delivery as a prognostic indicator for vaginal birth after caesarian section (vbac)

The outcome of trial of scar will depend in large part on whether the prior indication was "recurring" or "non-recurring." Vaginal birth after caesarian section success is increased by a history of prior vaginal delivery, absence of a prior cephalopelvic disproportion, absolute fetal weight less than 4000g, small relative fetal weight than the index pregnancy, and response to oxytocin stimulation within two hours (37,38). If a patient has history of a prior caesarian delivery for a non-recurring condition, breech presentation, fetal distress, and conditions such as placenta praevia, abruption or maternal haemorrhage, the likelihood of a successful trial of labour is quite high, approximating the success rate for the so called low-risk nulliparous patient, particularly if the patient has had a prior vaginal delivery (39).

Parity as a factor in trial of scar:

There is still uncertainty on the mode of management of multiparous mothers with caesarian section scars. Allahbadia in 1963 assessed vaginal birth after caesarian section at Rotunda Hospital, Dublin, Ireland and in his series reported a woman who had nine deliveries after a primary caesarian section and he concluded that the risk of rupture is greatest during the first labour following caesarian section and the subsequent labours are attended by a lesser risk of these complications. This means that the first labour following caesarian section causes rupture if the uterine scar is defective, but if the uterus is soundly healed, it will withstand the strain of repeated labours (40).

Miano (41) while reviewing 200 cases of trial of scar in grandmultiparous women at the Kenyatta National Hospital (para 8 and above) found a success rate of 75% while at the Pumwani Maternity Hospital, Nyamu found a success rate among para 8 and above to be 81.8%, while para 5 had 68.5%, para 6 61.5% and para 7 85.6% showing that it could even be safer to try a scar in para 8 and above than lower parities. He, however, found out that at the Kenyatta National Hospital, trial of scar in grand multiparous was not recommended (42).

Guidelines for trial of scar:

In selecting the patients for trial of previous caesarian section scar, the American College of Obstetrics and Gynaecology (ACOG) recommended the following points to be reflected in each management protocol.

- In the absence of a contraindication, a woman with one previous caesarian section delivery with a lower segment incision should be counselled and encouraged to undergo a trial of labour in her current pregnancy.

- A woman who has had two or more previous caesarian deliveries with low uterine incisions and who wishes to attempt vaginal birth should not be discouraged from doing so in the absence of contraindications.

- Efforts should be made to document the type of previous uterine incision. If unsuccessful, a judgement must be made as the advisability of a trial of labour, since classical incisions continue to be used especially for patients who undergo caesarian sections for extreme prematurity or transverse lie.

- A previous low vertical incision or a fetus with an estimated weight of more than 4000g are not contraindications to a trial of labour.

- A previous classical uterine incision is associated with a rate of rupture of upto 12%. A trial of labour should be discouraged in such cases.

- A trial of labour and delivery should occur in a hospital setting that has professional resources to respond to acute intrapartum obstetric emergencies, such as performing a caesarian delivery within 30 minutes from the time the decision is made until the surgical procedure is begun. **(1,2,3,4,5,6,43,44,45)**

The protocol is similar to the one recommended by the Canadian Obstetricians (26) except that a low vertical incision is a contraindication for a trial of scar for the Canadians.

Walton's recommendations at KNH include performing pelvimetry and trial of labour in women whose pelvic dimensions show a true conjugate of at least 10.5cm. Intrapartum management of patients undergoing trial of caesarian section scar should include the following:

- Intravenous access on admission
- Obtaining blood count, type and cross-match with two units of blood available.
- Continuous electronic fetal monitoring
- External tocodynamometry, with internal uterine monitoring of contractions when feasible.
- Nothing to be taken orally during labour.

Uterine dehiscence/rupture in patients with previous caesarian delivery:

Dehiscence has a distinctly different clinical connotation than "uterine rupture." Uterine incisional dehiscence is commonly used to describe the occult rupture that is occasionally observed in-patients with prior low transverse incision. A useful operational definition of dehiscence is a uterine scar separation that does not penetrate the uterine serosa, does not produce haemorrhage, and does not cause a major clinical problem (31,45, 47).

The signs of uterine rupture or dehiscence, for that matter, to be looked for during the trial of scar include:

- Signs of fetal distress.

This is the most common finding reported to occur in 50-70% of all uterine ruptures/dehiscence (48) and presents with fetal heart rate patterns with variable decelerations and fetal bradycardia.

- Uterine pain that continues between contractions and usually located in the area of the previous incision.

- Intrapartum haemorrhage and haematuria.

- Other signs include loss of uterine contractions, recession of the presenting part, and fetal death.

The issue that most often has prevented physicians from allowing women to undergo a vaginal delivery following a caesarian section has been the fear of uterine rupture or dehiscence.

O'Sullivan and co-workers in 1981 reported that frank rupture of the uterus or uterine dehiscence, at least, occurred in 1.8% of women undergoing caesarian section compared to only 0.5% for women undergoing vaginal delivery. Their conclusions have since been confirmed (49,50,51).

Walton found a uterine rupture rate of 6.5% in his series at the Kenyatta National Hospital although he pointed out that 66.7% of these had not had radiological assessment of the pelvis prior to being committed to the trial of scar.

RATIONALE OF THE STUDY

Vaginal birth is so far known to be a better mode of delivery than caesarian section and all efforts should be geared towards attaining this goal. It is for instance, known to be attended by less morbidity and shorter duration of hospital stay with consequent reduction in the overall cost of care of such patients. Given that repeat caesarian sections have been known to contribute significantly towards the overall caesarian section rate in many centers, there is need to constantly review how the chances of vaginal birth after caesarian section (VBAC) may be improved without necessarily compromising the quality of care of the patients. This necessitates adherence to certain guidelines which have been found in various scientific studies to be of benefit in helping achieve a high success rate in this respect. This study aimed at establishing to what extent the various guidelines on the management of the mothers with one previous caesarian birth are followed at the Kenyatta National Hospital and the obstetric outcome in such patients so that appropriate adjustments may be put in place if found necessary.

Objective of the study

To review the management of patients with one previous caesarian section scar at the Kenyatta National Hospital, Nairobi. From April 2001 to October 2001.

Specific objectives

1. To determine the sociodemographic characteristics of the patients with one previous caesarian section scar.

2. To determine the antenatal assessments of patients with one previous caesarian section birth.

3. To assess the intrapartum management of patients with one previous caesarian section scar at the Kenyatta National Hospital labor ward.

4. To determine obstetric outcome in the patient with the previous caesarian deliveries.

METHODOLOGY

Study area:

The study was carried out at the Kenyatta National Hospital, (KNH) Nairobi. The hospital caters for the population of Nairobi and its environs and is also one of the National referral hospital. Occasionally, patients from the neighbouring countries are received here for specialized treatment. It serves as a training center for the undergraduates and postgraduates students of the college of health sciences of the University of Nairobi. Students of the Medical Training College, Nairobi, are also trained here.

The obstetrics unit in the hospital consists of an outpatient antenatal and postnatal clinics, three lying-in wards and labour ward. There is also a relatively new amenity ward where private patients are admitted under the care of the various consultant obstetricians in the unit. A mother's hostel also exists for those mothers whose babies are under treatment at the newborn unit. The obstetrics unit is currently served by one theatre in labour ward, but there is provision for some of the patients to be taken to the main theatre should there be need to do so.

The services are run by doctors and midwives of different qualifications. Among the doctors are interns, postgraduate students (registrars), senior registrars and consultants.

The patients are admitted into the antenatal words through the casualty for those that did not attend antenatal clinic at the hospital or they report directly to labour ward if they attended clinic at the Kenyatta hospital and they happen to be in labor.

The patients for elective caesarian section are prepared for the procedure in the antenatal wards while those in whom emergency caesarian section is indicated are prepared within the labour ward.

Study population:

All patients seen at the labour ward of Kenyatta National Hospital with one previous caesarian section scar from 1st April to 31st October, 2002

Inclusion criteria:

Patients with one previous caesarian section scar consenting to participate in the study.

Exclusion criteria:

- The patients admitted in to the labour ward of Kenyatta National Hospital in the post partum period.
- Those not having 1 previous Cs scar
- Those not willing to participate in the study.

Study design

Prospective cross sectional descriptive study

Procedure

The eligible patients were recruited into the study on admission to the labour ward or they were traced to the postnatal ward if they had already been transferred there after delivery. The purpose of the study was explained to them and for the consenting ones, a structured questionnaire was administered by the investigator himself. Three research assistants were briefed on the purpose of the study and what was expected to be asked for from the patients and what was to be recorded in the questionnaires from the clinical notes as far as the antenatal and intrapartum management was concerned. The patients were also followed up for any complications until they were discharged from the ward. usually on the 4th postoperative day.

Sample size/ sampling method

The sample size shall was calculated based on 95% confidence limit with an estimation that 1 previous C/section scar patients contribute about 10% of the total deliveries at the hospital or about one third of the total number of Caesarian sections as per Karanja's study (14).

Data management

Generated data were entered in a computer using EPI –INFO and analysis carried out using pie, charts, frequency tables, percentages and ratios..

Outcome measures:

The main outcome measures were the total number of women seen with one previous Caesarian Section Scar, whether they had attended clinical antenatal clinic, the obstetric outcome in such patients by way of vaginal delivery or repeat caesarian section, the

indications for caesarian section where this applies and the accruing complications. The status of the baby was assessed in terms of live birth, fresh still birth or macerated still birth.

RESULTS

Table I: Age in completed years

Age group	Number	%
<20	3	2.8
20 – 24	20	18.3
25 – 29	43	39.4
30 – 34	29	26.6
>35	14	12.8
TOTAL	109	100

Table 1 shows that about 87%of the patients were below 35 years of age. The mean age was 29 std deviation 5.3. The edge of one patient not recorded.

Table II: Age at first delivery

Age group	Number	%
<20	22	28.9
20 – 24	32	42.1
25 – 29	18	23.7
30 – 34	4	5.3
TOTAL	76	100.0

The mean age at 1st delivery was 22 std deviation 4.1 with all the patients having had their first delivery below 35 years. 34 patients did not have the age at first delivery indicated in the questionnaire.

Table III : Age at first caesarian section

Age group	Number	%
<20	21	19.1
20 – 24	47	42.7
25 – 29	30	27.3
30 – 34	6	5.5
>35	6	5.5
TOTAL	110	100

The mean age at first caesarian section was 24, standard deviation 5.2. About 95% of the patients had their caesarian section at below 35 years of age, with 62% having had it below 25 years.

Table IV: Educational background

	Frequency	%
None	1	0.9
Primary	29	26.4
Secondary	57	51.8
College	23	20.9
TOTAL	110	100

Table iv shows that about 73% of the patients attained secondary school education and above. with only one patient in the study population having had no formal education at all.

Figure 1: Marital status

Figure 1 shows that about 93% were married, 6%, single while 2% were either separated or divorced.

Table V Parity

(At 1st caesarian delivery)

Parity	Frequency	%
0	82	74.5
1	15	13.6
2	8	7.3
3	4	3.6
8	1	0.9
TOTAL	110	100

Table v shows that at the time of the first caesarian section, about 75% were primigraridae, 14% para 1, 7% para 2, 4% para 3 with 1% having been para 8.

Figure II: Antenatal clinic attended in the current pregnancy

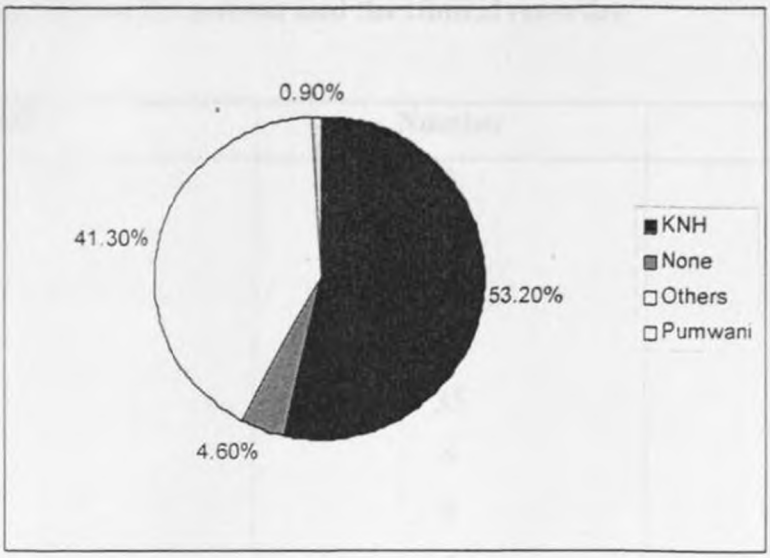

Figure II show that in the current pregnancy, about 53% of the patients had been followed up at the Kenyatta Hospital antenatal clinic, while 41% had attended other clinics. Only 1% had attended Pumwani.

Table vi : Method of pelvic assessment in the current pregnancy

	Number	%
None	42	38.5
Radiologically	24	22.0
Clinically	35	32.1
Radiologically + clinically	8	07.3
TOTAL	109	100

Table vi shows that about 39% of the patients never have pelvic assessment in the antenatal period, while 22% had it done radiologically, 32% clinically and 7% both radiologically and clinically .

There was no record on whether pelvic assessment was carried out or not in one patient.

Table VII : Gestational age at the time of pelvic assessment in the current pregnancy. (From the patient and the clinical records).

Gestational	Number	%
17	1	1.5
28	2	2.9
32	1	1.5
34	3	4.4
36	35	51.5
37	6	8.8
38	9	13.2
39	5	7.4
40	5	7.4
41	1	1.5
TOTAL	68	100

Mean gestation at which the pelvic assessment was due was 36% std deviation 3.2%

The range was 17 to 41 weeks

Unfortunately data on pelvic assessment was not captured in 42 of the patient, this being done in only 68 of them.

Figure III: Whether the decision on mode of delivery was based on pelvic assessment findings. (from the clinical records)

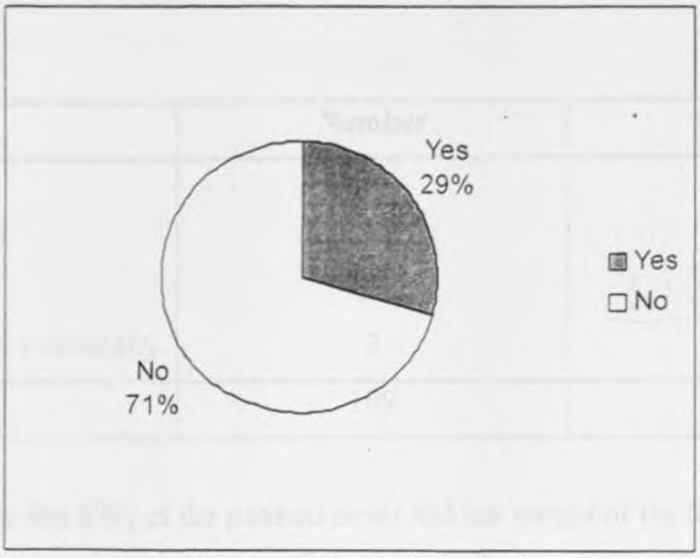

Figure III shows that only 44% of the patients had the mode of delivery based on the pelvic assessment findings. These were radiological, clinical or both.

Table VIII: How the weight of the fetus was assessed in the current pregnancy, (n = 109)

	Number	%
Not assessed	73	67.0
Ultrasound scan	14	12.8
Clinically	20	18.3
Ultrasound scan + clinically	2	1.8
TOTAL	109	100

Table viii shows that 67% of the patients never had the weight of the fetus assessed either antepartum or intrapartum, while 13% had it done by ultrasound scan, 18% clinically, with both ultrasound scan and clinical assessment being applied in 2% of the patients. In one patient, there was no record of whether or not the weight of the fetus was assessed.

Table IX : Gestational age (in weeks) at the time of delivery in the current pregnancy (From the patients clinical records)

Gestational age	Number	%
28	1	0.9
29	1	0.9
30	1	0.9
32	1	0.9
34	4	3.7
36	8	7.3
37	2	1.8
38	18	16.5
39	21	19.3
40	31	28.4
41	16	14.7
42	5	4.6
TOTAL	109	100

There was no record of the gestational age at delivery in one of the patients. It is evident that 84% of the deliveries in the current pregnancy occurred at 38 weeks and above, with 19% having been after 40 weeks gestation.

Figure IV: The mode of delivery in the current pregnancy (From the patients' clinical records)

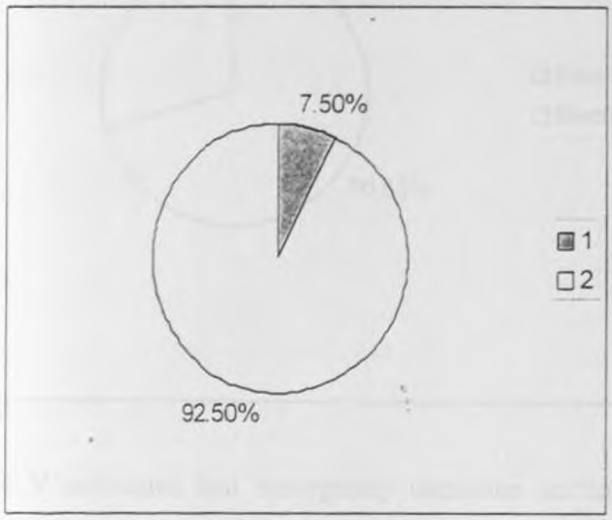

Figure IV shows that about 93% of the patients underwent repeat caesarian section while only 8% had vaginal birth.

Figure V

Timing of the caesarian section

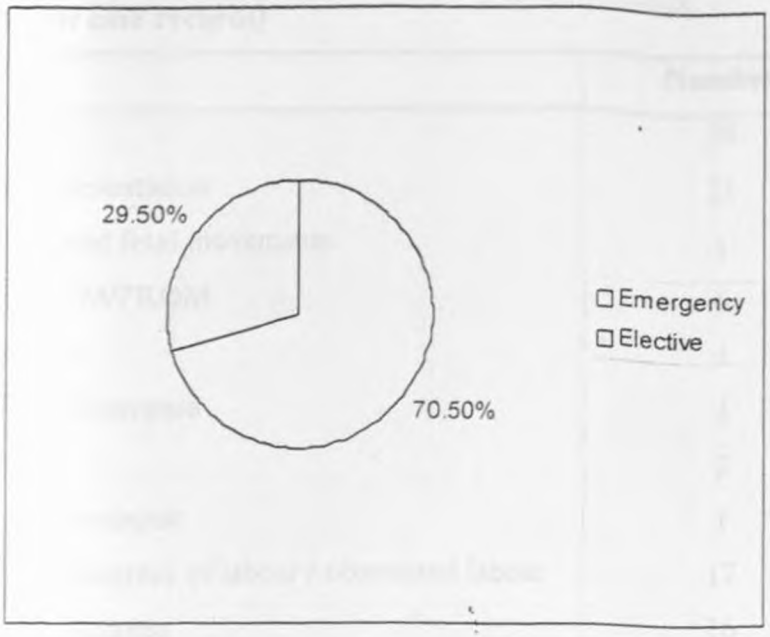

Figure V indicates that emergency caesarian section was performed in about 71% of patients. while 30% had elective caesarian section.

Table X : Whether the fetal maturity was confirmed before elective caesarian section or not and method used (n= 31 The total number of patients who underwent electrive Cs

	Frequency	%
Not confirmed	11	35.5
Ultrasound	20	64.5
TOTAL	31	100

Table x exemplifies the fact that in about 36% of the patients. the fetal maturity was not confirmed prior to elective caesarian section with the rest having been based on the ultrasound scan findings.

Table XI: Indications for the first caesarian section (From either the patients recall: or the case records)

	Number	%
CPD	38	35.5
Malpresentation	21	19.6
Reduced fetal movements	1	0.9
PPROM/PROM	6	5.6
POPP	1	0.9
PET/Eclampsia	4	3.7
APH	2	1.9
Cord prolapse	1	0.9
Poor progress of labour / obstructed labour	17	15.9
Fetal distress	16	15.0
TOTAL	**107**	**100**

Table xi shows that caphalopelvic disprportion (CPD) accounted for the height number of the 1st caesarian sections (36%) followed by malpresentation (19.6%), poor progress or obstructed labour (16%) and fetal distress 15%.

Table XII : Indications for repeat caesarian section (From the patients' clinical records)

	Number	%
CPD	43	43.4
Malpresentation	6	6.1
Reduced fetal movements	4	4.0
Ruptured uterus	5	5.1
PPROM/PROM	10	10.1
POPP	2	2.0
PET/Eclampsia	5	5.1
APH	2	2.0
BOH	2	2.0
Cord prolapse	1	1.0
Uterine fibroids	1	1.0
Poor progress of labour / obstructed labour	12	12.1
Fetal distress	6	6.1
TOTAL	99	100

Figure xii shows that CPD (Cephalopelvic disproportion) accounted for the highest number of the repeat caesarian sections (4%) followed by poor progress of labour (12%). PPROM / PROM accounted for 10%, while fetal distress and malpresentation accounted for 6% each. Ruptured uterus occurred in 5% of the patients.

Table XIII: Type of analgesia used during labour n = 79

	Frequency	%
None	75	94.9
Tramadol	3	3.8
Pethidine	1	1.3
TOTAL	**79**	**100**

Table XIII shows that most of the patients about (95%) who were in labour never received any form of analysis, with only 5% doing 50.

There was no mention on analgesic use in 31 patients.

Table XIV: Main maternal complications in the current pregnancy.

	Number	%
None	99	90.8
Ruptured uterus	5	4.6
Wound sepsis	3	2.8
PPH	2	1.8
TOTAL	109	100

Table XIV shows that most of the patients about (91%) never developed major complications. However, 5% has ruptured uterus while 3% developed wound sepsis and 2% had PPH. There was no comment on the nature of arising complications in one of the patients.

Table XV: The Complications noted in patients who underwent elective caesarian section:

Complications	Number	%
PPH	1	3.2
Sepsis	1	3.2
None	29	93.6
Total		**100**

Table XV : Method of fetal surveillance during labour

N = 79

Method	Frequency	%
None	1	1.3
Intermittent auscultation	76	96.2
Electronic monitoring	2	2.5
TOTAL	79	100

Table XV shows that upto 76% of the patients had fetal surveillance earned out by intermittent auscultation during labour. 1% never had any monitoring at all, with 3% having had electronic fetal cardiac monitoring. There was no reference to the type of fetal serveillance employed in 31 patients.

Table XVI: Fetal weight (Current pregnancy)

Weight (g)	Frequency	%	Cummulative %
500 – 999	1	1.5	1.5
1000 – 1499	0	0	1.5
1500 – 1999	2	3.0	4.5
2000 – 2499	3	4.5	9.0
2500 – 2999	12	18.2	27.2
3000 – 3499	22	33.3	60.5
3500 – 3999	22	33.3	93.8
4000 – 4499	1	1.5	95.3
4500 - 4999	3	4.5	99.8
	66	100	100.0

Table XVI shows that the mean weight of the babies was 3256g, standard deviation 685, median 3300g. It also shows that 61% had birth weight less than 3500g and 94% below 4000g. There was no record of the fetal weight in 44 of the parients.

Table XVII: Fetal outcome (immediate)

Method	Frequency	%
FSB	5	4.6
Live birth	101	93.5
MSB	2	1.9
TOTAL	**108**	**100**

Table XVII indicates that there was fresh still births in 5% of the patients and macerated still births in 2% of them. About 94% had live births.

Data on the fetal outcome was ommited in 2 of the patients.

Table XIX: Gestation and mode of delivery MSB: -

	Diagnosis	Gestation	Mode of delivery	Weight
1st	Ruptured Uterus	30	Emergency CS	1650g
2nd	PPROM + IUFD	32	Elective CS	Not indicated

One of the patients with MSB had ruptured uterus at 30 weeks gestation. Labour had been induced at a nursing home and the weight was 1650g. the other one was admitted with IUFD and PPROM and elective CS was done at 32 weeks gestation.

FsBs: Gestation and mode of delivery

	Diagnosis	Gestation Weeks	Mode of delivery	Weight (gms)
1st	Transverse + ruptured uterus	36	Emergency CS	2850g
2nd	Failed trial of scar	38	Emergency cs	3000g
3rd	Ruptured uterus	36	Emergency cs	2800g
4th	Preterm labour with malpresentation	28	Emergency cs	700g
5th	Failed trial of scar	40	Emergency cs	3000g

Table XX shows that apart from the 4th case. the others were infants of good weight and would have had a god perinatal outcome had timely intervention been instituted.

DISCUSSION

This study involved 110 eligible patients whose mean age was found to be 28.67 years, with 61% being below 30 years. The mean age at first delivery was 22.382 years and that at first caesarian section was 23.818. This contrasts with reports that the rising rate of caesarian section can be partially explained by the advanced age at first delivery. (4). In the western countries

The fact that these patients sought medical attention at the Kenyatta National Hospital may have been contributed to somehow by the fact that most of them had attained formal education with only one patient (1%) not having been to school at all, while 73% has achieved secondary college level of education and beyond. This could mean that they understood the potential risks of going into labour in an unsafe environment when one had a caesarian section scar.

It was evident from this study that 93% of the patients were married, but this is may be because the majority of those who are likely to get pregnant, and notably a second or more times, would be expected to be the married ones, with most of the single, divorced or separated ones opting for contraceptive measures or abstinence.

Upto 74.5% of the patients were primigravid when they underwent the first caesarian section. 13.6% were para 1, 7%, para 2, 4% para 3 and only 1% were para 8. It is of, course, expected that being a primigrarida is associated with a high rate of caesarian section not only due to a higher incidence of labour dystocia, but because some of the complications seen in pregnancy such as pre-eclampsia also seem to be more common amongst them (2)

Almost all the patients seen (95%) attended antenatal clinic. Out of these, 53% were followed up at the Kenyatta National Hospital while 41% were either seen at the various health centres, private clinics or other hospitals.

About 1% of the patients had been followed up at the Pumwani maternity hospital. The antenatal clinic attended by the patient is likely to have a bearing on the obstetric outcome because the tools available for the assessment of the patients do vary greatly. The patients seen at the Kenyatta hospital and the other more equipped hospitals would, therefore be expected to have less antenatal, intrapartum and even postpartum complications. There were fewer patients from Pumwani because they only refer them to Kenyatta if they have technical problems there.

It was clear in this study that 39% of the patients did not have proper pelvic assessment done in the antenatal period while 22% had it done radiologically (erect lateral pelvimetry), 32% clinically and 7% both radiologically and clinically.

Almost all the radiological assessments were done for those followed up at Kenyatta Hospital. This means that for those patients allowed trial of scar, there were bound to be some who may have had obviously contracted pelves but that were never detected in time thereby subjecting the patients to unnecessary pains instead of opting for caesarian section straight off.

However, it is important to note that the role of pelvimetry, clinical or radiological, remains controversial and that the criteria which are used to justify a caesarian birth for dystocia vary from clinician to clinician. Fraser (27) and Ogutu (28) suggested that x-ray pelvimetry is important for these found to have borderline pelvis and should not be done indiscriminately in all patients so as to avoid unnecessary irradiation of the fetus. Walton found radiological pelvimetry to be the most critical investigation (6).

The mean gestational age at which the pelvic assessment was done was 36 with a standard deviation of 0.4. In fact, 52% of the patients had the assessment done at exactly 36 weeks gestation. This was in keeping with the globally accepted norm.

In 44% of the patients, the mode of delivery was based on radiological, clinical or both assessments. It is, however, important to note that only 58 out of the 109 have been followed up at Kenyatta National Hospital, some of the others have been seen for the first time while in olabour. It is, however, important to note that only 58 out of the 109 have been followed up at Kenyatta National Hospital, some of the others have been seen for the first time while in olabour.

The weight of the baby was never assessed in 67% of the patients, with ultrasound scan being used for this purpose in 13% of the patients and clinical assessment in 18.3% of them. Both of these methods were applied in 1.8% of the patients. Estimated fetal weight above 4000g increases the likelihood of labour dystocia, particularly when the estimate exceeds 4500g. (32). In our set-up, trial of scar is allowed when the fatal weight is 3500g or less. The mean weight of the babies in this study was 3256g, the range having been 700g to 4900g.

Most of the deliveries occurred at a gestation of 38 weeks and above, but there were some that were carried out earlier due to factors such as preteum labour, preterm premature rupture of membranes and eclampsia. Of the 31 patients who underwent elective ceasarian delivery 36% did not have fetal maturity confirmed with the rest having had this done by the use of ultra sound scan. This was a serious omission since it is possible to iatrogenously deliver a preterm baby. This was noted in 2 of the patients, with one of the babies dying a few days later due to respiratory distress and infection.

Upto 93% of the patients had repeat caesarian delivery, with only 8% having had vaginal birth after caesarian section (VBAC). About 71% of these were emergency with the rest having been elective caesarian sections. A study at the Kenyatta National Hospital in 1975 by Walton showed a success rate interms of vaginal birth after caesarian section to be 74% in those allowed trial of scar. (6). Recent data have also shown that generally 60 to 80% of patients with one previous caesarian section scar succeed in delivering vaginally even in some sub-saharan African countries. (12, 18, 19, 20, 53). In Walton's study (6) the patients for trial of scar were pre-selected as opposed to this study in which

all patients seen in the maternity unit with one previous caesarian section scar were included.

The high rate of repeat caesarian section could probably be due to the fact that this is a teaching hospital which also functions as a referral one. This means that the medical staff involved in the assessment of these patients are of varied experiences, some having obvious bias that nothing much may be achieved by trial of scar when there is evidence that the risk of uterine rupture is real. This is compounded by the fact that equipment and even personnel to facilitate close monitoring of the patients in labour so that any untoward complications may be detected early enough are not readily available.
It was found that cephalopelvic disproportion (CPD) accounted for 36% of the first caesarian sections with the rest being due to malpresentation (20%), poor progress of labour, even obstruction, (16%) and fetal distress (15%). In the same group of patients, the repeat caesarian delivery had been mainly due to CPD in 43% malpresentation 6%, poor progress of labour 12%, fetal distress 6%, PROM/PPROM 10%. CPD seems to be a document factor in the patients although some studies have ruled out previous CPD as an automatic indication for repeat caesarian delivery. (53).

It appears that analgesia is not commonly used at Kenyatta National Hospital in patients undergoing trial of labour with previous caesarian section scars. In this study, only 5% of the patients were given either pethidine or tramadol to control pain. Many obstetrician fear that analgesia may mask uterine rupture. In reality, however, less than 10% of women with scar separation experience pain and bleeding, with fetal heart rate decelerations being the most likely sign of such an event. (34, 35, 54).

Most of the patients (91%) never developed major complications while 5% had ruptured uterus, 3% developed would septis and 2% had post-partum haemorrhage. If fixed protocol is applied to all these patients and proper monitoring of labour carried out, the rate of complication such as rupture of the uterus would be markedly reduced, but it appears that most of our patients did not all go through this protocol, but it is hoped that this will improve.

CONCLUSIONS

1. Most of the patients seen at the Kenyatta National Hospital labour ward during the study period were fairly young with about 87% of them being below 35 years of age. They also had a reasonable level of education and low parity.

2. About 50% of the patrients managed at the Kenyatta National Hospital with one previous caeserian section scars during the study period were seen for the first time when they were already in labour. Even amongst those that attended antenatal clinic at the Kenyatta National Hospital, not all of them had pelvic assessment carried out antenatally.

3. Fetal maturity was estimated by the use of ultrasound in about 65% of the patients, but the fetal lung maturity was not assessed.

4. The repeat ceasarian section rate in overall was about 93% and this appears quite high.

5. About 94% of the patients had live birth, with 2% having had macerated stillbirths and 5 fresh stillbirths

RECOMMENDATIONS

1. There is need to advice patients who have had one caeserian delivery to attend antenatal clinic in the subsequent pregnancies so that appropriate pelvic assessment may be instituted and the mode of delivery determined to avoid possibility of complications arising.
2. There is need to assess fetal maturity, notably with reference to lung function, before electrive caesarian delivery is performed.
3. In an attempt to lower the repeat caeserian section rate, there is need to apply the international or local guidelines on the managent of patients with one previous cs scars.

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1 GENITAL PROLAPSE – TOTAL ABDOMINAL HYSTERECTOMY

Name : E.N.

Age : 85 years

Ip No. : 0650769

DOA : 15/5/2000

DOD : 16/6/2000

Diagnosis: Third Degree Uterine prolapse

Parity : 8 + 0

Presenting Complaints:

The patient was admitted through the gynaecology outpatient clinic with complaint of amass protruding through the birth canal over a period of two years.

History of Presenting Complaints:

The patient complained of having felt a mass in the vagina and that it had progressively become more and more visible at the introitus. She had sought medical attention at a hospital where the mass was manually reduced, but only an a temporary basis. She had no history of engaging in strenuous activities, cough, straining during defaecation but occasionally had difficult in passing urine.

Obstetric and gynaecologic history. She was a para 8+0 whose deliveries were all Vaginal at home. Six of the children were alive and well. She was 30 years postmenopausal.

Past medical history

There was nothing of much relevance.

Family and social history:

She was a peasant farmer, widowed and had never smoked cigarrets or drank alcohol. There was no family history of chronic ailment known to her.

General physical examination. The patient was found to be an elderly lady in fair general condition. She was small bodied. She was afebrile, was not pale and had no oedema or lymphnode enlargement.

The blood pressure was found to be 140/100 mmHg, the respiratory rate 22 per minute, temperature 36.8 degree centigrade with a pulse rate of 76 per minute.

Abdominal examination.

The abdomen was scaphoid, moved with respiration with no areas of tendeness or abnormal palpable masses.

Vaginal examination:

She was found to have atrophic vulva, scanty pubic hair with fairly smooth vaginal mucosa. The cervix was visible at the introitus. On performing valsalva manouvre, the protrution of the cervix and part of the vaginal mucosa became more apparent. There was no evidence of spurting of urine through the urethra opening. The uterus felt atrophic and mobile with no tenderness or masses felt at the adnexal regions or pouch of Douglas. There was evidence of a clear discharge on the examining fingers.

Diagosis:

Third degree uterine prolapse.

Management:

The examination findings had been explained to the patient earlier and she was, therefore prepared for vaginal hysterectomy. She gave consent for this procedure.

The inrestigations and the results were as follows:

1. Haenogram – Hb – 12.3 g/dl
   WBC COUNT –8.0 x 10^9/l
   RBC COUNT - 4.19 x 10^{12}/l
   Platelet count – 298 x 10^9/l
2. Urea, electrolytes and creatinine:
   Na+ - 137
   K+ - 4.2 } mmol/l
   Urea - 3.3
   Creatinine – 87 umol/l
3. Pap smear – CINO.

Blood specimen for grouping and crossmatching was taken and 2 units of screened blood reserved for the operation. An enema was given the evening before surgery and at 6.00 a.m on the day of surgery. She was starved from midnight and given premedication of 0.6mg of intramuscular atropine moments before being wheeled to theatre.

In theatre, the patient was put in lithotomy position after general anaesthesia was induced. Vulvovaginal toilet was done and draping done with sterile towels. Aseptic catheterization was performed and clear urine drained. The labia were stitched to the thigh bilaterally and an Auvard speculum gently inserted into the vagina posteriorly to expose the prolapsing uterus. The anterior lip of the cervix was held at the midpoint by use of a tenaculum and uterine sounding done. The cavity was found to be about 5cm long. A weak solution of adrenaline in normal saline ("Jungle juice") was infiltrated beneath the vaginal mucosa circumferentially to act as a vaso-constrictor in order to abate bleeding and also to aid in defining the fascial layers. A circumferential incision was made at the cervicovaginal junction and the pouch of Douglas entered . A finger was placed in the cul-de-sac to make sure there were no untoward adhesions that would contraindicate proceeding with the surgery vaginally. The uterosacral ligaments were isolated, clamped and tied. The cardinal ligaments

were also isolated, clamped and tied. The bladder was separated from the cervix to expose the anterior preritoneal reflection. The peritoneal cavity was entered anterioly and a retractor placed beneath the bladder. The uterine vessels were secured and the uterus pulled further down into the vagina, exposing the utero-ovarian pedicles and round ligaments which were then clamped, cut and tied. The ovaries were inspected, haemostasis secured and the peritoneum closed in a purse – string fashion after the uterus was completely removed. All the pedicles were left extra-peritoneally to prevent a haemoperitoneum should secondary bleeding occur. Each cardinal ligament was sutured to the superior angle of the vagina on either side to protect against vaginal vault proplase while the uterosacral ligaments were tied in the midline to prevent a subsequent enterocele. The cuff was closed with interrupted vicryl number one suture. The vagina was packed with a Vaseline gauze for about 6 hours and Folley's catheter left in the urinary bladder. She was transfused 2 units of blood intra-operatively, the estimated blood loss having been 500mls. Reversal from anaesthesia was successful.

Post-operatively, she was transferred to the recovery area and the vital signs observed half hourly until she was fully awake and then 4 hourly. She was maintained an intravenous fluids to about 3 litres in 24 hours. The patient also received prophylactic intravenous antibiotics in form of 2 megauits of crystalline penicillin 6 hourly, 80mgs of gentamicin 8 hourly and 500mgs of metronidazole 8 hourly. These were given for 48 hours. She also received 100mg of intramuscular pethidine 8 hourly for 24 hours to relieve pain.

The patient did quite well subsequently and was allowed home on the 4th postoperative day to be reviewed at the gynaecology outpatient clinic after six weeks. She was reviewed at the said clinic on 27/7/2002 and she had recovered quite well. The histology report was that of a thick –walled hyalinised and calcified arteries with cystic endometrial glands in the uterus with features of chronic cerricitis.

Discussion:

In uterovaginal prolapse there is damage to, or weakness of, the structures which support the pelvic organs, so that these descend from their normal positions and finally herniate through the vaginal opening (1).

Vaginal prolapse can occur without uterine prolapse, but the uterus can not descend without carrying the upper vagina with it. In order to descend, the uterus becomes slightly retroverted to lie in the axis of the vagina. Anterior vaginal wall prolapse may be associated with cystocele and urethrocele, while posterior vaginal wall prolapse may be accompanied by an enterocele or rectocele. (2).

In first degree genital prolapse, there is slight descent of the uterus but the cervix remains within the vagina, while in second degree proplase, there is descent to the extent that the cervix projects through the vulva when the woman is straining or standing. Third degree prolapse, or procidentia, refers to the situation where the entire uterus prolapses outside the vulva. The whole vagina, or at least the whole of its anterior wall, is inverted. Complete procidentia is not common as opposed to 2^{nd} degree prolapse (2, 3) Our patient was noted to have 3^{rd} degree prolapse.

Uterine prolapse is common in multiparous white women (3). Studies have shown that 95% of genital prolapse occurs in multiparous women (4). The patient discussed was a para 8 +0, all the deliveries having been vaginal. But it is important to note that the majority of middle - aged women are parous so that the part played by childbirth need not be overestimated. (2).

Congenital or developmental weakness of the pelvic support; genetic predisposition; neulogical disease eg. Spina bifida; injury during childbirth as in vacuum extraction with a cervix that is not fully dilated and probably surgical injury have been thought to be some of the other predisposing factors as is the atrophy of the supporting tissues at the climacteric. (1, 2).

Increased intraabdominal pressure as in chronic cough, ascites, straining at stool; moderate increase in uterine size and traction on uterus by vaginal prolapse or by a large cervical polyps will activate the development of prolapse. (1, 2, 3).

The clinical presentation depends on the degree of prolapse and symptoms are mainly seen in cases of 2nd and 3rd degree genital prolapse. The patient commonly complains of sensation of swelling or fullness in the vagina or may have a dragging discomfort in the lower abdomen with a "bearing down sensation". In most cases, she will report relief on lying down. The urinary symptoms could include frequency, difficulty in emptying the bladder or probably stress incontinence. She may also have difficulty in emptying the rectum. Backache is usually completely and immediately relieved by rest and is never experienced in bed or on rising in the morning. There may also be vaginal discharge which may be bloody. (2). The patient discussed complained of a mass and discomfort in the vaginal.

Several complications may arise in genital prolapse and these include Keratinization of the vaginal wall, decubital ulceration, hypertrophy of the cervix, obstructive uropathy, urinary tract infection, incarceration of the prolapse which may be reduced by grasping the whole mass and squeezing it in reverse order, i.e the lower vaginal wall first and the cervix last or by raising the foot of the bed for 1 to 3 days with the patient lying flat with or without application of ice packs to the congested tissues, or rarely cancer of the cervix or vagina when the symptoms of prolapse may disappear as the tissues become fixed. Early pregnancy tends to accentuate the prolapse, but it becomes less troublesome later. (3).

Treatment of these patients may entail the use of physiotherapy, notably in the puerperium with limited effect or the use of various types of vaginal pessaries for palliative management when surgical management is not possible or as this is awaited (1, 2, 3).

Operative treatment is mainly for the patients with symptomatic disease or when this interferes with her activities. Attention should be paid to the urinary system and oestrogen may be given to aid in the recovery of vaginal mucosa before and after surgery to improve the healing power of the tissues. The treatment of decubital ulcers may necessitate keeping the patient flat in bed as much as possible (2)

The types of operation could be anterior colporrhaphy, posterior colpoperineorrhaphy, amputation of the cervix, Forthegill or Manchester operation, vaginal hysterectomy and anterm and posterior colpoperineorrhaphy. In Manchester operation, anterior colpoperinorrhaphy, amputation of the cervix and posterior colpoperinerrhaphy are carried out in one procedure. The cut cardinal ligaments and other paracervical tissues are fixed infront of the stump of the cervix. (2, 5). At the Kenyatta National Hospital , Mwalali found that of all the patients wit uterine prolapse, 63.3% had vaginal hysterectomy and only 24.5% had Manchester operation (6) our patient also had vaginal hysterectomy with strengthenening of the vaginal rault.

All in all, genital prolapse is a serious disability in women and poses serious challenge to the skill of any gynaecologic surgeon who attempts to correct it. The ability to provide permanent relief of this classic malady with maintenance or restoration of normal function is paramount. (5).

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CHRORIOCARCINOMA – CHEMOTHERAPY WITH REMISSION

Name : M.W

Age : 22

IP No. : 0702532

DOA : 5/12/00

DOD : 5/1/01

Party : 1 + 0

Diagnosis: Chroriocarcinoma

Presenting Complaints

The patient was admitted with history of lower abdominal pains, pain on passing urine, and vaginal bleeding over a period of two weeks.

History of Presenting Complaints:

She had insidious onset of lower abdominal pains associated with dysuria. She also had brownish per vaginal discharge which was not foul smelling and was not associated with pruritus. Five day before admission, she noticed episodes of mild per vaginal bleeding.

Obstetric and Gynaecologic History:

She was a para 1 + 0 who had had a spontaneous vertex delivery at term in 1998. The baby was alive and well. Her last menstrual period had been on 15/9/2000, giving an ammenorrhoea of 11 weeks. Her menstrual periods lasted 4 days in a regular cycle of 28 days. The flow was normal and there was no history of dysmenorrhoea. Her menarche was at the age of 16 years and for contraception, she had been on depoprovera (medioxyprogresterone - acetate) injection in 1999 for a period of one year.

Past Medical History;

This was not significant

Family and Social History:

She was married and unemployed while her husband was a businessman. She did not drink alcohol and never smoked cigarettes. There was no known family history of chronic ailment.

Drug: There was no known history of allergy.

Systemic enquiry:

There was nothing abnormal elicited.

General Physical Examination:

She was found to be a young lady in fair general condition, was not pale and had no jaundice, oedema or lymph node enlargement.

The blood pressure was 110/mmHg, pulse rate 96 per minute, the respiratory rate 22/minute and the temperature 37°c.

Abnormal Examination:

There was mild distension, notably at the hypogastrium with mild suprapubic tenderness. There was a mass arising from the pelvis equivalent in size to a gestation of 20 weeks. It was firm and mobile.

Vaginal Examination:

This was done aseptically. The external genitalia appeared normal , the vaginal wall looked healthy with a soft, long, posterior closed cervix. Cervical excitation test was found to be negative. The adnexal regions and the Pouch of Douglas felt normal. There was blood on the examining fingers. The abdominal mass moved with the cevix.

Other Systems - these were normal

Diagnosis:

Threatened abortion with urinary tract infection.

Management:

The patient was started on oral 30mg of phenobarbitone 8 hourly, 100mg of nitrofurantoin 8 hourly and paracetamol, 1g 8 hourly. She was advised on need for bed rest, booked for ultrasonic examination and blood specimen taken for haemogram. Urine was also taken for microsopy, culture and sensitivity.

The results were as follows:

1. Haemogram:

WBC count	-	$8.1 \times 10^{9}/l$
Hb	-	10.5g/dl
RBC	-	$4.04 \times 10^{12}/l$
Platelets	-	$200 \text{ c } 10^{9}/l$

2. Urea & electrolytes:

Na+	-	140	mmol/l
K+	-	3.5	mmol/l
Urea	-	4.0	
Creatinine	-	90umol/l	

3. Urinalysis:

- Many pus cells seen
- Culture – no growth obtained

4. Ultrasound scan findings:

- There was evidence of a huge uterine mass measuring 14.7cm by 8.8 cm. It had cystic and solid areas raising a possibility of molar pregnancy. There were bilateral multiseptate cysts measuring 5.48 cm by 4.81 cm and 4.29cm by 4.42cm in the adnexal regions.

The clinical and laboratory findings were explained to the patient who had no objection to uterine evacuation being done in theatre.

While waiting to be taken to theatre, she had spontaneous expulsion of the

hydatidiform mole on 14/12/2000 in the ward and manual vacuum aspiration was done at the evacuation (sideroom) in the ward. The specimen was sent for histopathological examination. She was transfused 2 units of blood due to a low haemoglobin of 7g/dl before undergoing sharp curretage in theatre on 4/01/2001.

She was allowed home in stable condition on 5/01/2001 to be reviewed at the gynaecology outpatient clinic 2 weeks later. She was, however, readmitted on 11/1/2001 with vaginal bleeding and lower abdominal pains. She was sick looking, febrile and was mildly pale. There was suprapubic tenderness with uterus corresponding in size to a gestation of 20 weeks. The cervix was found to be long and posterior with a closed os. There was no fullness in both adnexac or pouch of Douglas. Cervical excitation test was found to be negative bilaterally and there was fresh blood on the examining fingers.

1. The haemogram report was as follows:
   Hb 10g/dl
   WBC 4 x 10^{9}/l
   RBC 4 x 10^{12}/l
   Platelets 250 x 10^{9}/l
2. Blood group - B rhesus positive
3. Liver function tests - normal
4. Urea and electrolytes
   Na + - 139 mmo/l
   K+ - 3.9 mmol/l
   Urea - 3.8 mmo1/l
   Creatine- 89 Umol/l

5. Pelvic Ultrasound scan:
   - Bulky uterus with a mass of mixed echogenicity and cystic change. It measured 8.6cm in its transverse diameter. The endormetrium appeared thickened.

6. B- hCG level - 4260 iu/l

7. Chest x-ray - Normal

Diagnosis:

Low risk choriocarcinoma.

Treatment:

The patient was given 25 mgs of intravenous methotrexate daily for five days and discharged home to be readmitted after 10 days.

When she was readmitted the B-hcG level was 654.8 iu/l and the blood parameters were normal. She was given a 2nd course of methotrexate, but when given the 3rd course of methotrexate, she developed bloody diarrhoea which was managed with intravenous fluid infusion and antacids with improvement. Methotrexate was subsequently replaced with 0.5mg of Actinomycin D daily for 5 days upto the 6th course when the medication was discontinued after negative β - hcG levels on 3 occassions.At each readmission, which was at about 2 weekly intervals, the laboratory reports on haemogram,renal and liver function tests were reviewed and found to be normal before she was given the due course of chemotherapy. On the results of β-hCG levels were also reviewd and these showed a steady decline throughout the period of treatment. While being discharged, request forms were given to her so that the aforementioned investigations could be performed prior to the subsequent readmission. The patient was advised on the various contraceptive methods and she opted for combined oral pills which she was to be on for a minimum of one year before conceiving again.

Discussion

Choriocarcinoma is a malignant trophoblastic tumour, the other trophoblastic tumours being hydatidiform mole and invasive mole (chorioadenoma destruens). The latter, like choriocarcinoma, may demonstrate metastatic potential. The tumour may be gestational or non-gestational, the non-gestational ones being quite rare and may arise from teratomata. (1).

The interest in trophoblastic neoplsms has been stimulated by three unique features, namely, the elaboration of the tumour marker human chorionic gonadotropin (hcG), the inherent sensitivity to chemotherapy and the immunologic relationship between the tumour and its host (2)

Choriocarcinoma is rare and has a geographical distribution similar to that fo hydatidiform mole. It tends to occur in the same type of women who are mainly under the age of 20 and over 40 years, of low socioeconomic status and whose diets are deficient in protein and folic acid. Carotene deficiency has also been implicated in the recent past. Choriocarcinoma is reported in 2 – 5% of all cases of gestationa neoplasia, with the incidence being higher in the orient. In about ½ of choriocarnimo, the antecedent gestational event is hydatidiform mole. A quarter of the cases follow term pregnancy, and the remainder occur following abortion or ectopic pregnancy (2. 3). The patient under discussion was 22 years old and had been diagnosed to have hydatidiform mole a few weeks earlier.

Locally, the incidence of chriocarcinoma at the Kenyatta National Hospital has been estimated to be 1:1118 deliveries . (4)

Gestational trophoblastic tumours arise in fetal rather than maternal tissue. They usually have a 46, XX Karyotype derived from a paternal haploid set that totally replaces the maternal contribution and reaches the 46, XX status by its own duplication. Partial moles are triploid. Blood group A women impregnated by blood group O men have almost 10 times greater risk of developing choriocarisoma than group A women with group A women partners. Women with group AB have a poor prognosis (2.3).

Chroriocarcinoma is a pure epithetal tumour composed of syncytiotrophoblastic and cytotrophoblastic cells. Histologic examination discloses no villi but sheets or foci of

trophoblats on a backgroundof haemorrhage and necrosis. (3)

Abnormal uterine bleeding usually following any pregnancy event or bleeding from metastatic lesions may occur. Chroriocarcinoma is most often diagnosied by finding an elevated BHCGtitre and detectingmetastatic lesions by radiologic studies and scansof various organs. A pathologic examination can sometimes be made by curettage, biopsy of metastatic lesions or occassionally examination of hysterectomy specimens or placenta. Biopsyof a vaginal lesionshould preferably not be peformedbecause massive and uncontrolled bleeding may ensue. (1,2). The diagnosis in our patient was made on the basis of elevated B-hcG and vaginal bleeding following sharp curettage.

Multiple theca lutein cysts causing enlargement of one or both ovaries occur in 15-30% of women with molar pregnancies. Pain may be a feature. The cysts usually regress as the patients receives treatment and operation may be carried out only if raptureand haemnorrhage occur or when infection arises. (3) our patient had abdominal pains and bilateral ovarian cysts.

Gestational trophoblastic disease must be distinguished from normal pregnancy. Ultrasonography is useful and quantitative B-hcG levels afford means of differetation. In general B-hcg assay with values greater than 100.000 mill/ml are usual with molar pregnancies. in contrast to normal pregnancy values below 60.000 miu/ml.

The most common sites of metastatis are pelvic (local invasion) vagina and lungs in that order. Other sites in decreasing frequencies are brain , liver. kidneys. small intestines and spleen.(5). The patient under discussion had no feature of metastatis.

The patient may be classified on being high risk (poor prognostic) or low risk (good prognostic) and this influences the nature of treatment to be offered.

1. Good grognostic features.
   a. Short duration (<4 months)
   b. Serum B-hcG <40.000 mill/ml
   c. No metastasis to brain liver
   d. No significant prior chemotherapy

2. Poor prognostic feature

   a. Long duration (>4 months)

   b. Serum B-hcG >40,000 mill./ml

   c. Metastasis to brain or liver

   d. Unsuccessful prior chemotherapy

   e. Gestational trophoblastic neoplasia following term pregnancy.

(3,5)

Our patient was of low risk since the βhCG was 4260iu/l, the duration of illness was less than 4 months, she had not had prior chemotherapy, the choriocarcinoma was preceded by hydatiform mole.

Bagshawe (1993) and Berkowitz and Goldstein 1998 suggested a scaring system as follows:-

Prognostic factors	Score 0	Score 1	Score 2	Score 4/6
Age (Years)	<39	>39		
Antecedent pregnancy	H. mole	Abortion	Term	
Internal Months from the pregnancy to start of chemotherapy	4	4-6	7-12	<12
Hcg (iu/l)	<103	103 to 104	104 - 105	>105
ABOblood group Female/male		OxA AxO	B AB	
Largest tumour including uterine tumour		3-5cm	5cm	
Sites of metastasis		Spleen. kidney	Gastrointestinal tract. liver	brain
Number of metastasis identified		1 to 4	4 to 8	8
Prior chemotherapy			Single drug	2 or more drug

According to Bagshawe, 1993

According to Berkowitz and Goldstein, 1998.

The total score is obtained by adding the individual scores for each prognostic factor and score <-5 Low risk; 6 to 8 middle risk >9 high risk.

Chemotherapy is the mainstay of treatment of choriocarcinoma. The low risk patient, like the one discussed here, are treated with a single agent which may be methotrexate or actinomycin - D, sequentially or alternately. Other drugs are etoposide, 5- fluorouracil (5 – Fu) or bleomycin (2, 6).

Follow-up is done and appearance of new metastases or failure of the B-hcG titre to drop is an indication for changing to multiagent chemotherapy. Approximately 10 – 15% of patients treated for low-risk metastatic disease with single- agent chemotherapy require combination therapy, with or without surgery, to achieve complete remission. Cure rates should approach 100% in this group of patients if treatment is administered properly.

Patients with high-risk disease are treated more aggressively with initial combination chemotherapy with or without adjuvant radiation therapy or surgery. Traditionally, the primary multidrug regimen used in these patients has been MAC, consisting of methotrexate, actinomycin – D and cyclophosphamide or chlorambucil. More recently, a modification of Bagshawe's multiagent regimen (CHAMOCA), which employ six drugs (cyclophosphamide, hydroxyurea, actinomycin), intermediate dose methotrexate with folinic acid rescue, vincristine (oncovin), and doxorubicin (Adriamicin), has been used with good success and low toxicity both as initial therapy and after failure of MAC. Other protocols employing agents such as cisplatinum, bleomycin and etoposide, or adjuvant surgery may be required for patients with resistant disease. If cerebral metastases are detected, whole-brain radiotherapy (3000 – 3600 rad in ten to twelve 300 – rad fractions) and corticosteroid administration are begun simultaneously with the start of chemotherapy. (1, 2, 3).

The cycles of treatment are repeated after one to two weeks of test and once the B-hcG titres have normalized, an additional 3 cycles are given. This was done to our patient.

In follow –up, B-hcG levels should be determined weekly for 3 months, then monthly for 6 months, then 2 monthly for 6 months and then 6monthly. Cure is usually said to have occurred after 5 years in remission. In general, less than 1% of those who have been in remission for a year ever require further treatment. After one year in remission, patients may embark on another pregnancy if they wish. (1).

Contraception is essential during treatment and the first year of remission. Once the gonadotrophin levels are within the normal non-pregnant range, combined oral contraceptive is the most effective. If not, then the mechanical methods of contraception are preferable, since the intrauterine device may cause bleeding. The one year period of contraception allows all mature ova affected by chemotherapy to be eliminated, whilst the resting oocytes are thought to be resistant to the effects of the drug. (1. 3. 6). The patient discussed here was maintained on a combined oral contraceptive.

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3. PRIMARY INFERTILITY - TUBOPLASTY

Name : P.N.
Age : 27 years
Ip. No. : 0796202
DOA : 16/7/2002
DOD : 26/7/2002
Diagnosis : Primary infertility
Parity : 0 + 0

Presenting Complaints:

The patient complained of inability to conceive over a period of 10 years.

History of Presenting Complaint:

The patient was refered to the gynaecology outpatient clinic from Chogoria mission hospital where she had been followed up for inability to conceive for a period of 10 years despite regular coitus without any contraceptive barriers. She had had episodes of lower abdominal pains for 7 years but denied ever having had abnormal per vaginal discharge. At the gynaecology outpatient clinic, she had had hysterosalpingography done and this showed bilateral hydrosalnix. Dye laparoscoy was carried out on 2/4/2002 and she was noted to h ave peritubal adhesions and left hydrosalpinx, left ovarian cyst without the right ovary being visualized. An endometrial biopsy had shown features of chronic endometritis, but culture for mycobacterium tuberculosis proved negative.

Obstetric and Gynaecologic History:

She was a para 0 + 0 whose last menstrual period had been on 16/6/2002. Her menarche was at the age of 10 years and she had menstrual periods which lasted 4 - 5 days in a regular cycle of 28 days. There was no associated dysmenorrhoea.

Past Medical History:

This was not significant.

Family and Social History:

She had been married for 10 years and they operated a retail shop with the husband. She never smoked and did not drink alcohol. The husband was well and had no history of any form of surgery previously. He never drank alcohol and also did not smoke.

Drug: There were no drugs to which she was allergic.

Systemic Enquiry:

CNS – There was no history of headaches or anosmia.

GENERAL PHYSICAL EXAMINATION

The patient was found to be in good general condition, was afebrile, not pale with normal female type hair distribution all over the body.

The pulse was 80 per minute, the temperature 36.4°c, the blood pressure 110/70mmHg and the respiratory rate 18 per minute.

Abdominal Examination:

The abdomen appeared scaphoid with a small transverse scar just inferior to the umbilicus and also at the right iliac fossa. There were no areas of tenderness and no abnormal masses palpable.

Vaginal Examination:

She was noted to have undergone partial clitoridectomy (female genital mutilation class I). The vaginal wall was normal, the cervix central, closed and firm with no adnexal masses or tenderness. The uterus was of normal size.

Other Systems:

- these were essentially normal.

Diagnosis: Primary infertility due to tubal blockage.

Plan of Management:

The implications of the clinical findings were explained to the patient who gave consent for open tuboplasty.

The investigations carried out were as follows:

1. Haemogram:
   WBC count 11.3 x 10^9/l
   Hb - 15.2g/dl
   Platelet count -317 x 10^9/l

2. Urea and electrolytes + creatinine:

   Na+ - 130
   K+ - 4.9
   Urea (BUN) – 6.1
   } mmol/l

   Creatinine - 63umol/l

3. Semenalysis - the liquifaction time, sperm morphology, mutility and number were within the normal range.
4. HIV test was negative

   On the morning of 22/07/2002, the patient was premedicated with 0.6mgs of intramuscular atropine and 100mg of pethidine by the same route and then wheeled to theatre. She had been starved from the previous midnight.

   In theatre, she was aseptically chatheterised and clear urine obtained after

general anaesthesia was induced and maintained. Vaginal examination confirmed the earlier findings. With the patient supine on the operation table, the abdomen was cleaned and draped with sterile towels. A pfannestiel incision was made and the peritoneal cavity accessed. The uterus was found to have a small fundal fibroid of about 15mm in diameter while both tubes were covered in adhesions with no identifiable frimbriae. There were also periovarian adhesions. The adhesions were released as much as possible with electrocautery, and cuff salpingostomy of the right fallopian tube performed. Chromopertubation was performed and there was no evidence of spill of dye on the left side. The left cornual region felt fibrotic. The peritoneal cavity was irrigated with normal saline and then closed in anatomical layers after the swabs and instruments had been counted and found to be of the correct number.

Post operatively the vital signs were observed ½ hourly until the patient was fully awake then 4 – hourly. She was maintained on intravenous 500mls of 5% dextrose alternating with 500mls of normal saline six hourly until she was started on oral fluids and eventually on light diet on the following day. Intravenous 2mu of crystalline penicillin was given 6 hourly and 80mg of gentamicin 80 hourly to prevent infection. For analgesia, she was initially maintained on 100mg of intramuscular pethidine 8 hourly and then oral ponstan (mefenamic acid).

She did quite well postoperatively and was allowed home on 26/07/2002 to be reviewed at the gynaecology outpatient clinic after four weeks during which her wound was found to have healed quite well and she had no other complaints. She was advised to try to conceive after about 3 months and the risk of ectopic pregnancy should this occur explained to her. She wsa therefore instructed to seek prompt medical examination should she miss her menstrual periods.

Discussion:

Most normal couples achieve a pregnancy within a few months of trying. Failure to do so after one year may be arbitrarily defined as infertility, provided

that normal intercourse is taking place not less than twice a week. Primary infertility refers to a couple who have never achieved a pregnancy, and secondary infertility to a couple who have previously succeeded in achieving at least spontaneous abortion or ectopic pregnancy. (1)

At least 10% of all couples have an infertility problem (1, 2). In Kenya, the exact statistics on infertility is not clear, but about 60% of all new gynaecology clinic attendance at the Kenyatta National Hospital is by infertility patients. (3). It is further estimated that two thirds of the gynaecologists consulation is taken by patients complaining of infertility (4).

The contribution made towards infertility by male factor, female factor or both varies from one sociodemographic region to another. In Africa, the female factor has been found to be contributory in upto 72% of cases, but globally, many authors report that it contributes about 30%, male factors 30% while both combined contribute another 30%. In 10% the cases no cause is identifiable (4, 5). The case underdiscussion seemed to have been mainly due to female factor since there was evidence of tubal occlusion with the semenalysis showing basically normal parameter. She also had features suggestive of chronic pelvic inflammatory disease.

The male factors could be:

a) Decreased production of spermetozoa
   - Varicocele
   - Testicular failure
   - Endocine disorders
   - Cryptochirdism
   - Stress, smoking, heat, systemic infections

b) Ductal Obstruction:

- Postinfection blockage of epididymis
- Congenital absence of vas deferens
- Vasectomy
- Postinfection blockage of ejaculatory duct

c) Failure to deliver into vagina.

- Ejaculatory disturbances
- Hypospadias
- Sexual problems (ie impotence)

d) Abnormal Semen

- Volume problems
- Necrospermia and aggylutination
- High viscosity

Ovulation Factors:

a) Anovulation

b) Inadequate corpus Inteum

c) Amenorrhea with low estrogen production

Tubal obstruction or peritoneal factors:

a) Pelvic inflammatory disease, tuberculosis, puerperal infection

b) Congenital conditions

c) Endometriosis

d) Peritonitis (ruptured appendix or viscus, surgery).

Cervical and Uterine factors:

a) Myomas, polyps, developmental abnormality of endometrial cavity, synechiae.

b) Abnormalities of cervix

- Obstruction (surgery, new growth)
- Destroyed endocervical glands (surgery, Infections)

Vaginal factors:

a) Congenital absence of vagina

b) Imperforate hymen

c) Vaginismus

d) Vaginitis

Immunologic incompatibility

b) Spermatozoa immobilizing antibodies

c) Spermatozoa – agglutinating antibodies

Nutritional and metabolic factors:

- Thyroid disease
- Diabetes Mellitus
- Severe nutritional disorders
- Hyperprolactenaemia

In Kenya, studies have shown that 73% of female patients with infertility have tubal occlusion secondary to pelvic inflammatory disesase. The microorganisms concerned could be Chlamydia trachoimatis, Neisseria, gonorrhea, Escherichio coli etc.

Both partners should be seen for the initial interview and a detailed picture should be built up of their general and reproductive history. All the possible causes already alluded to should be addressed. It is important to take note of factors such as the age of the wife, since fertility declines after she reaches age 35 years, the duration of infertility since the likelihood of fertility decreases after 5 years the frequency and duration of coital exposure and the type and number of etiological factors identified.

Male factors evaluated by semen analysis and Huhner tests. Ovulation factors are evaluated by history, basal body temperature (BBt) determinations, endometrial biopsy and serum progesterone values. Tubal factors may be evaluated by hysterosalpingogram diagnostic laparoscoppy folloposcopy or salpingoscopy (7). Uterine factors usually associated with hypermenorrhea are evaluated by hysteroscopy or hysterogram. Cervical factors are assessed by inspection and a post coital mucus examination which must be done 1 to 2 days before ovulation. Vaginal factors are evaluated by examination while immunologic factors are evaluated by antibody testing. (2-6).

The management of infertility will mainly depend on the causes identified. Failure to ovulate regularly in an otherwise healthy woman should be treated by stimulation of ovulation using clomiphene, human gonadotrophins, leuteinizing Hormone, Release

Hormone (LH – RH) or, when appropriate, by reducing raised serum prolactrin levels with bromocryptine. (1, 2, 6).

Treatment of tubal blockage may necessitate the use of surgery although the results may be disappointing since even when the tubal patency is restored, the ciliany action of the tubes may have been irretrievably damaged. The most successful tubal operation is salpingolysis in case of adhesions. Other forms of surgery are salpingostomy, tubal anastomosis and reimplantation fimbrioplasty.

These operations may be performed by laparoscopy or by open laparotomy. (6, 7). Rare procedures are tuboovarian transposition like in case of unicornuate uterns without an ipsilateral tube and ovary, correction of bipolar tubal disease (both proximal and distal), anastomosis of contralateral tubal segments behind the uterus and approximation of the fimbriated end of the tube to the contralateral ovary. (7).

If reconstructive surgery is not possible in a patient wit damaged fallopian tubes, in vitro ferlization and embryo transfer may be undertaken. (6, 7).
Artifitial insemination involves the collection of semen by an emission occurring other than during coitus (usually by masturbation), and its transfer into the upper vagina or cervical canal within 2 hours. Intrauterine insemination is carried out with a sterilized syringe and canula, and only a small amount of semen (0 – 5ml) is injected without force into the uterus. Salpingitis may be a complication (6).The semen may be from the husband or from a donor.

One should always bear in mind the fact that although the danger of exercerbation of salpingoophoritis and the hazards of laparoscopy can not be disregarded, the real menance of investigating and treating infertility is that they may concentrate the patient's attention on the problem, convert a complaint into an obsession, exacerbate the already profound unhappiness, and even lead to the estrangement of the partners in marriage. Medical care should not, therefore, be unduly protracted or complicated (6).

If all else fails, adoption, with all its possible psychosocial complications, may be the ultimate solution to an infertile couple (6).

Given that the majority of patients seen in our hospitals have tubal occlusion as the cause of infertility, our attention should be geared towards the alleviation of the burden of disease posed by the sexually transmitted infections by offering public education on preventive measures such as the appropriate use of condoms during sexual intercourse or seeking of prompt and comprehensive treatment once infection occurs.

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4. CARCINOMA OF THE OVARY STAGE IV: CHEMOTHERAPY AFTER DEBULKING

Name: M.A

Age: 36 years

Ip. No: 0638999

DOA: 22/2/2000

DOD: 27/3/2000

Diagnosis: Ca Ovary Stage IV

Parity: 2 + 0

Presenting Complaint:

The patient complained of having had abdominal swelling over a period of 10 months.

History of Presenting Illness:

She had insidious onset of abdominal swelling and this has progressively worsened and became associated with mild lower abdominal pains and weight loss. She initially thought she was pregnant and was examined at a city council antenantal clinic from where she was referred to the Kenyatta National Hospital. She passed stool normally and was not vomiting. The micturition patterns was normal.

Obstetric and Gynaecologic History:

She was a para 2 + 0 whose last delivery had been in 1990. One of the children died at the age of 2 years due to complications of Malaria. She had menstrual periods which lasted 4 days in regular cycle of 21 - 25 days initially, but these had progressively become irregular. There was no associated dysmenorrhoea or abnormal flow. She could not remember the age of her menarche and she had never used any method of contraception.

Past Medical History:

This was not significant.

Family and Social History:

She was married and unemployed. Her husband worked as a casual labourer. She never drank alcohol and never smoked. There was no family history of such an ailment or any other chronic illness.

Drugs: She had no known history of allergy

Systemic enquiry:

There was nothing of much significance elicited.

General Physical Examination:

She was found to be in fair general condition, had no fever, was not pale, had no jaundice and no lymphadenopathy. There was mild bilateral pedal pitting oedema.
The pulse rate was 76 per minute, the blood pressure 110/60mmHg, the temperature 36.8°c and the respiratory rate 22 per minute.

Abdominal Examination:

There was marked distension of the abdomen which moved with respiration. There were no prominent abdominal wall vessels, no areas of tenderness, but there was evidence of ascites. There were no clearly discernible masses.

Vaginal Examination:

The external genitalia appeared normal as was the vaginal wall. The cervix felt firm, closed and posterior. The uterus was of normal size and fairly fixed. There was a clear discharge on the examining fingers with bogginess at the fornices.

Other Systems:

- these were essentially normal.

Provisional Diagnosis: Ascites probably as a result of intraabdominal malignancy, most probably ovarian carcinoma.

Management:

The following investigations were carried out.

a) Urea and Electrolytes + Creatinine

Na+ - 136
K+ - 4.45 } mmol/l
BUN - 3.1

Creatinine - 82 umol/l

b) Haemogram:

Hb – 102g/dl

WBC count – 6.1 x 10^9/l

RBC count – 5.37 x 10^{12}/l

Platelets – 559 x 10^9/l

c) Pap Smear - CINO

d) Chest X-ray - Normal

e) Liver function tests - Normal

f) Pelvic ultrasound scan – this showed a right tubo - ovarian complex mass measuring 14cm by 11.6 cm by 14.6cm . It had cystic and solid components with an irregular outline. The uterus was normal in size and echogenicity. There was massive ascites noted.

The patient was counseled on the mode of treatment based on the clinical and investigation findings and she gave a written consent for laparotomy. Two units of blood were cross-matched and reserved for the operation.

In the evening prior to surgery and at 6.00a.m on the day of surgery, she was given enema. She was also starved from midnight and given 0.6mg of intramuscular atropine for premedication before she was wheeled to theatre. While under general anaesthesia, vulvovaginal toilet was done and aseptic catheterization yielded clear

urine. Pelvic examination confirmed earlier findings. The vagina was painted with methylene blue dye. The abdomen was then cleaned, draped with sterile towels then opened via a midline infraumbilical incision which was subsequently extended about 4cm above the umbilicus. About 4 litres of haemorrhagic ascitic fluid was aspirated and some of it sent for cytological examination. There was a friable mass measuring about 15cm by 14cm by 13cm involving the right ovary and adherent to the colon, uterus, left ovary and pelvic wall on the left side.

There was matting together of the pelvic organs with evidence of tumour seedlings on the peritoneum and the omeritum. The liver and the spleen also had nodules on their surfaces. As much of the tumour as possible was excised, omentectomy done but hysterectomy was not feasible due to the adherent nature of the pelvic organs. Haemostasis was achieved. The excised tissues were sent for histopathological examination . Peritoneal lavage was done with warm normal saline and the abdomen closed in anatomical layers after the swabs and instruments were counted and found to be of the correct number. Anaesthesia was successfully reversed.

Patoperatively the vital signs were observed ½ hourly until the patient was fully awake then 4 hourly. She was maintained on 500mls of normal saline alternating with 500mls of 5% dextrose 6 hourly until the patient was allowed to take fluids orally and also given intravenous injection of 2 megaunits of crystalline penicillin 6 hourly, 80mgs of gentamicin 8 hourly and 100mg of pethidine intramuscularly 8 hourly for a total of 48 hours.

She did well subsequently and the stitches were removed on the 7th post-operative day. The histology report was that of a well – differentiated cystadenocarcinoma of the ovary. The patient was counseled on the findings and also on the subsequent need for chemotherapy. She was started on a course of 50mgs of intravenous cisplatinum given once. 50mg of intravenous adriamycin once and 250mg of intravenous cyclophosphamide once daily for five days. She was scheduled to continue receiving repeat courses with 3 – weekly intervals, but she got these erratically due to the long distance (from Kisumu) and financial constraints. She received a total of 5 courses and was lost to follow – up. By then, she had been noted to be improving quite well.

Discussion:

Ovarian Cancer is the most lethal of all gynaecologic malignancies and is known to be the 5th leading cause of cancer related mortality among American women, accounting for 5% of all such deaths.

Worldwide , the incidence of ovarian cancer is notably higher in industrialized nations than in developing countries. A noteworthy exception is Japan although the incidence in the Japanese women who migrate to the United states has been observed to be higher. (1). In Kenya, ovarian cancer has been ranked 3rd as a cause of gynaecologic malignant disease after cervical carcinoma and choriocarcinoma. At the Kenyatta National Hospital it has been found to account for 8.1% of all female genital malignancies (2).

In Uganda, a Country neighbouring Kenya to the West, it has been found to be the 2nd gynaecological malignancy after cervical carcinoma (3).

In general ovarian cancer is a disease of the postmenopausal woman and the prepubescent girl, although it is documented to occur in females of all ages. (4). Our patient was only 36 years of age.

The cause of ovarian cancer is unknown, although a number of risk factors have been identified. It has been proposed that repeated ovulation is causually related to the development of this disease. Ovulation is accompanied by disruption of the germinal epithelium and the activation of cellular repair mechanisms. Repeated ovulation may provide ample opportunity for somatic gene deletions and mutations to occur, which in turn can contribute to tumour intiation and progression.

This is supported by the fact that chronic anovulation, multiparity, and history of breastfeeding are protective. Pregnancy decreases the risk of ovarian cancer by 30 – 60% as does oral contraceptive use, depending on the duration of use (4).

Other factors suspected to be linked to the initiation of ovarian cancer are fat consumption, exposure to talc (eg in women who place talc powder on the external genitalia and genetic predisposition. Patients with family histories of ovarian cancer appear to be at a substantially increased risk for developing the disease. Three syndromes have been identified:

Site – specific familial ovarian cancer.

This syndrome is characterized by the presence of two or more first – degree relatives (mother, sister, daughter) or first and second degree relatives (aunt, grandmother) who have epithelial ovarian cancer.

Breast ovarian cancer syndrome

- consist of those families with two or more cases of early – onset breast cancer and two or more cases of ovarian cancer.

Family cancer syndrome – Lynch syndrome II.

- characterized by cancers of the proximal colon in addition to the frequent occurrence of other primary adenocarcinomas of the breast, ovary, and endometrium.

Some ovulation induction drugs such as clomiphene have been associated with a slightly higher incidence of ovarian malignancy as has been tubal ligation. (1)

The patient under discussion was a para 2 + 0 who had never used any contaceptive method. She did not have a family history of any type of malignancy.

Ovarian cancer may be divided into 3 major categories, based on the cell type of origin. The ovary may also be the site of metastic disease by primary cancer from another organ site.

The major histopathologic categories of ovarian cancer are:

- Epithelial
  - Serous, mucinous, endometrioid, clear cell, transitional cell, undifferentiated.

- Germ cell

  Dysgerminoma, endodermal sinus tumour, immature teratoma, embyonal carcinoma, choriocarcinoma, gonadoblastoma, mixed germ cell.

- Sex cord and stromal

  Granulosa cell tumour, fibroma, thecoma, sertoli - leydig.

- Neoplasms metastatic to the ovary

  Breast, colon, stomach, endometrium, lymphoma

Epithelial tumours account for over 60% of all ovarian neoplasms and more than 90% of malignant ovarian tumours. Ovarian cystadenocarcinoma is the most common tumour of the ovary, accounting for 35 - 50% of all epithelial tumours. The second most common type of epithelial ovarian tumours are the mucinous neoplasms and they are notable for attaining large size. Pseudomyxoma peritonei is an unusual condition that may occur in association with mucinous neoplasms of the ovary resulting from the progressive accumulation of mucin in the abdominal cavity following its leakage from the neoplasm. It may cause bowel obstruction. It may also be found in cystadenocarcinoma of the ovary and appendix plus mucocele of the appendix. (1, 4). Our patient had what was simply described by the pathologist as cystadenocarcinoma that was well - differentiated.

Unfortunately there is no significant symptomatology associated with the early stages of ovarian cancer. As tumour enlargement or accumulation of fluid occurs, there is progressive compression of sorrounding structures producing such common symptoms as urinary frequency/constipation, pelvic pressure, increasing abdominal girth, and

upper abdominal fullness. Pain is usually a late symptom but may occur in early disease when associated with torsion, rupture, or infection. (4, 5, 6).
The patient under discussion complained of abdominal distension which was followed by only mild lower abdominal pains and weight loss much later.

As the disease is usually advanced , the initial examination should include a search for distant metastases and a primary tumour other than in the ovary. A thorough examination includes inspection of all skin surfaces; palpation of supraclavicular, axillary, and inguinal lymph nodes, the breast, and umbilicus; and percussion and auscultation of the chest. The findings most suggestive of ovarian malignancy are a solid or cystic adnexal or pelvic- abdominal mass associated with ascites or nodularity in pelvic cul-de-sac.

A palpable ovarian mass in premenarchal and postmenopausal patients should raise a high index of suspicion for an early ovarian neoplasm. (4, 6)
Our patient was found to have bilateral pedal pitting oedema, ascites and a fairly fixed uterus.
All patients with suspected ovarian cancer should have a full haemogram done in addition to renal and liver function tests. Other useful investigations are coagulation profile, urinalysis, cervical and vaginal cytology, chest X-ray, abdominal radiological examinations and imaging , intravenous pyelogram, barium enemas, liver and bone scans. (4). Laparoscopy may be carried out for small suspicious tumours. (7)
Our patient had an ultrasound scan of the pelvic and this gave features suggestions of ovarian malignancy.

Certain tumour makers are important to some extent in diagnosis and follow-up. They include B-hcG, < -fetoprotein, placental alkaline phosphatase, carcino – embryonic antigen (CEA), CA – 125 (4, 7).
The diagnosis and management of ovarian neoplasia, benign or malignant, are ultimately dependent on surgical exploration. The stages of primary carcinoma of the ovary according to FIGO (surgical) are:

Stage I: Growth limited to the ovaries

IA – One ovary; no ascites; no tumour on the external surface; capsule intact.

IB – Limited to both ovaries; no ascites. No tumour on the external surfaces; capsules intact.

IC-Either IA or IB + tumour on the surface of one or both ovaries; or with capsule ruptured; or with ascites present containing malignant cells or with positive peritoneal washings.

Stage II: Growth involving one or both ovaries with pelvic extension

IIA – Extension and / or metastes to uterus and / or tubes

IIB – Extention to other pelvic tissues.

IIC – Either IIA or IIB, but with tumour on surface of one or both ovaries; or with capsule (s) ruptured; or with ascites containing malignant cells or with positive peritoneal washings.

Stage III: Tumour involving one or both ovaries wit peritoneal implants outside the pelvis and /or positive retroperitoneal or inguinal nodes. Superficial liver metastases equals stage III. Tumour is limited to the true pelvis but with histologically verified malignant extension to small bowel or amentum.

IIIA – Tumour grossly limited to the true pelvis with negative nodes but histologically confirmed microscopic seeding of abdominal peritoneal surfaces.

IIIB – Tumour of one or both ovaries with histogically confirmed implants of abdominal peritoneal surfaces, none exceeding 2 cm in diameter. Nodes negative.

IIIC – Abdominal implants > 2cm in diameter and /or positive peritoneal or inguinal nodes.

Stage IV: Growth involving one or both ovaries with distant metastases. If pleural effusion is present there must be a positive cytology result to allot a case to stage IV.
Parenchymal liver metastases equals stage IV. (5, 7).

Our patient was estimated to have stage IV disease since there was evidence of tumour on the surface of the liver and also the spleen.
Full bowel preparation is necessary pre-operatively since colostomy may be necessary in some instances(1, 4, 5, 7).
Intra-operatively, a vertical incision is made on the abdomen and bloodless entry into it achieved. Fluid is immediately aspirated from the Ponuh of Douglas as well as the paracolic gutters and this is sent for cytology. Alternatively, random peritoneal biopsies are taken from the same sites. Wipes or biopsies are also taken from the diaphragm. Full exploratory laparotomy is done, including palpation and, if in dicated, fine needle aspiration biopsy (FNAB) or excision of enlarged pelvic and para-aortic nodes. Total abdominal hysterectomy and omentectomy are then performal if possible.
Bulk reduction of macroscopic tumour to < 1cm should be attempted and careful documentation of size and site of residual disease done. In young patients where faertility is important, unilateral oophorectomy may be done for stage I disease (4, 5)

In stage IA and B (grade I + 2) disease, no further treatment may be necessary and the patient should be followed up at the oncology clinic. Stage IA + B (Grade 3) + stage IC may need chemotherapy. Stage II to IV should be treated with chemotherapy as well. Standard chemotherapy consists of 6 cycles of a combination of cisplatinum, doxorubicin (Adriamycin) and cyclophosphanide. Dysgerminoma may respond to bleomycin, vinblastine, and cisplatin. (5, 6, 7).

Patients considered medically unfit to tolerate surgery may have the diagnosis confirmed by ascitic tap and Ca – 125, then treatment given with standard chemotherapy and interval surgery considered after 3 cycles on individualized basis (5).

The decision to include a second look operation usually depends on the policy of the individual institution or its consultant. (5).

Previously, patients with local pelvic disease (stage II) were considered suitable for local radiation, but these patients so often had undiscovered disease beyond the pelvis and outside the treatment area, that local treatment became inappropriate and fruitless, especially due to risk of liver or kidney damage.

However, there is a small group of patients with genuine stage II disease who benefit from post-operative radiotherapy with the treatment field confined to the pelvis.

Radiotherapy may provide the only hope of palliation for patients with a pelvic recurrence after treatment with surgery and chemotherapy. Dysgerminoma is uniquely radiosensitive and metastatic nodal disease in the pelvis and para-aortic region respond dramatically to radio therapy , very often resulting in cure (6, 7, 8)

Intra-peritoneal gold and 32 – phosphorus (32 p) have also been used with good results as have been hormonal trials .(5).

The long term survival of the patients depends on their age, stage and grade of tumour, biological activity of the tumour and also the host resistance. Whether uni or bi-lateral, the well differentiated tumour has a better prognosis. (4).

Our patient who was managed on cisplatinum , cyclophosphamide and doxorubicin (adramycin) erratically was lost to follow-up and it is hard to tell what the final outcome was.

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5. **BARTHOLIN'S ABSCESS IN AN HIV – POSITIVE, DIABETIC PATIENT - MARSUPIALIZATION**

Name : R.N

Age : 50 years

IP. No.: 0836291

DOA : 3/10/2002

DOD : 7/10/2002

Diagnosis: Bartholin's abscess

Parity : 5 + 5

Presenting Complains:

The patient was admitted through the casualty with a complaint of painful swelling of the genitalia for 2 days.

History of Presenting Complaints:

She was previously well then developed swelling of the left labia. This was associated with progressively worsening pain and it had progressively increased in size. She denied having had any per vaginal discharge or dysuria.

Obstetric and Gynaecologic History:

She was a para 5 + 5, all the abortions having been induced by a quack using a catheter before she got married. She had had ammenorrhea for about six months and had never used any contraceptive method. Her periods were initially regular and of normal flow.

Past Medical History:

She was discovered to have diabetes mellitus in 1992 and used subcutaneous soluble insulim twice a day in a dose of 10 iu. She was treated for meningitis in 2001.

She was HIV positive.

Family and social history

Her husband died a few years earlier of pulmonary tuberculosis. He was found to be HIV positive.

Her 2 sisters had diabetes mellitus.

Drugs: she had no known history of allergy.

Systemic enquiry:

She had no other major problems.

General physical examination:

She was found to be sick looking and seemingly in pain. She was afebrile, not pale and had tatoos on the upper and lower limbs. There was no lymphadenopathy or jaundice. The pulse was 88 per minute, the blood pressure – 120/80 mmHg, the temperature 37.1 degree centigrade and respiratory rate 22 per minutes.

Genitourinary system

There was evidence of swelling of the left labia majora. It was fluctuant, tender and warm. There was hyperaemia over it. She had a foul smelling whitish vaginal discharge. The cervix was long, firm, posterior and closed and the uterus felt normal in size

Other Systems:

These were essentially normal.

Diagnosis

Bartholins abscess in an HIV positive diabetic patient.

Inrestigations and results

1. Packed cell volume (PCV) – 34%.
2. Urea and electrolytes and creatinine levels

Na + - 140

K+ - 3.8 mmol/l

Urea - 4.3

Cr - 72 umol/l

3. sugar levels (Random)

3.7.02 4.8 mmol/l

6.10.02 6.7 mmol/l

Management

The examination findings and their implications were explained to the patient who gave consent for marsupialization of the Bartholins abscess in theatre. She was started on intravenous 2mu of crystalline pauicillin 6 hourly, 80 mgs of gentanian 8 hourly and 500 mgs of metronidazde 8 hourly. For pain control, she was given a stat dosc of 100mgs of intramuscular pathidine and then maintained on 500 mgs of oral mefenamic acid. She was to be reviewed by the diabetologist in view of the fact that the sugar levels required normal despite the fact that she had not used insulin over some days. She was, however, maintained on diabetic diet.

About half an hour prior to surgery, the patient was premedicated with 0.6 mgs of intramuscular atropine. In theatre she was put under general anaethesia and vulvoraginal toilet done. She was then draped aseptic catheterization yielded clear urine. An examination under anaesthesia confirmed the earlier findings. A vertical incision, about 4 cm in length, was made at the mucocuteneous junction of the left labia majora extending through the cyst wale and about 10 m/ls of thick yellowish – greenish pyogenic material drained. The cavity was then cleaqued and a gauze drain dipped in povidone iodine (betadine) inserted to keep the ostium open until granulation is complete after the lining of the cyst was everted and approximated to the raginal mucosa with number 2-o chronic catagut suture. Haemostasis was achieved. Post uperatively, the patient was maintained on antibiotics and the routine observations carried out. She was advised on sitz baths and allowed home on 07.10.02 to be renewed at the diabetic clinic and to be followed up at the counselling clinic in view of her HIV status.

Discussion

Bartholin's glands (vestibuler glands) are two small racemose gands situated on either side of the vaginal orifice deep to the posterior ends of the labia minora. Its duct opens into the posterior part of the vestibule. During sexual excitation they secrete a thin mucus which acts as a lubricant. Unless it is inflamed the orifice can not usually be seen. The gland can not be palpated unless it is pathologically enlarged by inflammation or, very rarely, by new growth. (1) obstruction of the main duct of Bartholin's gland results in retention of secretions and cystic dilatation. Infection is an important cause of obstruction. However, inspissated mucus and congenital narrowing of the duct may also be causes. Secondary infection may result in recurrent abscess formation. (2) our patient had enlargement of the left gland as a result of infection complicated by abscess formation.

Bantholin's abscess occurs mainly in the reproductive age group. At the Kenyatta national Hospital, Mumia found that 82.7% of the patients were age 12 – 49 years, while Ndede found a mean age of 32.5 years old. The patient discussed here was 50 years old and was 6 months postmenopausal.

The majority of Bartholin's abscesses are caused by Naisseria gonorrhea infection, but various other organism such as Bacteroides, peptostreptocuss, Escherichia coli, Proteus SPP, Streptococcus fecalis, staphylococcus, Candida albicans and chlamydia may be the offending organisms. (5, 6). It is unfortunate that the pus from the abscess in our patient was not sent for microscopy and culture and, therefore, the antibiotic coverage was based on guesswork.

The risk factor for the development of Bartholin's abscess are generally those for other sexually transmitted diseases and infective illness in general. Our patient was known to have diabetes mellitus and HIV – infection, both of which might have contributed towards the lowering of her immunity, hence the infection complicated by abscess formation.

During the acute infection, which may precede the actual cyst formation, an abscess often develops with symptoms of tenderness, swelling and erythema. Most Bartholin duct cysts are asymptomatic, and they are usually found during routine pelvic examinations. When symptoms do occur, most patients complain of discomfort during coitus or pain while sitting or walking. (6). The patient under discussion complained of vulval swelling accompanied by pain and while examined was found to have a foul smelling whitish vaginal discharge.

Primary treatment consists of drainage of the infected cyst or abscess, preferably by marsupialization or insertion of a word catheter. Simple incision and drainage may provide temporary relief. However, the opening tends to become obstructed , and recurrent cystic dilatation and infection may result. Appropriate antibiotics should also be given (2) Local application of heat in the form of hot, wet dressings or sitz baths may promote spontaneous drainage within 72 hours.
Occasionally, early treatment of an obvious bartholinitis with broad spectrum antibiotics may prevent the formation of an abscess; however, this treatment could easily delay opening of the abscess. (7).

Marsupialization by use of the word catheter. bulb – tipped rubber tube that can be insufflated, is used in some centers. A small stab incision is made into the abscess close to the region where the Bartholin duct is believed to enter the vulva. After the abscess cavity has been drained, the word catheter is inserted into the deflated cavity and the balloon inflated with 2mls of saline. The small distal end of the catheter can then be tucked into the vagina. This should be left in place for a period of 4 – 6 weeks, after which the balloon is deflated and the catheter removed. Patients rarely notice the presence of the catheter and may engage in sexual activity without disturbing it. (6, 7).

Marsupialization makes it possible to avoid excising the gland with the cyst and to preserve the secretory function of the gland for lubrication. It can be performed under local, regional, or general anaesthesia.The line of incision for marsupialization should be made medically enough so that the new orifice is located close to the original opening of the Bartholin duct into the vulva. The incision should be 4 - 6 cm in length, extending through the wall of the cyst (or abscess). The lining is then sewn to the mucosa and skin surfaces with interrupted absorbable sutures. (6, 7).

Marsupialization is associated with pain and sometimes dyspaerumia for upto 4 weeks . Scarring may also occur due to retained absorbable suture . A recurrence rate of 10 - 15% has been reported generally with Mumia having found the rate to be 17% at the Kenyatta National Hospital (3, 5). The carbon dioxide laser offers an alternative method of treating Bartholin's abscess and cysts. It is rapid, simple and is offered as an outpatient procedure. Healing is rapid with no scar tissue formation (8). This technique is still, however, unavailable in our hospital.

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6. CANCER OF THE CERVIX – RADIOTHERAPY

Name: M.K.

Age.: 52 years.

Ip No: 0819248

DOA: 08/07/2002

DOD: 15.10.2002

DIAGNOSIS: ca cervix stage III B.

PARITY: 4 + 0.

Presenting Complaints:

The patient was admitted with history of per vaginal discharge over a period of 10 months and lower abdominal pains over a period of 6 months.

History of Presenting Illness:

She was referred from Machakos district hospital where she had had examination under anaesthesia and cervical biopsy done in April 2002 due to foul smelling per vaginal discharge and lower abdominal pains. There was no history of per vaginal bleeding or abnormal nutrition habits. She also had normal bowel habits.

Ostetric and gynaecologic history:

She was a para 4 + 2 whose last delivery had been in 1986. She had ammenorrhoea of over one year. She had never had a pap smear done and had never used any of the conventional contraceptive methods.

Her menstrual periods had basically been regular previously.

Past medical history:

This was not significant.

Family and social history:

She was widowed from 1986. She lived in Makueni where she was a peasant farmer. There was no known history of chronic ailment in the family.

Drugs:

There was no known history of allergy. She had been on haematinics and analgesics.

Systemic enquiry:

There was nothing of importance elicited.

General physical examination

She was found to be in fair general condition, was not pale and had no jaundice or lymphadenopathy. The temperature was 36.8°c , the respiratory rate 22 per minute, the blood pressure 100/50 mmHg and the pulse rate 78 per minute.

Abdominal Examination

The abdomen appeared scaphoid, was non-tender and had no abnormal palpable masses.

Vaginal Examination:

The external genitalia appeared normal while the vaginal wall had multiple, nodular, firm, fixd masses which were non-tender but friable. There was also an exfoliative cervical tumour. The tumour could be felt to have involved the right pelvic wall-while the left side felt fairly normal. The rectal mucosa felt free. The rest of the uterus was bulky.

Other Systems:

These were essentially normal.

Diagnosis:

Cancer of the cervix .

Investigation Results:

1. Haemogram

   Hb – 10.4g/dl on 20/7/2002

   On: 6/9/02

   WBC – 5.6 x 10^{9}/l

   RBC – 3.50 x 10^{12}/l

   Hb – 11.7g/dl

2. Urea and electrolytes & creatinine (cr)

   Na + - 122
   K+ - 3.6 } mmoL/L

   BUN – 1.1

   Cr – 60 umol/l

3. CxR – Basal pneumonitis
4. Pelvic ultrasound scan:

   There was a calcified cervical mass. normal ovaries and no fluid in the pouch of Douglas.

   The uterus appeared bulky with multiple low echomasses.

5. Histology Report (from Machakos District Hospital)

   Small cell keratinizing squamous Cellcarcimona of the cervix.

She was managed on a ntibiotics and analgesics with improvement.

The patient was started on radiotherapy on 20/8/2002 but this was temporarily stopped after 12 courses when it was discovered that she with the Hb being 8g/dl. She was transfused 2 units of blood and she regained strength within a few days and radiotherapy reinstituted with good response. She had received a total of 25 courses each consisting of 200 rads (2cGY) and when she was seen 3 weeks later, she had no complaints and had no palpable masses.

Discussion:

M.K. was a 52 year old para 4 + 0 diagnosed to have carcinoma of the cervix stage III B. She was started on radiotherapy with clinical improvement.

The cervix is the commonest site for female genital cancer, but the statistics vary from country to country and from race to race. While the incidence seems to be falling in the developed countries, the developing countries still have many patients with this neoplasm (1). It is the commonest of all gynaecological malignancies in Kenya and other developing countries and has been shown to account for most deaths related to gynaecologic neoplasm at the Kenyatta National Hospital. (2).

In Kenya, the mean age at presentation has been found to be 42 years, with the majority of patients in the age group 40 – 49 years (3). In the developed world, the mean age is 54 years with the majority being in the age group 50 – 59 years. (4).
The patient under discussion was aged 52 years .

The occurrence of carcinoma of the cervix is also influenced by race, social and economic factors, coitus, cervical irritation and infection. The sexually active woman is 2 to 4 times more likely to develop cancer of the cervix than sexually inactive woman. 90% of invasive cancers occur in multiparae. High parity usually means frequent coitus during many years, starting at a young age, and often poor socioeconomic conditions (1). In Ojwang's study, the parity of the patients with carcinoma of the cervix was 5 children and only 2 of the 200 patients were nulliparous.. (3).
Women of certain races, notably Orthodox Jewesses, are almost immune to cervical cancer. Women of increased risk include prostitutes, prison inmates, and female attendants in clinics which treat patients with sexually transmitted diseases. Other factors associated with increased risk include multiple marriages, early age at first intercourse and first marriage, poor personal hygiene, non-circumcision of partner and multiple sexual partners. According to Walker and co-workers, Human Papilloma virus (HPV) is the most likely to cause cervical cancer by sexual transmission. HPV types 6, 11, 16, 18 and 31 have been implicated and more aggressive clinical behaviour was

demonstrated for tumours that contained HPV type 18. also, Evidence in the study by Walker and associates suggested that HPV-type 18 containing tumours might progress to invasion without a prolonged preinvasive phase. (5). The risk of cervical cancer is significantly increased in women who have not been regularly screened with a pap smear. (1, 5). Our patient had never had a pap smear and the disease might have been probably diagnosed at the preinrasive stage.

Cancer nearly always starts at the squamocolumnar epithelial junction and in 90% of cases is squamous cell in type. They may be well differentiated, moderately differentiated or poorly differentiated. Squamous cell carcinoma may also be classified into large cell keratinizing, large cell non-keratinizing and small cell carcinomas. The large cell non-keratinizing type is said to have the best prognosis. (1).

The majority of patients at the Kenyatta National Hospital have been found to have poorly differentiated squamous cell carcinoma. (6). The patient presented had small cell keratinizing squamous cell carcinoma of the cervix. Adenocarcinomous of the cervix are becoming more common, especially in younger women. Although it is possible to recognize adenocarcinoma of the cervix as an in situ stage, relatively few cases are seen or described. Only 2 cases of in situ adnocarcinoma are known to have developed into invasive cancer and the natural history of early cervical adenocarcinoma is not known. In addition to pure (endocervical) adenocarcinoma, a variety of other histologic patterns are described, including adenoma malignum, adenoacanthoma, adenoid cystic, endometriotic, mesometanephric, clear cell, and adenosquamous. Not infrequently, an adenocarcinoma and squamous cell carcinoma coexist in the same cervix. (5).

Various cervical sarcomas have been described and they constitute less than 0.5% of all cervical cancers. They include adenosarcomas, leiyomyosarcomas, carcinosarcomas, and rhabdomyosarcomas. It is extremely rare for a lymyphoma to develop primarily in the cervix; although undoubted cases have been reported. It may represent evidence of generalized lymphometious disease (5, 7).

Invasive cervical cancer is likely to be heralded by abnormal vaginal bleeding (menorrhagia, metrorrhagia, postcoital bleeding, or postmenopausal bleeding). Many

patients have a profuse and often malordourous discharge especially when the disease is advanced. Pain is not common unless the disease is advanced. In the late stages, patients complian of bladder and rectal symptoms. When the disease involves lumbosacral and sciatic nerve roots and the lateral pelvic side wall, chronic boring pelvic bone pain radiating down the leg can be excruciating and indicative of advanced disease. Edema of the lower extremities likewise, indicates tumour obstruction of lymphatic drainage. Ascites is uncommon in cervical cancer. (1, 5).

Many women remain without symptoms for many months (5), In Kenya, where the majority of patients present with late disease, vaginal bleeding and pelvic pain have been found to be the commonest presenting symptoms. (3, 8). Our patient also presented late with abnormal per vaginal discharge and lower abdominal pains.

An invasive cervical lesion can be exophytic, infiltrative, ulcerative, or occult. The size of the visible lesion on the cervix may not correlate well with the extent or depth of invasion. The tumour may be friable (5). This patient was found to have an exophytic friable mass.

For diagnosis, biopsy specimen should be taken for histology and staging of tumour done appropriately. This may involve cystoscopy, proctoscopy, chest – X-rays, intravenous pyelogram and barium enema (1)

Cancer of the cervix may spread by local invasion to the parametrium, uterus, vagina or, rarely, by retrograde extension into the groin. Lymphatic spread may occur to involve the parametrial, obturator, internal iliac, external iliac and paraaortic lymph nodes. Haematogenous spread may occur, but is rare (1).

The prognostic factors in cervical carcinoma are tumour volume, gross tumour configuration (exophytic, endophytic, barrel shaped), vaginal or endometrial cavity extension, histologic grade of tumour, depth of tumour invasion, vascular invasion, regional (pelvic) and distant (para artic)lymph node metastases and distant metastases (5).

Based on the pretreatment evaluation of the patient, including the prognostic factors, treatment plan is developed. Almost all patients are treated with either primary radiotherapy or primary surgery. Some are treated with combinations of irradiation and surgery.

Chemotherapy is not effective as primary treatment for invasive cervical cancer but can be used as adjuvant therapy and when the disease is recurrent or persistent. Hysterectomy is primarily limited to those patients in whom the disease is confined to the cervix or vaginal fornix (stage IA, IB, IIA) and who are good surgical risks. (1, 5).

Our patient was managed with radiotherapy since the disease was already of stage IIIB., although she should ideally, had a repeat EUA since months had elapsed betweenb the time of the previous one at Machakos and that of admission.

Radiotherapy may also be used in those who have had surgery, but histology sho ws lymph node involvement.

Patients treated by irradiation have an average 5 – year survical rate essentially identical to the survival rate for those who undergo radical surgery. (5, 9).

The potential for control and prevention of this disease lies in the development of well – organized screening programs. Regular pap smear screening of all women at risk has been shown to be quite effective in reducing the incidence of cancer by the cervix and accounts, in part, to less incidence of invasive carcinoma in the developed countries.

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7. ACUTE PELVIC INFLAMMATORY DISEASE (PID) – CHEMOTHERAPY

Name: L.K.

Age: 23 years

IP. No.: 0815881

DOA: 15/06/2002

DOD: 17/06/2002

Diagnosis: Acute PID

PARITY: 1 + 0

Presenting Complaints:
The patient had had lower abdominal pains and vomiting over a period of 3 days.

History of presenting illness:

She had insidious onset of lower abdominal pains which were persistent in nature, radiated to the back and had no relieving factors. She had episodes of vomiting precipitated by feeding. She had constipation with tenesmus and subsequently passed hard pellets of stool.

The patient denied having had any abnormal per vaginal discharge or bleeding and she had normal micturition habits.

Obstetric and Gynaecologic History:

She was a para 1 + 0 whose last delivery was in 1999, with the baby having been alive and well. The last menstrual period was sometime in August, 2001 and she had been on Medroxyprogesterone acetate (Depoprovera) from 2001. She initially had regular menses, having had her menarche at the age of 14 years.

Past Medical History:

She had completed the initial phase of treatment for Mycobacterium tuberculosis with

800mgs of ethambutol and 5 tablets of rifater and was on the continuation phase of 5 tablets of rifater alone. She reported having had marked improvement on this treatment.

Family and Social History:

She was married , unemployed and never drank alcohol. She also did not smoke cigarettes. The husband had a small scale business of selling second hand clothes.

Drug: She had no known history of allergy.

Systemic Enquiry:

There was nothing of importance obtained.

General Physical Examination:

The patient was sick looking and seemingly in much pain. She was not pale, was febrile and had no jaundice. The temperature was 38°c and the pulse rate 141 per minute and regular. The blood pressure was 110/70 mmHg, while the respiratory rate was 22 per minute.

Abdominal Examination:

The abdomen appeared flat with marked tenderness and guarding at the hypogastrium. There were no abnormal masses discernible.

Vaginal Examination:

The external genitalia appeared normal. There was mucoid, yellowish foul smelling vaginal discharge. Cervical excitation test was positive with marked adnexal tenderness. Bimanual palpation was not possible due to the tenderness. Endocervical swab was taken for microscopy, culture and sensitivity.

Other Systems:

These were essentially normal.

Diagnosis:

Acute pelvic inflammatory disease.

Management:

1. Haemogram:

   WBC – 9.6 X 10 g /l

   Hb – 10.2g Ldl

   Platelets – 225x10 g/l

2. Urea and Electrolytes & creatinine

   - Na + 140
   - K+ 4.6 } mmol/l
   - BUN 4.0
   - Creatinine 085 Umol/l

3. Pregnancy test – Negative.

4. Pelvic ultrasound scan – this was not done.

5. Endocervical swab – No growth obtained.

The patient was started on 2 mega units of intravenous crystalline penicillin 6 hourly, 80mgs of intravenous gentamicin 8 hourly and 500mg of intravenous metronidazole (flagyl) 8 hourly. She was also given oral doxycycline in adose of 100mg twice a day. For pain relief the patient was given oral diclofenac. After 48 hours, she was afebrile and the abdominal pains had reduced markedly. She was discharged home on oral metronidazole, diclofenac and ciprofloxacin with instruction that she should report back for review at the gynaecology outpatient clinic after one week. She had recoved fully when she was seen at the clinic.

Discussion:

L. K was a 23 year old para 1 + 0 who was admitted with severe lower abdominal pains and incidentally found to have foul smelling per vaginal discharge. The diagnosis of acute pelvic inflammatory disease was most likely appropriate, although the results of the microbiological tests done on the endocervical swab were never obtained.

Pelvic inflammatory disease (PID) is a general term commonly used to describe an infection process of the upper genital tract. The infections of the upper genital tract most commonly involve the fallopian tubes (salpingitis), but the endomentrium and the ovaries are generally involved as well. The disease process can be divided into acute and chronic forms (1). Our patient had acute PID.

Acute PID is usually a consequence of infection with gonococcus and chlamydia. Other microorganisms that can cause it are aerobic Streptococcus, Staphylococcus, Pyogenes, Escherichia coli, Mycoplasma hominis, Ureaplasma urealyticum and even tubercle bacilli. Most cases of PID are the result of a polymicrobial infection caused by microorganisms ascending from the vagina and cervix to infect the mucosa of the endometrim and fallopian tubes. It is at times difficult to determine which of the organisms isolated form the endocervix is responsible for the ongoing episode of acute PID. (2). Fomulu found a polymicrobial pattern at the Kenyatta National Hospital, with Escherichia coli occurring in 30% of cases of pelvic infection. (3). but Cartley (1972) found at the same hospital that gonoccus was found in 75% of patients with PID. 4% of these having had pelvic abscess (4). Chow and Manif postulated that gonococcus initiates acute PID and produces tissue damage that changes the local environment to allow aerobic and anaerobic organisms from the vaginal and cervical flora to enter the upper genital tract . Esheribach and sweet have, however, suggested that not all PID follows gonococcal infection and that acute PID may initially have a polymiciiobial aetrology (2).
Overally, acute PID occurs in about 1% to 2% of young, sexually active women each year.

Predisposing factors to the occurrence of acute PID include multiple sexual partners, use of intrauterine contraceptive device (IUCD), previous PID that was not well treated or untreated, nulliparity and HIV infection. Age is also a factor and the incidence of PID decreases with age, 70%, of the patients being younger than 25 years. Our patient was 23 years old. Surgical procedures that break the cervical mucus barrier like placement of intra-uterine centraceptine device, endometrial biopsy and curretage, hysteroscopy and hysterosalpingography have also been implicated. Abortion is also known to be a risk factor (6). At the Kenyatta Hospital, PID has been found to be commonest in those below 20 years and follows abortion in 18.2% of the patients. (3) Given that tuberculosis is a disease commonly associated with immunosupression, chances that our patient was HIV-positive could not be ruled out, but she was not tested for HIV.

Oral contraceptives have been thought to reduce the risk of PID and it is probable that the progestin component makes the cervical mucus thicker thereby inhibiting sperms and bacteria from penetrating into the upper genital tract. (2).

The diagnosis of acute PID is usually clinical. The patient presents with lower abdominal pains, cervical motion tenderness and adnexal tenderness. There may also be fever, cervical or vaginal discharge and leukocytosis. Jacobson and Westrom have reported that lower abdominal pain, pelvic pain , fever and leukokcytosis are present in only 15 – 30% of actual PID cases. (2) Pain in the lower abdomen and pelvis is present in more than 90% of patients at initial presentation. The pain is usually described as dull and accentuated by motion or sexual activity and is usually of recent onset, most likely one week or less. Up to 75% of acute PID are associated with endorcervical infection and coexistent purulent vaginal discharge, but nausea and vomiting are relatively late sysmptoms. Abnormal vaginal bleeding, especially menorrhagia or spotting may occur in upto 40% of the patients Perihepatic inflammation and adhesions, more commonly known as Fitz – Hugh – Curtis syndrome, develop in 1 – 10% of the patients with acute PID. The patient may have right upper quadrant pain, pleuritic pain, and tenderness in the right upper quadrant when the liver is palpated. It is believed to develop from vascular or transperitoneal dissemination of either N.

gonorrhea or chlamydia trachomatis to produce the perihepatic inflammation. Other organisms may be involved. Despite the short coming of diagnosis, laparoscopic visualization of the pelvis is still the most accurate method of confirming the diagnoses of acute PID .

It is even more important in the exclusion of other diagnosis and surgical emergencies. The appearance of the pelvic organs can vary from erythematous, indurated, edematous oviducts, pockets of purulent material, to a large pyosalpinx or tubo ovarian abscess. (2, 6).

Other less invasive methods of diagnosis exist. For instance, Pavonen and associates reported 90% correlation between histologic endometritis and laparoscopically confirmed salpingitis. A delay of 2 – 3 days may result in limited clinical application of this method. Ultrasound scan of the pelvis may be useful to rule out other causes of pelvic disease such as acute appendicitis, adnexal masses & ectopic pregnancy.(2).

Culdocentesis may be performed and a WBC count of >30 x 10 3/ml would suggest acute PID. The normal level is < 1000 cells per ml. (1,2,3)

The sequelae of acute PID can be devastating and include infertility, ectopic pregnancy, chronic pelvic pain, residue of infection and , rarely, mortality which could be as a result of adult respiratory distress syndrome (ARDS) due to severe infection. This calls for prompt and effective treatment whose goal should be to eliminate the acute infection and symptoms in addition to preventing the long term sequelae.

of infection and , rarely, mortality which could be as a result of adult respiratory distress syndrome (ARDS) due to severe infection. This calls for prompt and effective treatment whose goal should be to eliminate the acute infection and symptoms in addition to preventing the long term sequelae.

Based on the consensus that PID is polymicrobial in cause, empirical antibiotic protocols should cover a wide range of microorganisms, including N-gonorrhoeae, c-trachomatis, anaerobic rods and cocci, gram negative aerobic rods, gram – positive aerobes, and Mycoplasma species. Controversy exists over the issue of outpatient

treatment with oral antibiotics versus inpatient treatment with parenteral antibiotics. Our patient was initially treated on an inpatient basis and allowed home on oral medication.

The treatment of acute PID should include that of the male partner and education for the prevention of infection, including the use of proper contraceptive methods to avoid unwanted pregnancies.

The patients whose PID are complicated by abscess formation may need surgical intervention whoch may be laparoscopic or by laparotomy. Percutenous drainage uder sonographic or CT – Scan guidance may also be helpful. (1,2).

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8. SEXUAL ASSAULT: PROPHYLACTIC ANTIRETROVIRAL AND ANTIBIOTICS GIVEN

Name	:	F.S.
Age	:	20 years
IP. No.	:	0822537
DOA	:	16/7/2002
DOD	:	17/7/2002
DIAGNOSIS	:	Sexual assault
PARITY	:	0 + 0

Presenting Complaints:

The patient alleged to have been assaulted sexually a few hours earlier.

History of Presenting Complaint:

She said she was forced into engaging in penetrative sexual intercourse by one of a number of robbers who had raided her cousin's house at Mbotela, Nairobi, the previous night. She had been abducted to a place in industrial area a few Kilometers from her home before this was done to her.

She was unsure whether the man ejaculated or not, but the assault lasted about 2 minutes. She also sustained injuries on her back and the neck.

Obstetric and Gynaecological History:

She was a para 0 + 0 whose last menstrual period (LMP) was on 29/5/2002, two weeks before the assault. Her menstrual periods lasted 5 days in a regular cycle of 23 days. She had had her 1st sexual contact a year earlier and the last episode was 1 ½ weeks prior to the ordeal. The partner used condoms.

Past Medical History:

There was nothing significant.

Family and Social History:

She was single and had gone to school upto form 4, sitting the final examinations in the year 2000. She lived with her two female cousins of about her age at Mbotela, Nairobi. She neither drank alcohol nor smoked cigarettes one of whom had brought her to hospital.

Drugs:

She was not on any medications and had no known history of allergy.

Systemic enquiry:

Central nervous system – the patient felt scared and said she was depressed about the occurrence.

General Physical Examination:

The patient was a young lady in fair general condition, had dirty clothes, including the underwear, (not blood stained), was a febrile and was not pale.

The temperature was 37.4°c, the respiratory rate 24 per minute, the blood pressure 100/70 mmHg and the pulse rate 80 per minute.

Systemic Examination:

CNS:

- The patient was well oriented in space, time and person, but appeared mildly depressed.
- There were no lateralizing signs.

Muskuloskeletal System:

- She had a cervical collar which had been applied at the casualty in our hospital. The neck was mobile, but with difficulty due to tenderness.

Vaginal Examination:

The external genitalia appeared normal with no obvious lacerations. The vaginal wall appeared normal. There was a blood stain on the posterior lip of the cervix which otherwise appeared healthy.

The uterus was of normal size and the adnexal regions felt normal.

Diagnosis: Alleged sexual assault; neck injury.

The patient was admitted and given 4 tablets of microgynon as a form of emergency contraception, she was also put on antibiotics (Ampiclox, Doxycycline and metronidazole) and antiretroviral prophylactic therapy of: Combivir 1 x 2 x 28 days. Nevirapine 200mg daily x 28 days.

Baseline tests were carried out as follows:

HIV - Negative

VDRL - Negative

High vaginal swab (microscopy/culture/sensitivity)

- There was no growth obtained
- No evidence of spermatozoa.

Haemogram – Normal.

She was discharged home to be reviewed with the results as already alluded to above and for repeat tests after 4 weeks.

The counsellers were also consulted and she was to be followed up at their department, but she got lost to follow-up.

Discussion:

A 20 year old para 0 + 0 who alleged to have been assaulted sexually is presented in this discussion. Her attacker was a member of a gang of robbers who raided her cousins house where she also lived.

The definition of sexual assault is variable but may simply be said to be manual, genital or oral contact with the genitalia of a victim without consent.

It may include anal sex, date rape and rape that did not cause obvious trauma (1, 2).

Sexual assault may be perpetrated by strangers or individuals known to the victim and may be associated with molestation, battering, rape or incest (1, 3). Legal codes may categorise rape according to the anatomic site of assault (eg anal, oral, vaginal) and the degree of penetration (as none, slight or full penetration). The patient discussed here had full penetration.

The psychologic effect of rape on the victim cannot be predicted according to the degree of penetration or the anatomic site of the assault. Distinctions in the site and extent of sexual assault do, however, carry medical importance, since the risk of injury, impregnation or acquisition of sexually transmitted disease will vary according to the specifics of the assault. Therefore, an accurate detailed history of the assault is essential for proper diagnosis, documentation, and treatment (4).

Rape is one of the most rapidly growing of all violent crime, but is mainly underreported (3,4). Most of the victims fear reporting what happened to them due to the possibility of ensuing stigmatization and this is worsened by the way they are handled by relatives, friends, the police and the health workers. (1). Our patient managed to sek medical attention and was to report the matter to the policemen.

The rape victims tend to be vulnerable in terms of gender (female), physical size, age, disability and other forms of indisposition like when one is intoxicated (4). Young girls who are alone, the elderly, the pregnant women may fall in this category. In Kenya, a retrospective study done in a private hospital in Nairobi showed that out of 37 rape victims, 86.6% were less than 30 years old (1). About 45% of rapists are below the age of 25 years and most are repeat offenders and drug abuses. The patient under

discussion lived with a female cousin of her age and this made them vulnerable.
The motivation of the assault seems not to be sexual gratification but rather, degradation, terrorization, and humiliation of the victim.
There are 3 types of rape viz:
Power rape – this is the most commonly reported, the rapist is usually under the age of 18 years, the assault is premeditated and the motivation is to demonstrate power through sexual assault rather than through overt injury of the victim. The assault may be repeated while the victim is kidnapped.
Anger rape – The psychologic objective here is to humiliate and degrade the victim due to anger with a need to obtain revenge. The rapist feels he has been wronged and rape may not have been premeditated as opposed to power rape.

Sadistic rape – extensive violence is used and may even result in death. The assaults are premeditated and involve ritualized torture or mutilation of the victim, especially of the genital region.
The rapists aften have a history of wife and child abuse.

The victims primary response during the assault is one of survival, and most of them will relate that they were afraid of being killed by the assailants. Subsequently they feel guilty of not having fought off the assailants. The patient who presents for examination and treatment reporting that she has been raped abandons one of her most powerful defense mechanisms, denial.

Other coping mechanisms such as withdrawal, detachment and undue calmness are substituted (4).
A structured physical examination should be carried out. This will be useful in law enforcement. Details of the assault must be recorded, preferably from the patient.
Detailed obstetric and gynecological history should be obtained and the activities such as douching, bathing, voiding, defaecating or eating after the assault recorded. The nature, location and extent of external trauma should be documented. Scrapings should be taken from the victim's fingernails, the pubic hair combed for foreign material &

pubic hair cuttings kept. Meticulous inspection of the perineum and vulva for ecchymoses, abrasions, and lacerations should be performed. The walls of the vagina and the vaginal fornices must be carefully inspected for trauma. These examination may as well be done with the patient under anaesthesia. Appropriate fluid swabs should be taken from the vulva, vagina and the cervix.

A papanicolau smear taken from the cervix will provide a permanent record of the presence of sperm. Blood should be drawn for serological tests e.g. HIV, VDRL, hepatitis B. (4, 7). Our patient had normal baseline investigations for HIV, syphilis, bacterial haemogram.

The injuries sustained during sexual assault are variable in extent and type and may range from, minor lacerations to severe injuries. (2,5,6). There were no obvious injuries apart from a drop of blood on the cervix in this patient.

Transmission of diseases such as HIV, syphilis etc makes sexual assault a scaring experience and some of the factors contributing to this could be:

Condoms are rarely used during non-cosented intercourse; survivors and assailants may suffer from genital or perineal trauma, the assailants are generally those that engage in behaviours associated with transmissionof HIV and other diseases such as having multiple sexual partners, substance abuse and multiple assailants may be involved during a rape episode. (2). The patient discussed was ensure whether the assailant used a condom or not.

After complete examination, prevention of veneral disease and pregnancy should be borne in mind (7). Our patient was given 4 tablets of microgynon (combined pill) to prevent conception, combivir and nevirapine to prevent

HIV – transmission and ampiclox, doxycycline, metronidazole to prevent other microbial infections.

These patient also need proper psychological support and the family members, especially the spouse, should be involved in the counseling sessions as much as possible.

It is unfortunate that our patient was lost to follow-up, although she was supposed to have been followed up at the patient support center.

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Emergency medical journal

18 (4) 242 – 245

July, 2001

9. CARCINOMA OF THE VULVA STAGE IV IN AN HIV POSITIVE PATIENT – RADIOTHERAPY

Name: J.M

Age: 40 years

IP No: 0809257

DOA: 16.05.2002

DOD:

Diagnosis: Ca vulva in an HIV positive patient

Presenting Complaints:

The patient complained of swelling of the vulva over a period of 3 months.

History of Presenting illness:

She had had progressive swelling of the vulva over a period of about 3 months. It ulcerated 2 weeks from onset and had eventually become painful. She was seen at the Machakos district hospital where examination under anaesthesia (EUA) and biopsy was done. The histology report was that of well differentiated keratinizing squamous cell carcinoma and the patient was referred to our hospital (Kenyatta National Hospital) for further management.

Obstetric and Gynecologic History:

She was a para 8 + 0 whose last delivery was in 1979 and she had ammenorrhoea of 3 years.

Her menarche was at the age of 17 years and she had used oral contraceptive pills erratically, stopping eventually due to episodes of elevated blood pressure.

She had never had a pap smear examination.

Post Medical History:

This was non-contributory.

Family and Social History:

She was married and lived in Machakos while the husband lived in Mombasa. There was no history of chronic ailment in the family. She neither smoked nor drank alcohol.

Drugs: No known history of allergy.

Systemic Enquiry:

There was nothing of relevance found.

General Physical Examination

The patient was found to be in fair general condition, was afebrile, moderately pale and had bilateral inguinal lymph node enlargement.

Vaginal Examination:

She had a fungating vulval mass involving the labia minora, majora and the clitoris. It was ulcerated, friable and had septic areas.

Diagnosis:

Ca vulva.

Management:

The patient was reviewed by an oncologist who suggested that she be prepared for examination under anaesthesia. The investigation results were as follows.

Haemogram on 17/5/2002

- Hb 8.8g/dl
- WBC count 5.3 x 10a/l
- Platelet count 274 x 10 a/l

She was transfused two units of blood.

Haemogram on 4/6/2002

- Hb – 12.2g/dl
- WBC count – 5.6 x 10 a/l
- Platelet count – 283 x 10 a/l

Liver function test:

Total protein 80.8 g/l
Albumin 24 g/l
Alanine transferase (ALT) 6
Aspartate transferase (AST) 51
} u/l
Alkaline phisphatase 172

Bilimbin – Total 128
Direct 2.6
} µmol/l

Urea and electrolytes + creatinine - Na+ – 122
K+ – 4.8
BUN – 5.1
Cr - 76 µmol/l
} mmol/l

HIV test – POSITIVE (Pre and post test counseling was done for the couple; but husband screaned for HIV

Abdominal CT scan – Normal findings

Chest X-ray – Normal findings.

The patient had examination without anesthesia done in theatre on 24/6/2002 by the

oncologist as follows:

She was put in lithotomy position and vulvovaginal toilet done. The earlier findings were confirmed and it was noted that the tumour had spread to the gluteal muscles bilaterally with inguinal hymph node involvement to the pubic bone.
The urethra and the clitoris was involved while the rectal mucosa felt normal. The stage was estimated as IV and the patient prepared for radiotherapy.

She had the 1st session on 29/7/2002. For sometime in August 2002, radiotherapy was temporarily withheld when it was noted that the white blood cell count had dropped to 1.8 x 109/l . She was given neupogen with improvement and she got the 25th course of radiotherapy on 17/9/2002. She also developed vulval abscess and an ulcer in the fold between the right labia majus and the thigh. This was cleaned with povidine iodine solution and the patient managed on augmentin, haematinics and analgesics. She was scheduled to have 6 courses of cisplatinum on the advise
of the oncologist by the time of writing this report.

Discussion:

Carcinoma of the vulva.

Carcinoma of the vulva is an uncommon malignancy accounting for 3% to 5% of all female genital malignancies. (1). In Kenya, 33% of all genital malignancies are due to vulval carcinoma. It is the 4th commonest malignancy after cancer of the cervix, ovary and choriocarcinoma in that order and an average of 4 cases are seen annually at the Kenyatta National Hospital. It accounts for about 3 – 5% of all female cancer deaths in Kenya (2).

It is predominantly a disease of older women, with the median age being 67 years (3). With a rise in life expentancy, it is expected that more and more women are bound to be diagnosed with this disease.

There are some data that suggest that its incidence is also increasing among the younger women. This has been attributed to some extent to the human papillomavirus or some other sexually transmitted factor, although the association is not nearly as strong as it is for cervical cancer. The other sexually transmitted factors that have been epidemiologically associated with vulva cancer are the granulomatous veneral diseases. (1). The patient under discussion was 40 years.

At the Kenyatta National Hospital 51– 71% of the patients have been found to be 50 years and above, with 90% being postmenopausal (4)

Vulvar carcinoma insitu, like cervical carcinoma in situ, is considered a precursor to invasive disease, although the risk of progression appears to be lower. (5). Vulval carcinoma in situ tends to be multifocal with a lower risk of invasive cancer in younger women, but it tends to be unifocal with a higher risk of invasive disease in older women. For this reason, all patients should be treated, and long – term follow-up is mandatory (6).

Patients who have cervical neoplasia are at increased risk of developing vulvar neoplasia, and vice versa. This so-called field phenomenon should heighten the physician's surveillance for the development of other lesions once a lower genital tract neoplasia occurs. (1) Our patient had never had a pap smear examination.

Hypertension and diabetes mellitus are common in patients with invasive vulvar cancer, but this may simply be related to the elderly population affected. The association of vulvar cancer with obesity and parity or race do not seem to play any significant role. One group that does appear to be at increased risk for the development of invasive vulvar cancer is chronically immunosuppressed patients (1) Our patient was HIV – positive and this may have played a contributory role. Of course, the existence of one sexually transmitted disease may herald the existence of others although our patient was not tested for them.

The most common initial symptom of vulvar cancer is pruritus vulvae, which may be of long duration. Vulvar pain, discharge, and bleeding are less commonly reported. The patient often becomes aware of a lesion on her vulva, but despite the superficial nature of the lesion, delay in seeking medical help is common. This underscores the need for patient and physician education with regard to the early diagnosis of carcinoma of the vulva. Physicians must be made more aware of the importance of having a biopsy diagnosis before treating vulval lesions. (1, 3) The patient under discussion sought treatment after over 3 months of noticing the vulval ulceration and became painful about 2 weeks after she noticed its existence.

Invasive synamous'call carcinoma of the vulva involves the labia majora in about 2/3 of the cases. The remaining tumours involve the clitoris, labia minora or posterior fourchette, and perineum. These cancers can be exophytic, ulcerating or flat. (1, 7)
Squamous cell carcinoma accounts for about 90% of the invasive vulvar malignancies. Melanoma is the second most common histologic type, accounting for 5% to 10%.
Other less common vulvar malignancies include bartholin's carcinoma (with most of these being adenocarcinoma or squamous carcinoma), basal cell carcinoma, verrucous

carcinoma, extramammary adenocarcinoma, invasive pagets disease, and sarcomas. (7). The patient discussed had well differentiated keratinizing squamous cell carcinoma of the vulvar.

Sqnamous cell carcinoma of the vulvar spreads by local extension to involve the vaginal , urethra, or anus. Spread from the primary site can occur by the lymphatic or the vascular system, but the lymphatic route is by far the most common. The lymphatics of the labia drain to the inguinal lymph nodes. The lymphatics of the perianal area drain in a similar manner but lesions which extensively involve the anus or rectovaginal septum can drain directly into the pelvic lymph nodes. Although there are channels that drain the clitoris to the deep pelvic nodes, it appears that they are of minimal clinical significance. The lymphatics of the vulva are numerous and tend to cross the midline. The regional lymph nodes include the superficial inguinal lymph nodes. the deep inguinal lymph nodes. and the pelvic lymph nodes (external iliac, obturator, internal iliac, and common iliac lymph nodes). The superficial lymph nodes are the primary nodal group of the vulva and are located around the saphenous. superficial epigastric, and superficial circumflex iliac veins. These lymph nodes drain through the cribriform fascia to the deep femoral lymph nodes. which are mainly located medial to the femoral veins.

Drainage from here is under the inguinal ligament into the pelvic lymph nodes. The pelvic lymph nodes are virtually never positive in the absence of inguinofemoral lymph node metastases. Overall. 20% to 40% of all patients with invasive sqnamous cell carcinoma of the vulva will have lymph node metastases (1. 7). Our patient was found to have had tumour spreading to involve the gluteal muscles bilaterally. the inguinal lymph nodes. the pubic bone. the urethra and the clitoris. Surgery was not done and. therefore. the status of the pelvic nodes could not be ascertained. The clinical staging of the vulva according to FIGO is as follows: (1979).

Stage I: All lesions confined to vulva, with maximal diameter of 2cm or less and no suspicious groin nodes.

Stage II: All lesions confined to vulva, with diameter greater than 2cm and no suspicious groin nodes.

Stage III: Lesions extending beyond vulva but without grossly positive groin nodes. Lesions of any size confined to vulva, with suspicious groin nodes.

Stage IV: Lesions extending beyond vulva, with grossly positive nodes.
Lesions involving mucosa of rectum, bladder or urethra, or involving bone.

All cases with distant or palpable deep pelvic metastases.

The patient discussed was of stage IV carcinoma of the vulva.

In 1988, FIGO approved a surgical staging system.

The treatment of invasive vulvar carcinoma may be surgical, radiological, chemotherapeutic or a combination of these. Radical vulvectomy with bilateral inguinal lymphadenectomy performed by en bloc exision has been the standard therapy. This operation involves radical removal of the entire vulva, the mons pubis, the inguinofemoral lymph nodes, and often the pelvic lymph nodes. A large surgical defect is created that is generally closed under tension with a high subsequent breakdown rate and marked disfigurement of the genital area. Modifications to this procedure have been introduced due to the high rate and severity of wound complications and the psychosexual effects of radical removal of vulval tissues. Other potential problems include urinary or fecal incontinence and vaginal relaxation, the over treatment of early cancer, inadequate treatment of advanced disease, and the lack of attention directed specifically at the local vulvar lesion to ensure an adequate margin of resection. (1)

The use of primary radiotherapy for carcinoma of the vulva remains controversial but may be the only option available when the patient presents with unresectable disease. There have been suggestions that radiotherapy (possibly combined with chemotherapy) followed by a more limited resection is more efficacious than radiotherapy alone. The mose commonly used chemotherapeutic agents are 5 – fluorouracil, mitomycin – C and cisplatin. In neoadjuvant therapy, the planned course of chemotherapy is followed by surgery, radiotherapy or both.
(1, 7, 8, 9). The patient discussed here had extensive disease and was, therefore, managed by radiotherapy. She was to be started on cisplatin for 6 courses.

In terms of prognosis, it is worthwhile to note that invasive squamous cell carcinoma of the vulva has a relatively low propensity for distant metastates. Recurrences tend to be local or regional, and even unremitting disease tends to remain locoregional for long periods of time. The dominant prognostic factor in this disease is the status of the iguinofemoral lymph nodes. The other factors are the depth of invasion or tumour thickness, tumour diameter, tumour differentiation, lymph – vascular space involvement, and margin status. Of less clear importance are cytologic grading, the local immunologic response to the tumour, tumour volume, tumour growth pattern (confluent or dissociated), location, ulceration, amount of Keratin, the presence of associated vulvar intraepithelial neoplasia or vulvar dystrophy, DNA ploidy and proliferation index. The overall 5 year survival rate for treated patients is about 70%. (1, 7). Rogo reported 2 deaths out of 36 patients. (10).

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10. WOUND DEHISCENCE FOLLOWING LAPAROTOMY FOR PEFORATED UTERUS – SECONDARY REPAIR.

Name : S.N.

Age : 22 years

ID. No.: 0822507

DOA : 10.09.2002

DOD : 26.10.2002

Diagnosis: Wound dehiscence

Parity : 0 + 1

Presenting complaints:

The patient had abdominal pains, vaginal bleeding and dizziness for about one day.

History of presenting complaints

She reported having had abortion procured at a private clinic in Buruburu a day before admission and this was followed by severe generalized abdominal pains. vaginal bleeding and episodes of dizziness. She went back to the clinic and was referred to Kenyatta National Hospital for further management.

Obstetric and gynecologic history

She was now para 0 + 1. the last menstrual period having been sometime in June. 2002. He menstrual periods lasts 3 to 5 days in a regular cycle of 28 days. There was no associated dysmenorrhoea. She had never used any contraceptive method and had menarche at the age of 14 years.

Past medical history: she sustained burns injury in childhood.

Family and social history

She was single and was a student at the United States International University, Nairobi. She used to drink alcohol, but did not smoke. There was no family history of chronic ailment known to her.

Drugs

There was no history of allergy.

Systematic enquiry

She had no other problems.

General physical examination

She was found to be sick looking, mildly pale and febrile. The temperature was 38^0c, the pulse rate 92 per minute, the respiratory rate 20 per minute and the blood pressure 100/60 mm Hg. She had scars on the upper limbs and lower limbs (following burns).

Abdominal examination

The abdomen appeared flat and there was marked suprapubic tenderness with guarding. There were no clearly discernible masses.

Vaginal examination

This was done aseptically, initially using a cuscos bivalve speculum and then digitally. The external genitalia appeared normal as was the vaginal wall. This cervix was inflammed and about 2cm open.

There was bilateral adnexal tenderness with positive cervical movement test. Bimanual examination was hampered by the tenderness. Karmann's Cannular was introduced into the uterus in an attempt to evacuate any remnant products of conception, but it was noted that there was no resistance at all and there was no bleeding.

Diagnosis: Perforated uterus

Plan of management

The clinical findings were explained to the patient. She was started on parenteral augmentin (1.2g 8 hourly) and tramadol hydrochloride (tramal). Consent for laparotomy was obtained and blood specimen taken for grouping and cross matching of at least 2

units of blood. She was given 0.6mgs of intramuscular atropine as premedication and them wheeled to theatre.

In theatre, the patient was aseptically catheterized and about 200 mls of clear urine obtained while she was already anaesthetized. With the patient supine on the operation table, the abdomen was cleaned and draped with sterile towels. A midline incision was then made and the peritoneal cavity accessed. There was haemoperitoreum and the uterus was noted to have a large perforation on the anterior aspect just superior to the urinary bladder and extending to the fundus. The omentum was found to be overlying the perforated region of the uterus. Parts of the small intestines were also found to have bruises. The rest of the organs appeared normal. Repair of the uterine defect was done after the edges were freshened and haemostasis was achieved. The peritoneal cavity was cleaned with warm normal saline and the abdomen closed in anatomical layers.

Post-operatively, the patient was observed in the usual manner and maintained on the same antibiotics started earlier. She was given pethidine for pain.

On the 7th post-operative day, the sutures were removed and it was noted that there was a raw area of the wound. The following day, the patient was noted to have developed wound dehiscence with evidence of discharge of serosanguinous fluid through a section of the wound. The investigations carried out and the results were as follows:

8.9.2002

Urea and electrolytes

Na+	-	132	mmol/l
K+	-	1.9	
Urea	-	0.1	
Creatimine	-	78 µmol/l	
PCV	-	30%	

The patient gave informed consent for secondary repair of the wound and was then premedicated with 0.6mgs of intramuscular atropine before being wheeled to theatre. She was aseptically catheterized and clear urine obtained. The abdomen was cleaned and draped with sterile towels. Examination under anesthesia revealed burst abdomen, with all the abdominal layers having separated. The wound was cleaned with betadine (povidone iodine) and then the margins freshened. The old sutures were removed. Repair of the wound was done in layers and general anesthesia reversed successfully. The rectus sheath was repaired with number one vicryl suture and skin with nylon 2 – 0. The routine observations were maintained and the patient kept on intravenous fluid infusion until the bowel sounds normalized and she was allowed to take oral fluids. She did quite well prastoperatively and had the sutures removed on 28.10.2002, which was the 10^{th} post-operative day. The patient was allowed home to be reviewwd at the gynecology out patient clinic an dthe patient support center for further counseling.

Discussion

Technically, wound dehiscence means separation of layers of the abdominal incision. Incomplete or partial dehiscence means separation of the layers posteriorly, sometimes including the fascia. If the peritoneum is included in the disruption, the dehiscence is considered complete. If the intestine protrudes through the wound, the term evisceration is used. This has also been called a burst abdomen. (1).

Evisceration carries a mortality rate of about 10 to 35%, especially due to sepsis. (1). The incidence of wound dehiscence varies greatly depending on the age of the patient, type of surgery, type of incision, type of suture material used, the surgical technique and the general health status of the patient. The other factors increasing would dehiscence rate could be inadequate haemostasis with haematoma formation, increased intrabdominal pressure, poor surgical technique, over-tightened sutures with tissue necrosis and excessive use of diathermy which devitalizes tissues. Malnutrition and anaemia have also been implicated.

It has also been associated with obesity, certicosteroid use, ascites and radiotherapy. (1,2) our patient has infection following septic abortion with perforated uterus. Most of the cases of would dehiscence involve tearing of suture through the fascia, with knots and suture intact. (3).

Eviscerations usually occur from day 5 to 15 after operation, with a mean of about 8 days. One of the early signs of complete dehiscence and impending evisceration is the seepage of serosanguineous pink discharge from an apparent intact wound. The patient may be conscious of something giving way. (1,3). The patient discussed here had clinical evidence of poor apposition of the wound edges and discharge of serosanguineous fluid.

With few exceptions, complete dehiscence or eviscerations should be closed as soon as they are recognized. In case of evisceration, when a delay of several hours is anticipated, the barrel can be replaced using sterile gloves and gently packed in place with lap pads soaked in povidone – iodine. An abdominal binder should be placed over the lap pads. The patient should be given broad spectrum antibiotics, and baseline blood counts and serum electrolyte studies obtained (1, 3, 4).

In theatre, and not on the ward, proper exploration should be made. Secondary closure must be performed immediately with the patient under general anaesthesia. Surgical techniques vary, with some surgeons preferring to use interrupted non-absorbable sutures. Antibiotic cover should, if possible, be based on would culture. Consideration should be given to a mass closure technique when risk factors for dehiscence are present to help prevent this condition (4,5). This was not done in our patient in whom closure, instead, done in layers.

During surgery necrotic tissue, clots and suture material should be removed. The barrel and omentum should be inspected and thoroughly cleansed with several litres of warm normal saline. Smead – Jones closure with large-bore needle with polypropylene or nylon can be used. The subcuteneous tissue and skin are packed open for later delayed closure. If the wound edges are rugged or the patients condition is poor, a through and through suture of number 2 nylon or polypropylene is used. The sutures are placed at least 2.5 to 3cm from the skin edges and are passed through all layers. To allow for oedema, they are placed 2cm apart. To prevent inclusion of underlying intestine in a suture, all sutures are held up before the first one is tied. Skin edges unapposed between the through and through sutures can then be approximated. The through and through sutures should be left in place for 2 – 3 weeks. (4.5.6.7).

Our patient had the wound closed in layers and it healed uneventfully.

What happened to this patient exemplifies the fact that unsafe abortions which are as a result of unmet contraceptive need are still a mager problem. There is, therefore, need for intensive health education not only on the prevention of unwanted pregnancies, but also on the risks of engaging in risky sexual behavious that could result in the acquisition of diseases such as HIV.

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11. DYSFUNCTIONAL UTERINE BLEEDING – TOTAL ABDOMINAL HYSTERECTOMY

Name	:	N.N.M.
Age	:	45 years
IP NO.	:	0804593
DOA	:	30.9.2002
DOD	:	22.10.2002
Diagnosis	:	Dysfunctional uterine bleeding
Parity	:	8 + 0

Presenting complaints

The patient complained of lower abdominal pains which she had for 4 years and irregular vaginal bleeding over 4 months.

History of presenting complaints

She has been having episodes of lower abdominal pains over a period of 4 years and she had been on some medications with only temporary relief. She subsequently developed irregular, heavy per vaginal bleeding 4 months prior to admission and had been examined at the gynaecology outpatient clinic from where she was sent to the ward. The blood was at times in form of clots.

Obstetric and gynaecologic history

She was a para 8 + 0 whose last delivery was in 1991. She had never used any contraceptive method.

Past medical history

This was not significant.

Family and social history

She was married and stayed at Makueni. She did not smoke and never drank alcohol.

Drugs

There was no known history of allergy.

Systematic enquiry

She had no other major problems.

General physical examination

She was found to be a middle aged lady in fair general condition. There was no fever, she was not pale and had no oedema or jaundice. The blood pressure was 120/60mm Hg, pulse 88/minute and temperature 37.2^{0}c.

Abdominal examination

The abdomen appeared flat and there were no areas of tenderness or clearly discernible masses.

Vaginal examination

The external genitalia appeared normal and there was no evidence of active vaginal bleeding or abnormal discharge. The cervix was long, posterior, firm with a smooth surface. The uterus felt slightly bulky. There were no obviously palpable adnexal masses or tenderness.

Other systems

These were found to be normal.

Diagnosis: metrorrhagia

Investigations

1. Urea and electrolytes + creatinine

- K + -	4	mmol/l
- Na + -	136	
- BUN -	1.2	
- Cr -	79 μmol/l	

2. Haemogram

   WBC - $5.6 \times 10^9/L$

   Hb - 11.5g/dl

   Platelets - $381/mm^3$

3. Pap smear – normal findings.

4. Endometrial biopsy (on 1. 10. 2002) – this showed simple cystic glandular hyperplasia of the endometrium.

5. Pelvic ultrasound scan – this showed a bulky uterus.

Management

The clinical findings were explained to the patient and she was also informed of the available treatment modalities. She opted to have total abdominal hysterectomy done. She was given enema on the evening before surgery and in the morning of the day of surgery. The patient was given 0.6mg of intramuscular atropine before being wheeled to theatre.

In theatre, she was aseptically catheterized and scanty amount of clear urine obtained. Vaginal examination under anesthesia confirmed the earlier findings. The vagina was painted with povidone iodine and the patient put in supine position. The abdomen was cleaned and draped with sterile towels then opened via a pfannenstiel incision. The uterus was noted to be bulky while both ovaries had small cysts which were punctured and the contents drained. Total abdominal hysterectomy was then performed as described in the introductory pages. Haemostasis was achieved. The abdomen was closed in anatomical layers and general anaesthesia successfully reversed. The uterus was sent for histopathological examination.

Post-operatively, the vital signs were monitored ½ hourly until she was fully awake then 4 hourly. She was given intravenous gentanicin 8 – hourly, 2 mμ of intravenous crystalline penicillin 6 hourly and 100mgs of intramuscular pethidine 8 hourly. She did quite well and was allowed home on 22.10.2002 to be reviewed at the gynaecology outpatient clinic after 4 weeks.

Discussion

Dysfunctional uterine bleeding is that which deviates significantly from a normal pattern in duration, amount or frequency. It usually results from anovulation and is not associated with an organic lesion of the uterus. It is encountered most frequently at the beginning or near the end of the woman's reproductive years. There is substantial evidence that at least 50% of menstrual cycles during the first 3 post menarchal years are anovulation, and FSH and estrogen concentrations change in women approaching menopause, even before they cease to ovulate. In the premenopausal group, serum estradiol levels are reduced, and FSH levels are abit elevated, although not into the menopausal range. (1). The patient discussed here was 45 years old.

The most common aetiology of dysfunctional uterine bleeding (DUB) is estrogen withdrawal or oestrogen breakthrough bleeding in an anovulatory patient. In the absence of progesterone exposure to cause inhibition of DNA synthesis and mitosis, the estrogenic proliferative response causes stromal cell growth to exceed structural integrity of its stromal matrix, and the endometrium breaks down with irregular bleeding. Unopposed estrogen results in vascular endometrial tissue with relatively scant stroma, giving glands a back to back appearance. The endometrium is fragile and undergoes repetitive spontaneous breakdown. In the absence of normal control mechanisms to limit menstrual blood loss, bleeding can be prolonged and excessive. High levels of estrogen are associated with polycystic ovaries, obesity, immaturity of the hypothalamo – pituitary – ovarian axis in post pubertal teenagers and late anovulation. There is no vasoconstrictive rhythmicity, no tight coiling of spiral vessels, no orderly collapse to induce stasis. The anovulatory tissue can only rely on the "healing" effects of endogenous estrogen to stop local bleeds. However, this is a vicious cycle in that this healing is only temporary. (1,2)

Unopposed estrogen stimulation can, over time, induce a hyperplastic response in the proliferating endometrium. Such hyperplasia can eventually develop the cytologic changes associated with neoplasia; a typical adenomatous hyperplasia or even low grade adenocarcicioma. Such cellular transformation takes even 10 to 20 years. A young DUB

patient has a low risk of hyperplasia or neoplasia and generally does not require endometrial sampling. The perimenopausal patient has a substantially higher risk however, and sampling is mandated. (1,3). Our patient had simple cystic glandular endometrial hyperplasia without atypia.

It is important to exclude the organic causes of anovulation e.g. thyroid or adrenal abnormalities. (4)

The management of DUB depends on the age of the patient. The diagnosis is made by history, absence of ovulatory temperature changes, low serum progesterone and results of endometrial sampling in the older woman. (1,4)

In the adolescents, all that may be necessary is reassurance since the early menstrual cycles tend to be anovulatory. Pelvic assessment should be performed to rule out pregnancy or any other pathology. Oral estrogens may be useful or estrogens followed by progesterone, progesterone alone or even combination oral contraceptives. Estrogens must be continued for 20 – 25 days at a lower dose (1.25 mgs) and medroxyprogesterone acetate, 10mg/day added for the last 5 days following an initial dose of conjugated estrogen in a dose of 2.5mgs 4 times a day. Increased dosages of estrogen may be needed if bleeding persists for more than 2 – 3 days. Oral contraceptives are given in an initial dose 3 to 4 times the usual one then lowered for the next few cycles. Patients with proliferative endometrium may benefit from 10mgs of medroxyprogestrone acetate daily. This is given for 3 – 6 courses. (5)

In patients aged 20 to 30 years, pathological causes are more common of should be investigated. Hormones may still be useful as above, old premenopausal women stand the risk of developing cancer and investigations must be carried out with more care before hormonal therapy is started. (5)

For patients whose bleeding cannot be controlled with hormones, who are symptanastically anaemic, and whose lifestyle is compromised by persistence of irregular bleeding, abdominal or vaginal hysterectomy may be necessary. Endometrial ablation techniques using laser, roller ball, or resectoscope preceded by gonadotrophin releasing hormone (GnRh) analogues are useful where hysterectomy is not possible. Definitive surgery may also be needed for coexistent endometriosis, myoma and disorders of pelvic relaxation (4,6).

Patients with atypical adenomatous endometrial hyperplasia should preferably have hysterectomy done, as are postmenopausal women with any type of hyperplasia. (7). Our patient was 45 years old, had simple cystic glandular hyperplasia of the endometrium, but she opted for hysterectomy after the other options of therapy were explained to her.

12. UTERINE LEIYOMYOMATA WITH MENORRHAGIA TOTAL ABDOMINAL HYSTERECTOMY.

Name : E.M

Age : 38 years

Ip. No : 0684495

DOA : 29/7/2002

DOD : 24/08/2002

Diagnosis: Uterine leiyomyomata (fibroids) with menorrhagia.

Parity : 2 + 0

Presenting Complaints:

The patient was admitted with complaints of heavy menses over a period of 2 years.

History of Presenting Complaints

She previously had regular menstrual periods which lasted 7 days in a cycle of 21 days then noticed prolongation in the previous 2 years. The blood was in form of clots and she subsequently had episodes of dysmenorrhoea. She did not have intermenstrual bleeding or abnormal per vaginal discharge.

Obstetric and Gynaecologic History

She was a para 2 + 0 whose first delivery was vaginal while the second one was by caesarian section due to fetal distress. The last menstrual period had been on 26/07/2002. Her menarche was at the age of 13 years. She had used intrauterine contraceptive device (IUCD) upto the year 2000 and then had it removed because she thought it was the cause of the heavy menstrual flow.

Post Medical History:

This was not significant

Family and Social History:

She was a widow, the husband having died in 1998 of an illness. They had been living separately for a while. She resided at Riruta Satellite estate in Nairobi and sold vegetables there. The mother was hypertensive.

Drug: There was no known history of allergy.

Systemic enquiry:

CNS – She had episodes of dizziness and headaches.

CVS - She had episodes of palpitations especially after mild exertion.

General Physical Examination:

The patient was in a fair general condition. was mildly pale, not jaundiced, had no oedema and was afebrile. The temperature was 37°c. the pulse rate 82 / minute. Bp 110/70mmHg and the respiratory rate 20 per minute.

Abdominal Examinitation:

The abdomen was distended. notably at the hypogastrium. There were no areas of tenderness. There was a firm, nodular. fairly fixed mass equivalent to a gestation of 20 weeks. It was noted to arise from the pelvis.

Vaginal Examination:

This was done aseptically. The external genitalia were found to appear normal as was the vaginal wall. The cervix was smooth. firm. long and closed. The abdominal mass moved with the cervix and could be palpated at the fornices. There was no adnexal tenderness.

Other Systems – These were basically normal.

Plan of Management:

The patient had been informed about the nature of the operation to be carried out (total abdominal hysterectomy) by the admitting doctor and the following investigations done.

Haemogram – Hb 9g/dl

WBC count 8.2 x 109/l

Urea & electrolytes - Na - 143
K+ - 4.8
BUN – 2.1
} mmol/l

Pap smear – Normal findings.

She was transfused one unit of blood and the packed cell volume (PCV) assessed. This was found to be 30%.

The patient had anaemia given on the evening prior to surgery and also at 6.00 am on the morning of surgery. She was premedicated with 0.6mgs of intramuscular atropine and 100mgs of intramuscular pethidine and then wheeled to theatre on 19.8.2002. General anaesthesia was induced. Aseptic catheterization yielded clear urine and vaginal examination confirmed the earlier findings. The vagina was painted with methylene blue dye. With the patient supine, the abdomen was cleaned, draped and then opened via repeat subumbilical midline incision, the scar being excised in the process. The uterus was found to be adherent to the anterior abdominal wall while the ovaries appeared normal. There were multiple uterine fibroids. The intestines were packed away from the operating field and a self-retaining retractor put in place. A traction suture was applied at the fundus then the round ligaments identified bilaterally, double clamped, divided between the clamps and ligated with vicryl number 1 suture. The fallopian tubes and ovarian ligaments were identified,double clamped bilaterally divided between the clamps and ligated. The uterovesical peritoneum was incised and the urinary bladder pushed inferiorly. A similar incision was made posteriorly and the peritoneum mobilized. The uterine vessels were skeletonised bilaterally, double clamped, divided between the clamps and ligated. The uterosacral and the cardinal ligaments were also double clamped, cut between the clamps and tied

followed by opening of the anterior vaginal vault just below the cervix and the latter circumcised off while the vault was supported by the use of straight artery forceps. The vaginal vault was then repaired with a continuous stitch and then peritonised. Haemostasis was achieved. The swabs and instruments were counted and found to be of the correct number then the abdomen closed in anatomical layers. General anaesthesia was reversed successfully.

Post-operatively the vital signs were observed ½ hourly until the patient was fully awake then 4-hourly. She was maintained on 500mls of normal saline alternating with 500mls of 5% dextrose 6 hourly and put on 2 mega units of crystalline penicillin 6 hourly and 80mgs of gentamicin 8 hourly.

Pain relief was achieved by giving 100mgs of intramuscular pettidine 6 hourly. On the second post-operative day, the bowel sounds had normalized and the patient was allowed to take fluids orally and subsequently to have a light diet.

Oral medication was commenced with mefenamic acid (postan) and ampiclox (500mgs hourly).

She did quite well subsequently and was allowed home on the 4^{th}- post operative day to be retrieved at the gynaecology outpatient clinic after 4 – weeks. She had no complaints during the visit and the wound had healed well.

Discussion:

A leiyomyoma is a benign tumour composed mainly of smooth muscle cells but containing varying amounts of fibrous connective tissue. The tumour is well circumscribed but not encapsulated. Various terms are used to refer to the tumour, such as fibromyoma, myofibroma, leiyomyofibroma, fibroleiyomyoma, myoma, fribroma, and fibroid. The latter designation is the one most commonly used, but it is the least accurate and acceptable. (1).

The most common tumours of the uterus and female pelvis, they are found in 20% of reproductive age women and 50% of all women examined carefully postmorterm (2). Wanjala found that 66.8% of hysterectomies carried out at theKenyatta National Hospital were due to leiyomyomata (3). They are responsible for about one third of all hospital admission to gynecology services and the incidence is much higher in the black than in the white race. They also tend to be larger and occur at a younger age in black women (1).

In Wanjala's study, two thirds of the patients were aged 26 – 40 year, the oldest having been 54 years and the youngest 21 years. The patient discussed here was 38 years old.

Patients with uterine leiyomyomata often have a positive family history of uterine leiyomyomata, suggesting the presence of a gene encoding for their development. (1).

The growth of leiyomyomata is dependent on estrogen production and they thrive during the greatest ovarian activity. With regression of ovarian estrogen secretion as after menopause, growth of leiyomyomata usually ceases. Older nulliparous women have an increased risk of developing leiyomyomata and the risk tends to decrease with each pregnancy. The risk is also reduced in women who smoke and is increased in obese women, probably due to conversion of androgens to estrogen by fat aromatase. (1, 4) Wanjala found that at the Kenyatta National Hospital, 70% of the women with leiyomyomata had 2 or less children and that 85% of them had not had a delivery for more than 6 years. Our patient was para 2 + 0, and had no family history of similar illness.

Leiyomyomas are usually multiple, discrete, and spherical, or irregularly lobulated. Although they have a false capsular covering, leiyomyomas are clearly demarcated from

the sorrounding myometrium and can be easily and clearly enucleated from the sorrounding tissue. On gross examination in tranverse section, they are buff-coloured, rounded, smooth and usually firm. They tend to be lighter in colour than the myometrium(4).

Uterine myomas originate in the myometrium and are classified by anatomic location into submucous, intramural or interstitial and subserous or subperitoneal. The submucous or subserous ones may become pedunculated.. If the subserous one acquires blood supply from omental vessels, its pedicle may atrophy and resorb; the tumour is then said to be parasitic. If the extension is between the 2 peritoneal layes of the broad ligament, the tumour will become intraligamentary. This may lead to compromise of the ureter and/or pelvic blood supply. (4) A cervical fibroid is commonly single and is either interstitial or subserous (5).

The majority of small fibroids and some large ones are symptomless. The nearer the fibroid to the endometrial cavity, the more likely it is to cause symptoms, especially menstrual sysmptoms. A fibroid does not cause pain unless it is complicated by: extrusion from the uterus as a polyp; torsion of its pedicle or of the uterus; degeneration; sarcomatous change; or adhesions to other organs (4, 5). The symptoms and their severity depend on the number, size and location of the tumours. Thirty percent of patients complain of hypermenorrhoea. Submucosal tumours may disrupt myometrial contractility or ulcerate the contiguous endometrium.The abbormal uterine bleeding may result from compression of endometrial and myometrial venules (2).

The patients may also complain of pelvic pressure, while increased risk of spontaneous abortion in both the first and the second trimester in women with leiyomyomas may be due to increased uterine irritability, compromise of the placental blood supply by myometrial venule compression, or degeneration. The degenerative changes can be hyaline, cystic, calcific, red fatty, scarcomatous, and inflammatory.

The incidence of spontaneous abortion is halved by myomectomy from about 40% to 20% (1,2,4,5). Second trimester losses are more clearly explained by the mass effect of the tumours on normal uterine function. Other obstetric complications include infection of a submucosal tumour, outlet obstruction, abnormal fetal presentation, and puerperal haemorrhage (2).

Leiyomyomas may be associated with infertility. The causal relationship is not clear, except when the tumour's mechanical interference with the genital tract is significant. The pregnancy rate following myomectomy is 50 to 60%. Adverse prognostic indicators include coexistent pelvic disease (eg, adhesions), overall size of the uterus greater than 12 weeks of gestation, and patient aged greater than 35 years. (2,4).

Leiyomyomas are occasionally associated with ascites or pleural effusion. (4). Our patient presented with menorrhagia and dysmenorrhoea, but did not have the other complications.

Anaemia is a common problem in patients with leiyomyomata, but on the other side, they may present with polycythemia which could be due arterial backpressure on the renal parenchyma with autonomous erythopoietin production. (4,6). At the Kenyatta National Hospital, 70% of the patients have been shown to have relative or absolute sterility with 54.6% presenting with menorrhagia (3).

Diagnosis of leiyomyomata is usually clinical from the history and physical examination but some are discovered while investigating for other conditions. In calcified leiyomymata (fibroids) a plain pelvic x-ray may be used. Other investigations could be pelvic ultrasound scans. CT scans and magnetic resonance imaging (1). The diagnosis in the patient discussed here was made based on clinical findings.

Choice of treatment depends on the patient's age, parity, pregnancy status, desire for future pregnancies, general health, and symptoms, as well as the size, location, and state of preservation of the leiyomyomas. (4).

Blood transfusion may be necessary to correct anaemia and emergency surgery may be performed for infected leiyomyomata, acute torsion, or intestinal myoma. Myomectomy is generally contraindicated in pregnancy, except for a very occossional symptomatic torsion (1,4,56).

In most instances, myomas do not require treatment, especially if there are no symptoms or if the patient is postmenopausal. The clinical diagnosis of myoma must be unequivocally, and the patient should be examined every 6 months. (4).

The gonadotropin – releasing – hormone (Gn RH) antagonists have proven very useful for limiting the growth of fibroids or to cause a decrease in tumour size. They may be used to control bleeding (except for the pollypoid submucous type which may be

worsened), they could also be useful in unstableor unsuitable surgical candidate, to shrink the tumours before laparoscopic surgery may be attempted or prior to myomectomy. Some authorities believe that the use of these drug for more than 3 months makes myomectomy more difficult. These drugs cause atificial menopause and can only be used temporarily. Danazol and progestins have been used with variable success (1,4,6) Muhiu et al used orgametril (lynesterol) at theKenyatta Hospital and found that 87.5% of those with menstrual irregularity were symptom free by the 3rd cycle of treatment (7). Gn RH analogues have also been found to be effective in reducing tumour size. An example is goserelin (zoladex) (8).

For perimenopausal patients who do not desire fertility, are symptomatic with uterus equivalent to a gestation of 10 – 12 weeks or with rapidly growing masses, hysterectomy is advisable. Evaluation for malignancies should be performed eg. Pap smear, prior to surgery.

In patients less than 30 years of age and are asymptomatic with non – rapidly growing fibroids of 10 – 12 weeks gestational size. expectant 6 monthly followup is advised. Postmenopausal women taken for surgery should have bilateral oophorectomy done as well, but this varies from one gynaecologist to another. Symptomatic patients who desire fertility may benefit from myomectomy (6).Hysterectomy may be performed by the vaginal route if the uterus is 12 weeks gestational size or less or abdominally for larger fibroids. The uterus should be mobile (1.2).

The technique of myomectomy should be individualized based on pelvic findings. A single uterine incision is preferable to multiple ones if possible. The optimal site in an anterior and saggital one through which multiple leiyomyones may be excised. A posterior incision on the uterus is avoided to minimize adhesions to adnexa and bowel. Generally, tumours 2cm and larger should be excised, smaller tumours may be fulgurated. A 2 layer closure of the incision is performed. (1,2,4,6).

The patient discussed here was 38 years old, had menorrhagia, was para 2 + 0 and the uterine size was equivalent to a gestation of 20 weeks necessitating total abdominal hysterectomy.

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13. VESICOVAGINAL FISTULA (VVF) WITH OCCLUDED URETHRA: REPAIR/URETHROPLASTY

Name : V.N.M

Age : 22 years

Ip. No. : 0815936

DOA : 14/06/2002

DOD : 17/07/2002

Diagnosis: VVF + blocked urethra

Parity : 1 + 0

Presenting Complaints:

The patient complained of having had per vaginal leakage of urine over a period of 9 months.

History of presenting illness:

She had obstructed labour on 28/8/01 and the outcome was a fresh stillbirth (FSB). The labour lasted about 18 hours and she noticed urinary incontinence on the same day. This was not associated with any aggravating factors such as straining or coughing. She had progressively developed pruritus vulvae and found the situation to be quite distressing. The delivery was conducted by her mother and a traditional birth attendant (TBA) because there was no means of transport for her to reach the nearest hospital 3 kilometers away. She sought treatment a few weeks before coming to Kenyatta National Hospital at the Kangundo hospital from where she was advised to go to Machakos hospital.

Obstetric and Gynaecologic History:

She was a para 1 + 0 as already indicated. the LMP having been 07/05/2002. Her menarche was at 16 years while her menstrual periods lasted 3 to 5 days in a regular cycle of 28 days. She had used oral contraceptive pills between 1996 and 2000. but stopped due to anorexia.

Past Medical History:

There was nothing of significance.

Family and Social History:

She lived in Kangundo with the parents, was single and unemployed . she had gone to school upto standard 8 level. There was no history of chronic ailment in the family.

Drugs:

There was no known history of allergy.

Systemic enquiry:

There were no major abnormalities elicited.

General Physical Examination:

She was found to be a young lady in fair general condition. She was not pale, had no Lymphadenopathy or jaundice.

The temperature was 36.5°c, the pulse rate 76/minute, the respiratory rate 18/minute and the blood pressure was 110/65 mmHg.

Genitourinary tract examination:

The external gentitalia were well developed. but there was evidence of excoriation of the vulva plu s the perineal region. She had a folley's catheter through the fistula which was about 1cm x 1cm in size. (this had been inserted by a consultant urologist earlier). The cervix was long. firm. smooth and closed while the uterus felt normal in size and was anteverted. There was no adnexal tenderness.

Diagnosis:

Vesicovaginal fistula + urethral blockage.

Plan of Management:

The patient had the following investigations done in preparation for repair of the fistula and urethroplasty.

Haemogram - WBC 4 x 10 9/l

Hb 13.2g/dl

Platelet count - 254 x 109/l

Urea, electrolytes, urea + creatinine Normal

Urine - microscopy/culture/sensitivity – specimen taken, but no results obtained.

The patient had examination under anaesthesia done on 17/6/2002 and the earlier findings confirmed. The urethra was found to be about 2cm long but had a blocked point. The urethral splincter appeared normal and cystoscopy revealed a normal urinary bladder wall. Further surgery could not be undertaken on that day due to sepsis and the patient was managed on antibiotics for two weeks before being taken back to theatre on 01/07/2002.

She was put in lithotomy position. vulvovaginal toilet done, before drapes were applied and then urethral dilation done.

Cathetherization through the urethra was now possible. Dissection of the tissues surrounding the fistula was carried out upto 2 to 3 cm from the margins then repair done in 2 layers before the vaginal mucosa was stitched. Dye test done showed there was no leakage between the repaired tissues. Vaginal pack soaked in providone iodine was left in-situ for 24 hours while the catheter was to be maintained for 14 days. She, however, had the catheter removed on 16/7/2002 after a negative dye test and she was allowed home on 17/7/2002 t o be followed up at the gynaecology outpatient clinic and to undergo physiotherapy to improve the sphincteric mechanims.

The patient was subsequently readmitted due to episodes of urinary retention and urethral dilatation was done then she was trained on how to change the catheter. She was scheduled for review at the gynaecology outpatient clinic 2 weeks later.

Discussion:

A vesicovaginal fistula is an abnormal communication between the bladder and the vagina that allows urine to continuously escape through the vagina. Most of them are caused by either obstetric or surgical trauma (1).

Orwenyo found that a total of 166 patients with urinary fistulae were managed between 1979 and 1982 at the Kenyatta National Hospital and that 92% were as a result of obstetric complications (2). The patient under discussion developed a vascovaginal fistula following obstructed labour. In the developed countries, vescovaginal fistulas result mainly from non-obstetric causes such as operative accidents , carcinoma of the cervix or the radiation therapy for treating this disease, but obstetric cause in developing countries is still common (1, 3).

Fistulas may be located at any point along the anterior vaginal wall and may include any part or all of the bladder base and urethra. They may be single or multiple. High fistulas with the uterus in-situ may be obstetric in cause and may include the anterior cervical lip. This may also occur following irradiation. The vesicovaginal fistulas can be classified as follows:

I: Fistula not involving the closing mechanism

II: Fistula involving the closing mechanism

A: Without total involvement of the urethra

a) Without a circumferential defect

b) With a circumferential defect

B: With total involvement of the urethra

a) without circumferential defect

b) with circumferential defect

c) miscellaneous eg ureterovaginal and other exceptional fistulae.

Our patient had a fistula on the anterior vaginal wall, but the sphincteric mechasnism was not involved

The higher the class, the worse the prognosis. The other classification could be in relation to the size which could be small, less than 2cm; medium, 2 – 3cm, large 4 – 5 cm, and extensive, more than 6cm. Orwenyo found that 92% of the fistulae were small, and that of the large fistulae, bladder neck was involved 52.2% of the time (2).

Mati found that 34% of the fistulae were juxtacervical, 28.1% juxtaurethral, 16.8% midvaginal and 15.3% circumferential (4) our patient had a uxtaurethral , small fistula which was about 1cm in diameter.

The involuntary loss of urine is usually continuous and not related to posture or other circumstances. With a large fistula, all of the urine may drain through the vagina, while with a smaller one, the patient may experience normal voiding with only intermittent leakage. Those following irradiation may have symptoms related to radiation cystitis including pain, urinary frequency, dysuria, and sometimes haematuria. The fistula becomes apparent 6 - 24 months later. A fistula following surgery frequency becomes apparent 7 – 10 days following surgery and 3 – 10 days after obstructed labour (5). The patient discussed here developed fistula on the day of delivery following obstructed labour which lasted about 18 hours. She was also noted to have developed urethral steriosis and urethroplasty done with improvement.

A large fistula from any cause presents no problem in diagnosis and can usually be identified visually or by palpation. A small fistula, on the other hand, may produce an intermittent watery vaginal discharge that must be distinguished from other causes such as vaginitis, cervical or uterine pathology, and a ureterovaginal fistula. When a fistula is suspected in the immediate postoperative period, invasive instrumentation , ie. Cystoscopy and vaginal probing, should be held to a minimum, although an intravenous pyelogram is advisable to exclude ureteral damage or obstruction. The diagnosis can usually be confirmed following the instillation of a methylene blue irrigant into the bladder, after which the escape of coloured solution can sometimes be directly observed through a speculum. If the leakage is small, the staining of a vaginally placed tampon or pack will confirm .the diagnosis. Cystoscopy may also be performed to locate a fistula (1, 5).

Whereas small fistulas may heal spontaneously, especially with prolonged catheterization, most of them will require surgical repair(s). The patient must undergo a careful evaluation of the bladder, ureters, kidney function, urethra, vagina, other pelvic organs, tissues and disease. Repair should not be attempted in the absence of current information(1).

Repair used to be delayed upto 6 months in many cases, but earlier repair is now

recommended. Fearl and Keizur found 2 or 3 months to be an adequate resolution time if the wound was a clean surgical one. Intercurrent infection should be treated and excoriation prevented by use of Vaseline or zinc oxide (5, 6).

The route of repair may be vaginal or abdominal. Almost all simple vesicovaginal fistulas should be closed per vagina. Lithotomy position is the most commonly used one. Ordinary retraction of the vaginal walls is usually sufficient, but episiotomy or a Schuchardt incision may be needed when there is extensive scarring , a narrow sub-pubic arch, a tight vaginal outlet or a deep or fixed vaginal vault. The fistula is mobilized and any fibrotic tissue excised. All fascial tissue must be left on the bladder wall as the vaginal wall is mobilized. Accurate closure of the bladder defect in 2 layers without tension is essential and this is covered with flaps of intact vaginal wall if possible (7) Continuous bladder drainage is maintained for at least 14 days. Adequate hydration to ensure adequate urinary production (4000mls every 24 hours) is necessary. This prevents infection and blockage of the catheter (8). A dye test is repeated after 14 days before removing the catheter.

Efficient Obstetric care is paramount in the prevention of obstetric fistula. Fistulas are known to cause a lot of psychosocial and sexual problems. The long term goal should be to improve the socioeconomic status of women and their nutritional status as well as that of children so that stunted growth with consequent inadequate development of the pelvis may be alleviated. Our patient was of low socioeconomic status and could not manage to access appropriate and timely obstetric care.

The success rate after the repair of a fistula at the Kenyatta National Hospital has been found to be 5.7% for mid-vaginal fistulae and 72.6% for juxxta.cervical fistula. (4). Orwenyo reported a success rate of 60.5% (2). This stresses further the fact that prevention is better than cure. Our patient had successful repair of the fistula and was counseled on the fact that subsequent deliveries would be by caeserian section.

There is also need to improve the reproductive health services so that prompt and appropriate caesarian delivery or other form of remedial measures may be instituted before complications such as fistulae and uterine rupture ensue. This would call for

training of the other cadres of health personnel like nurses and clinical officers on how to perform a caeserian section. In addition to to this, there should be an improved transportation system. There is need for a community ambulance whose driver equiped with a communication system such as cell phone so that patients with difficulty could be rapidily assisted to get health facilities.

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14. MÜLLERIAN MALDEVELOPMENT COMPLICATED BY LEIYOMYOMATA – LAPAROTOMY

Name : C.N.

Age : 34 years

IP No. : 0765747

DOA : 28.2.2002

DOD : 28.3.2002

Diagnosis : Müllerian maldevelopment

Parity : 0 + 0

Presenting complaints

The patient complained of never having had menstrual periods and had also developed a lower abdominal mass in the previous one year.

History of the presenting complaints

She was referred to Kenyatta National Hospital from Thika district hospital with history of never having had menstrual periods and that she had developed a lower abdominal mass which progressively increased in size over a period of about one-year. The latter was associated with episodes of lower abdominal pains radiating to the back and relieved by analgesics. She had been seen at a private hospital at the age of 22 years and given some medications to induce menstrual flow in vain. She got married in 1993 but they separated after 3 years due to difficult coitus heralded by improper penetration of the penis. A non-specified radiological examination had also been carried out privately and she had an operation in July 2001 at the Thika district hospital to correct vaginal defect unsuccessfully.

Obstetric and gynaecologic history

She was a para 0 + 0 and had used oral contraceptives in 1980s. There was no history of sexually transmitted infections.

Past medical history

This was non contributory.

Family and social history

She was a standard 6 drop out, unemployed and stayed with the siblings in Thika. She had stopped drinking alcohol 5 years earlier. She was the 8th born in a family of 12 children, 11 of whom were alive and well. The others were married and had children. Her father died of liver disease, and also had heart disease, while a brother died of pulmonary tuberculosis in 2001.

Drugs

She was allergic to some antimalarial drug whose exact identity was unclear to her.

Systematic enquiry

Gastrointestinal tract (GIT) – she used to get nauseated after eating fatty foodstuffs.

General physical examination

She was found to be in good general condition and of good nutritional status. She had short coarse scalp hair. The temperature was 37.3^{0}c, the blood pressure 120/80 mmHg, the respiratory rate 18 per minute and the pulse 74/ minute and regular.

The breasts

These were normal bilaterally with no evidence of galactorrhoea.

Abdominal examination

The abdomen was mildly and asymmetrically distended, especially at the hypogastricum. It moved well with respiration and had no areas of tenderness. There was a firm, mobile non-tender mass equivalent in size to a gestation of 16 weeks.

Vaginal examination

The external genitalia appeared normal, with normal pubic hair distribution. The vagina ended blindly with an estimated length of about 3 cm.

Per-rectal examination

The perianal region and the anal sphincters were normal. The mass could not be palpated.

Other systems – these were found to be essentially normal.

Diagnosis: Müllerian dysgenesis

Investigation and results were as follows.

Hormonal profile:	(15 . 2 . 2002)	Normal range
Prolactin	146miu/l	(66 – 490)
LH	0.5 iu/l	(1.2 – 12.5)
FSH	1.1 iu/l	(3.2 – 10)
Progesterone	2.9 miu/l	(0.2 – 7)
Estradiol	22-4 pg/ml	(12 – 48)

Barr bodies 3% (x2). [Normal female – 9 – 35%]

Full haemogram: Normal parameters (Hb – 13g/dl)

Urea & electrolytes + creatime

Na +	-	142	mmol/l
K +	-	5.3	
Urea	-	2.9	
Cr	-	87 μmol/l	

Ultrasound scan on 23.10.2001.

The uterus was reported as enlarged with enlarged cervix with probable haematometra. There was no definitive mass seen, the urinary bladder appeared normal with the ovaries, kidneys, liver, gall bladder all being reported as normal.

Intravenous urogram (IVU)

She was scheduled to have this investigation done, but it had not been carried out by the

Per-rectal examination

The perianal region and the anal sphincters were normal. The mass could not be palpated.

Other systems – these were found to be essentially normal.

Diagnosis: Müllerian dysgenesis

Investigation and results were as follows.

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Ultrasound scan on 23.10.2001.

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Intravenous urogram (IVU)

She was scheduled to have this investigation done, but it had not been carried out by the

time the patient underwent surgical operation. This was, to a great extent a serious omission given that the urinary system is frequently involved in the mûllenium anomalies.

Further management

The clinical and investigation findings were explained to the patient and although an earlier decision to perform laparoscopy had been made she was prepared for laparotomy instead. Blood grouping and crossmatching was done and 2 units of whole blood availed, written informed consent obtained and the patient premedicated with 0.6mgs of intramuscular atropine before being wheeled to theater on 21.3.2002.

In theatre the patient was aseptically catheterized while under general anaesthesia and about 100mls of clear urine drained. Vaginal examination confirmed earlier findings. With the patient supine on the operation table, the abdomen was cleaned, draped then opened via a midline infraumbilical incision. The ovaries and fallopian tubes appeared grossly normal bilaterally and were left in-situ. The uterus was found to have 2 rudimentary horns with leiyomyomàta on the left horn whose total size was 10cm x 10cm. This was excised and sent for histopathological examination. The cervix and the upper part of the vagina were undeveloped and there was just a membrane between the vagina and the peritoneal cavity. Status of haemostasis was confirmed and inspection of the other intraabdominal organs carried out. These were four to be normal. The swabs and instruments were counted and found to be of the correct number then the abdomen closed in anatomical layers. The catheter was removed and the urine noted to be clear.
Postoperatively, the patient was observed ½ hourly until fully awake then 4 – hourly. She was kept on intravenous infusion until the bowel sounds normalized then started on oral fluids before eventually being allowed to feed normally. She was put on prophylactic intravenous crystalline penicillin and gentamicin and pain alleviation maintained by the initial use of pethidine and subsequently, mefenamic acid. She was counselled on the fact that she would be permanently infertile, would never have menstrual flow but that she could still engage in sexual intercourse. The latter called for legtheninf of the vagina using dilators.

She was allowed home on 28.03. 2002 to be reviewed at the gynecology outpatient clinic for further evaluation and advise on use of dilators as well as phychological support.

Discussion

The reproductive organs in the female (and also in the male) consist of external genitalia, gonads, and an internal duct system between the two. These three components originate embryologically from different primordia and in close association with the urinary system and the hind gut. In the female, the labia minora and majora develop from labioscrotal folds, which are ectodermal in origin. The phallic portion of the urogenital sinus gives rise to the urethra. The müllerian (paramesonephric) duct system is stimulated to develop preferentially over the Wolffian (mesonephric) duct system, which regresses in early female fetal life. The cranial parts of the wolffian ducts can persist as the epoophoron of the ovarian hilum; the caudal parts can persist as Gartner's ducts. The müllerian ducts persist and attain complete development to form the fallopian tubes, the uterine corpus and cervix, and a portion of the vagina. (1). The thick muscular walls of the uterus and cervix develop from proliferation of mesenchyme around the fused portions of the duct. (2)

Abnormalities in the formation or fusion of the Müllerian ducts can result in a variety of anomalies of the uterus, vagina and even the fallopian tubes. These may be single, multiple, combined, or separates. The close developmental relationships of the Müllerian and wolffian ducts explain the frequency with which anomalies of the female genital system and urinary tract are associated. The patient discussed here had no abnormalities of the urinary tract. (1,3), but seemed to have maldevepment of the müllerian system with the vaginal portion from the urogenital sinus developing normally as was the vulva.

The American fertility society classification of Müllerian anomalies is as follows: (4)

Classification	Anomaly
Class I	Segmental, Müllerian agenesis – hypoplasia
	A. Vaginal B. Cervical C. Fundal
	D. Tubal E. combined anomalies.
Class II	Unicornuate
Communicating	
Non-communicating	
No cavity	
No horn	
Class III	Didelphus
Class IV	Bicornuate
	A. complete (division down to internal os)
	B. partial
Class V	Septate
	A. Complete (Septum to internal os)
	B. Partial
Class VI	Arcuate
Class VII	Diethylstilbestrol related.

American Fertility society classification of uterovaginal anomalies

Class I	Dysgenesis of the Müllerian ducts.
Class II	Disorder of vertical fusion of the Müllerian ducts
	A. Transverse vaginal septum
	1. Obstructed
	2. Unobstructed
	B. Cervical agenesis or dysgenesis

Class III Disorders of lateral fusion of the Müllerian ducts

A. Asymmetric – obstructed disorder of uterus or vagina usually associated with ipsilateral renal agenesis

1. Unicornuate uterus with a non-communicating rudimentary anlage or horn.
2. Unilateral obstruction of a cavity of a double uterus.
3. Unilateral vaginal obstruction associated with double uterus.

B. Symmetric – unobstructed

1. Didelphic uterus
   a) Complete longitudinal vaginal septum
   b) Partial longitudinal vaginal septum
   c) No longitudinal vaginal septum
2. Septate uterus

a.) Complete

1. Complete longitudinal vaginal septum
2. Partial longitudinal vaginal septum
3. No longitudinal vaginal septum

b.) Partial

1. Complete longitudinal vaginal septum
2. Partial longitudinal vaginal septum
3. No longitudinal vaginal septum

3. Bicornnate uterus

a) Complete

1. Complete longitudinal vaginal septum
2. Partial longitudinal vaginal septum
3. No longitudinal vaginal septum

1. Complete longitudinal vaginal septum
3 Partial longitudinal vaginal septum
4. No longitudinal vaginal septum

4. T-shaped uterine cavity (diethylstilbestrol – related)
5. Unicornuate uterus
(a) With a rudimentary horn
1. With endometrial cavity
(a) Communicating
(b) Non-communicating
2. With endometrial cavity
(b) Without a rudimentary horn

Class IV: Unusual configurations of vertical lateral fusion defects.

With uterine anomalies to avoid complications such as recursent abortions or infertility (1). The patient discussed here had two rudimentary horns, with the left are having leiyomyomata. The cavity and the upper part of the vagina were undeveloped..

Women with Müllerian agenesis characteristically have congenital absence of the uterus and vagina, normal ovarian function including ovulation, phenotypic female sex with normal development of breasts, body proportions and external genitalia, genetic female sex (46 xx genotype) and frequent association with other congenital anomalies. This condition of dysgenesis of müllerian ducts is also known as the Mayer – Rokitansky – Küster – Hauser syndrome and is associated with no reproductive potential other than that achieved by in-vitro fertilization in a host uterus. (1)

Primary ammenorshoea is the main clinical presentation in these patients. Others are seen with failure of sexual intercourse while others may present with symptoms due to associated abnormalities such as renal system malfunctions. (1,2). Our patient had primary ammenorrhoea and failed attempts at coitus. She also had an abdominal mass and pains due to leiyomyomata on the left rudimentary uterine horn.

Diagnosis of müllerian dysgenesis may require investigations such as laparoscopy, hysteroscopy, hysterosalpingography, ultrasonography and magnetic resonance imaging. A buccal smear should be done to determine the presence or absence of the chromatin body. Intravenous pyelogram should also be done prepoperatively. (1,3). Our patient had 3% barr bodies against a normal female range of 9 – 35%. The pelvis ultrasound scan done gave the impression of haematometra while the patient had leiyomyomata of the left rudimentary horn. She was taken for laparotomy before the scheduled date for intravenous urography. And this was not quite appropriate since other surgeries would have been plan for appropriate if anomalies of urinary tract would have been found on performing IVU.

The management of müllerian agenesis involves tackling the accruing pyschological problems and the creation of a functional vagina. Persistent pressure may deepen the vagina enough for satisfactory coitus, but an operation to form a cavity in the position of the vagina may be necessary. (2)

William's operation is a simple procedure in which the edges of the posterior parts of the labia majora are sutured together in the midline to form a perineal pouch. A more extensive operation is that of McIndoe. in which a space is dissected in the fascial space between the rectum and the bladder and urethra and the cavity lined with skin. Amniotic membrane may be used instead of skin. Baldwin's operation is occassionally performed and this involves isolation of a section of ileum and after restoring intestinal continuity, the isolated section is drawn down with its mesenteric blood supply to form a new vagina. Vaginal dilation may be necessary to maintain the patency of the vagina. (1,2,5,6).

Metroplasty may be useful some in-patients. The patient under discussion underwent laparotomy and had the rudimentary left horn with fibroids excised. She was advised on the need to use vaginal dilators or vibrator and was for further follow up at the gynaecology out patient clinic.

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15. INCOMPLETE ABORTION – MANUAL VACUUM ASPIRATION

Name: M.M

Age : 22 years fd no: 0806593

Do4: 18. 05. 2002

DoD: 18.05. 2002

Diagnosis: Incomplete abortion

Parity: 0+0

Presenting Complaints:

The patient complained of lower abdomen pains, backache and per vaginal bleeding which she had had over a period of a few hours.

History of presenting illness:

She had spontaneous onset of vaginal bleeding accompanied by intermittent lower abdominal pains which radiated to the back. The blood was in form of clots. There was no history of trauma prior to the onset of the above.

Obstetric and gynaecologic history:

She was a para 0+0 whose last menstrual period had been on 21.02.2002. giving a gestational age of about eleven weeks. Her menstrual flow lasted 3 days in a cycle of 21 to 31 days and she had a history of dysmenorrhoea. She had been on oral contraceptive pills between May. 2001 and early February. 2002. She had not started attending antenatal clinic. Her menarche was at the age of 15 years.

Past medical history

There was nothing of significance.

Family and social history

She was single and lived in Kawangware slums in Nairobi. She worked as a hair dresser. She never smoked and never drank alcohol. There was no family history of chronic illness.

Drugs

She had no history of allergy.

Systematic enquiry

She had no other medical problems

General Physical examination

The abdomen appeared moderately distended, especially at the hypogastrium. There was mild suprapubic tenderness and the fundal height was 18 weeks.

Vaginal examination

This was done aseptically. The external genitalia appeared normal, but blood stained. There were blood clots in the vaginal canal. The vaginal wall was normal and the cervix was 3cm open, soft and partially effaced without any laceration or tear visible. Products of conception were noted in the vagina and the cervical os. The placenta was removed manually, but pieces of membranes and parts of placental tissue were noted to have remained.

Diagnosis

Incomplete abortion

Management

The clinical findings were explained to the patient, as was the need for evacuation.

The investigation performed were as follows:

- Blood group
- Packed Cell Volume (PCV)
- VDRL

The results were not yet available by the time the patient was allowed home.

The patient was taken for manual vacuum aspiration of the retained products of conception. Immediately after she was asked to empty the urinary bladder she was put in lithotomy position, vulvovaginal toilet done and then sterile drapes applied. Cuscos bivalve speculum was then gently inserted and the anterior lip of the cervix held with a

tenaculum. All the steps were explained to the patient as the procedure went on. Gentle traction was applied on the tenaculum and Karmann's cannular size 12 gently introduced into the uterine cavity then connected to the syringe with vacuum already created. About 20 mls of products of conception were aspirated and the patient given 0.5 mgs of ergometrine intramuscularly.

She was subsequently observed in the ward until the following day for any further bleeding and given oral doxycycline, metronidazole, haematinics and ibuprofen to control pain. On 18/05/2002, she was allowed home to be reviewed at the gynaecology outpatient clinic after two days with the investigation results. She was also advised on the need to seek information on family planning methods. She didn't appear for review.

Discussion

M.M was a 22 year old para 0+0 admitted with incomplete abortion which was managed by both manual removal of the products of conception and manual vacuum aspiration (MVA)

Abortion may be defined as the termination of pregnancy by any means before the foetus is sufficiently developed to survive. In the United States, this definition is confined to the termination of pregnancy before 20 weeks based upon the date of the first day of the last normal menses. Another commonly used definition is the delivery of a foetus-neonate that weighs less than 500g. (1) According to the Kenyan Law, abortion refers to the termination of pregnancy before the 28th gestational week.

The true incidence of abortion is not clear in many countries due to under-reporting or the fact that some pregnancy losses may occur sponteneously very early without the woman being aware of the existence of the pregnancy. On the other hand, women who are worried about the state of childlessness may interpret minor menstrual upset as heralding an abortion. (2). It, however, remains the commonest gynaecological problem. Wanyoro found in his study that 41.8% of all admissions to the acute gynaecology ward were due to incomplete abortion. (3)

When abortion occurs without medical or mechanical means to empty the uterus, it is referred to as spontaneous. Haemorrhage into the decidua basalis and necrotic changes in the tissues adjacent to the bleeding usually accompany abortion. The ovum becomes detached, and this stimulates uterine contractions that result in expulsion (1).

More than 80% of abortions occur in the first 12 weeks, and the rate decreases rapidly thereafter. (4). Chromosomal abnormalities cause at least half of these early abortions, and their incidence likewise decreases thereafter. The risk of spontaneous abortion also increases with parity and paternal or maternal age. It is also increased if a woman conceives within three months of a term birth. (1,4). Our patient was a para 0+0 and her age was only 22 years.

The most common morphological finding in early spontaneous abortions is abnormality of the development of the zygote, embryo, early fetus or at times the placenta. (1)
A variety of medical disorders, environmental conditions and developmental abnormalities in the mother have been implicated in euploidic abortions. Brucella abortus and campylobactor fetus are known to cause chronic abortion in cattle, but they are not significant cause in humans (5). The role of Toxoplasma gondi is inconclusive, while there is no evidence in humans that either Listeria monocytogenes or Chlamydia trachomatis produce abortions (1)

Herpes simplex, Mycoplasma hominis and Ureaplasma urealyticum have been shown to be associated with spontaneous abortion as have been Human Immunodeficiency Virus – 1 (HIV-1), maternal syphilis and group-B strepococci. Other diseases such as tuberculosis and carcinomatosis have been known to cause abortion as have been some endocrine abnormalities such as diabetes mellitus and progesterone deficiency. The role of hypothyoridism is not clear. Other cases could be malnutrition, tobacco smoking, alcohol abuse, caffeine, irradiation, intrauterine contraceptive devices, environmental toxins such as nitrous oxide, arsenic, lead, formaldehyde, benzene and ethylene oxide (6). The role of autoimmune and alloimmune factors is still being investigated, while inherited thrombophilia and aging gametes have also been thought to result in higher incidence of abortions. Trauma, especially when accompanied by fetal demise, may cause abortion. Laporatomy may not necessarily lead to abortion, but if complicated by infection such as peritonitis may do so.

The uterine defects may be congenital or acquired and may be within the corpus or cervix, as in the case of cervical incompetence.
Spontaneous abortion may be threatened, inevitable, incomplete, missed or recurrent. (1)
The patient under discussion had incomplete abortion.
A patient with incomplete abortion presents with lower abdominal pain, backache, vaginal bleeding and passage of fetus or placental tissues. She may be found to be pale or in shock depending on the amount of blood lost. The cervical os is usually open. Features of infection may be apparent, especially in cases of illegal induced abortions. The patient

will usually deny having had the abortion induced. (1,2)
After establishing the diagnosis of incomplete abortion, the degree of blood loss should be assessed and appropriate fluid replacement instituted. In some instances, bleeding may be reduced by digital removal of the products of conception where possible and then massaging the uterus. Ergometrine, in a dose of 0.5 mgs may be given parenterally and then evacuation of the uterus performed as soon as the patient's general condition permits. Evacuation can be done by a sharp curretage or suction curretage. (1,2). At the Kenyatta National Hospital, the most commonly used technique and which was used for our patient, is manual vacuum aspiration. It does not necessarily need anaesthesia ans the patients are currently managed on a day care basis, being allowed home on the same day as soon as their general clinical condition improves. The patient under discussion was kept in the ward overnight because she appeared a bit weak.

Sepsis has been reported in up to 5.4% of the patients following manual vacuum aspiration (MVA) procedure (7) and, therefore, prophylactic antibiotics are normally given to these patients. Our patient was given doxycycline and metrocidazole plus ibuprofen for pain.

After abortion, ovulation may occur as early as 2 weeks and these patients should, in essence, be counseled on the need for effective contraception.
Determination of blood group is important so that prohylaxis against rhesus isoimmunization may be given. Unfortunately this patient had the investigations done but was allowed home before results were obtained.

Amongst the immediate complications, haemorrhage, sepsis and genital trauma have been known to complicate abortion, notably the illegally induced ones. Abortion has also been shown to be a major contributor towards maternal mortality, accounting for 40% of maternal mortality globally. (8)

On long term basis, especially in those patients where sepsis and genital injuries occur, secondary infertility may become a major problem. Dilatation and curretage, especially in the primigravid, may result in an increased risk of subsequent ectopic pregegnancy, midtrimester abortion and low-birth weight infants. (1,2)

Regardless of the legal status of abortion, unwanted pregnancy and induced abortion are present in every country. The resulting deaths and injuries can be reduced by providing safe abortion services and removing legal restrictions which contribute to abortion-related morbidity and mortality.

The selection of strategies is dependent upon the current status of the health infrastructure, and the political and social climate. Whether to legalize abortion or not, is a debate that is currently going on in Kenya and it is hoped that the most favourable recommendations will be adapted.

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GYNECOLOGY LONG COMMENTARY

ECTOPIC PREGNANCY AS IT IS SEEN IN A RURAL DISTRICT HOSPITAL – A 5 YEAR RETROSPECTIVE STUDY.

ABSTRACT

Background

The frequency of occurrence of ectopic pregnancy in the whole country and even globally remains unclear and there are bound to be variations from one region to another. In the same vein, the problems encountered in the process of making the correct diagnosis of this potentially life threatening condition as well as the treatment offered do vary.

Objective

The objective of the study was to determine how frequently this problem is encountered at the Homa bay district hospital, the way the patients are managed and the accruing complications.

Methodology

The study was a retrospective descriptive one covering the years 1997 to 2001. Case records of all patients diagnosed as having ectopic pregnancy clinically or at surgery were reviewed.

Results

The total number of patients was 107

The occurrence of ectopic pregnancy remained fairly stable over the 5 years with a range of 14 to 23 cases per year. There was an average of 1 ectopic pregnancy per 100 deliveries. There appeared to be no clear cut seasonality in the occurrence of this problem although abit more cases were seen between January and April and also between July and August.

The mean gestational age at the time of diagnosis of ectopic pregnancy was found to be about 9 weeks, with about 70% of the patients having had the diagnosis made by the 10^{th} gestational week.

About 97% of the patients had abdominal pain. 36% vaginal bleeding and 52% ammernorrhoea.

About 76% of the patients were taken to theatre within 12 hours following the diagnosis and During surgery, 95% of the ectopic pregnancies had ruptured.

Conclusion and recommendations

This study showed that the rate of occurrence of ectopic pregnancy at the Homabay district Hospital is comparable to many other centers globally and that many of them had ruptured at the time of diagnosis.

INTRODUCTION

Ectopic pregnancy is known to be one of the major serious causes of maternal morbidity and even mortality globally, notably in the third world countries where appropriate facilities for making the right diagnosis and the treatment of the patients are still in short supply.

There is bound to be a difference in the pattern of occurrence of this disease in the major urban centers in relation to the rural areas especially regarding the level of training of the staff involved in the diagnosis of the disease and treatment of such patients plus the types of machines and other equipment available for the execution of these activities. It is, therefore, necessary to assess the magnitude of this problem in the rural districts as well as the way the patients are managed. This would act as a benchmark against which relevant improvements may be made within the facilities in the area

Literature Review:

A pregnancy in which the fertilized ovum implants on any tissue other than the endometrium is considered an ectopic pregnancy (1,2). It was first recognized in 1693 by Busiere, when he was examining the body of a prisoner executed in Paris and it has become recognized as one of the more serious complications of pregnancy causing considerable maternal morbidity and mortality (3).

Although the case fatality rate has decreased considerably over the years, the estimated number of ectopic pregnancies are on the rise (3,4). The true incidence of ectopic pregnancy is difficult to determine, but is generally estimated at about 1 in 100 pregnancies in the USA, according to Atrash, Friede and Hogue (6). At the Kenyatta National Hospital, Webala reported in 1979 that there was a ratio of one ectopic pregnancy to fifteen full term deliveries and he attributed the high ratio to the fact that Kenyatta hospital acted as the referral hospital for most of the gynaecological problems while there were other hospitals conducting deliveries in the area (7).

Mwathe in his study found figures of 4 to 5 ectopic pregnancies per week in the same hospital in 1984 (4) while Ruminjo and Nuwagaba in the study of the clinical pattern of extrauterine pregnancy in Thika in 1990 found an incidence of 66:10,000 deliveries (9).

The vast majority of ectopic pregnancies (96%) are tubal, while 2% are uterine ectopic pregnancies (i.e. interstitial). The remaining 2% include cervical, abdominal and ovarian pregnancies (5). Most tubal pregnancies are found in the distal two-thirds of the tube. Heterotopic pregnancy, defined as a combined intrauterine and extrauterine gestation, is an uncommon and perplexing problem. It occurs in 1 in 15,000 to 30,000 pregnancies (8).

Aetiology of Ectopic Pregnancy:

The destruction of the normal tubal anatomy remains the major cause of ectopic pregnancy and is the explanation in about 50% of the cases (2,4,10). The histological changes associated with pelvic inflammatory disease are found in about half of the tubes removed for ectopic pregnancy. Previous operation for an ectopic pregnancy, previous tubal ligation and conservative tubal procedures for the treatment of infertility are also important risk factors. Probably related to pelvic inflammatory disease are other important risk indicators such as age (15).

Although the use of Oral Contraceptives reduces the risk of ectopic pregnancy by about 90%, the use of progesterone - only contraceptives have been demonstrated to be associated with a higher incidence of ectopic pregnancy and it is hypothesized that in these cases, progesterone limits the propulsive effect of the fallopian tube at the ampullar - isthmic junction and that trapped ova may be the result. The use of postcoital estrogen has also been implicated. The use of intrauterine contraceptive devices may increase the risk of ectopic pregnancy in that when pregnancy does occur (< 2%), about 4% to 17% will be an ectopic pregnancy. The greatest risk occurs during the first year after removal of the intrauterine device and when the device has been in place for more than 2 years (1).

Although less than 3% of women become pregnant after tubal sterilization, 15 to 50% of these pregnancies are ectopic (12,13).

Salpingitis isthmica nodosa, the microscopic presence of tubal epithelium in the oviductal wall generally in the proximal portion, also predisposes to ectopic pregnancy (1,2).

The other occurrences are probably due to hormonal imbalance, aberrations in tubal motility and abnormalities in the embryo, including transmigration to the opposite tube and genetic abnormalities. Congenital tubal anomalies secondary to the intrauterine exposure to diethylstilbestrol are associated with upto five fold increased risk of ectopic pregnancy (3).

Women undergoing in vitro fertilization and ovulation induction are also at an increased risk, although this risk is probably related to the associated tubal diseases (10).

Levin and Co-workers demonstrated that, when statistical techniques were used to control for other risk factors, a history of one induced abortion does not significantly increase

the risk of ectopic pregnancy. Nevertheless, in the case of two or more induced abortions, the risk for tubal pregnancy doubles. A possible association between multiple induced abortions and subsequent tubal pregnancy, perhaps due to post-abortal infection, is suggested.

Clinical Findings:

No specific symptoms or signs are pathognomonic of ectopic pregnancy, but a combination of findings may be suggestive. For instance, ectopic pregnancy should be suspected when symptoms of early pregnancy (amenorrhoea, breast tenderness, nausea) are followed by bleeding (usually spotting) per vaginum and diffuse lower abdominal pain within the first 1 to 8 weeks after the missed period. The patient may experience a progressive course of faintness, exacerbation of pain (rupture or impending rupture), syncopy and shoulder pain. In the United States, over 16% of ectopic gestation present as surgical emergencies. This is much higher in the developing countries since routine investigations that may lead to early diagnosis before rupture are hardly available.

On examination, the signs to be looked for are abdominal tenderness, adnexal tenderness, adnexal mass and there may be enlargement of the uterus and, very rarely, fever.

Due to the difficulty encountered in making a clear cut diagnosis of ectopic pregnancy, a high index of suspicion is mandatory when dealing with women of reproductive age with complaints of menstrual irregularities and/or pelvic pain (15). In deed, patients with ectopic pregnancies are frequently seen many times before the diagnosis is made (16,17). Weckstein found that clinical examination was a poor predictor of either the presence or absence of an early ectopic pregnancy (16).

On the other hand, due to the increased risk of maternal morbidity and mortality associated with this clinical entity, physicians today tend to suspect ectopic pregnancies upto ten times more often than it occurs (18). It proves to be correct in less than 50% of the cases.

Furthermore, the high prevalence of anaemia and high incidence of pelvic infection in the developing countries makes diagnosis of ectopic pregnancy quite difficult (19).

Laboratory findings and other special investigations

The use of newer diagnostic tests, primarily β-hCG (human chorionic gonadotropin) levels and ultrasound imaging, has had a major impact on maternal outcome in ectopic pregnancy, decreasing morbidity and mortality rates and increasing the use of conservative rather than radical surgical procedures. Such improvement is a direct result of earlier and more precise diagnosis.

Determination of β-hCG levels has proved the most important test. In the past, the sensitivity of urinary pregnancy tests as well as interference from luteinizing hormone (LH) made the diagnosis of ectopic gestation difficult and confusing. The advent of a radioimmunoassay (RIA) and radioceptor assay for the β-subunit eliminates some of these problems. Sensitivity as low as 5mIμ/ml is now possible with RIA. Therefore, a negative β-hCG result rules out an ectopic pregnancy in almost 100% of cases. In a normal intrauterine pregnancy, hormone levels should double approximately every two (2) days with a predictable slope of increase. Almost all pregnancies which fail to achieve this slope are abnormal, and most ectopic pregnancies are found in this group (20,21).

The finding by Stovall in 1989 that over 80% of patients with ectopic pregnancy have a serum progesterone of less than 15ng/ml, whereas nearly 90% of comparable intrauterine gestations exceed that value led to the suggestion that a single serum progesterone may be useful in screening for ectopic pregnancy (22).

The haematocrit will be more than 39% in over 72% of cases while the while blood count is variable, but nearly 50% of the patients have a count less than 10.000/μl.

The reticulocyte count may be increased by more than 2% while the urobilinogen is elevated indicating decomposition of blood.

Culdocentesis reveals non-clotting blood in about 95% of those cases, the haematocrit will exceed 15%. The blood obtained is usually non-clotting owing to intraperitoneal bleeding from ectopic gestation, the blood first undergoes clotting and then fibrinolysis. If the blood clots it is probably from a vessel punctured in the wall of the vagina (2,14). If culdocentesis yields a negative result, further diagnostic tests should be performed viz: pregnancy test, ultrasonography, and, possibly, laparoscopy.

Lekha, in her study at the Kenyatta National Hospital found that ultrasonography had a positive predictive value of about 48% while the negative predictive value was 97%. She further suggested that ultrasonography would probably be more helpful in ruling out rather than diagnosing an ectopic pregnancy. She also found that if during the scanning the uterus were to be found to be bulky, there was an adnexal mass, a pseudogestational sac and fluid in cul-de-sac, then the positive predictive value would be improved upto 60% (15).

Dilation and curettage may exclude intrauterine pregnancy. In contrast to either incomplete abortion or dysfunctional uterine bleeding, the amount of tissue obtained is scanty. Pathologic analysis of the tissue should reveal the Arias-Stella reaction, further reinforcing the presumptive diagnosis of ectopic pregnancy. When trophoblastic tissue is recovered (usually choronic villi) the diagnosis of intrauterine pregnancy is confirmed. Unfortunately, dilation and curettage may interrupt an intrauterine pregnancy, and after 4 to 5 days of continued bleeding it is unlikely to be diagnostic when only degenerating tissue inadequate for analysis may be obtained (3).

Exploratory laparoscopy establishes the presence or absence of ectopic pregnancy (but not cervical). Laparotomy is indicated when the presumptive diagnosis of ectopic pregnancy with profound haemorrhage necessitates immediate control of the bleeding or when definitive therapy is not possible by laparoscopy (21).

Other potential diagnostic aids include hysterosalpingography and selective salpingography which may differentiate early (biochemical) intrauterine from failing intratubal gestations. A characteristic pattern was seen in the reports by Gleicher, Parrilli, and Pratt (23). Risquez and colleagues reported the successful visualization of two ectopic pregnancies by transcervical tubal cannulation and falloposcopy (24).

Differential Diagnosis:

About 50 pathologic conditions may be confused with extrauterine pregnancy, the most common being appendicitis, salpingitis, ruptured corpus luteum cyst or ovarian follicle, uterine abortion, twisted ovarian cyst, and urinary tract disease. (12,17)

Treatment For Ectopic Pregnancy:

Expectancy Therapy

The natural history of ectopic pregnancy suggests that a majority of these tubal pregnancies can resolve without treatment. Fernandez and associates (1988) observed a spontaneous resolution of ectopic pregnancy in 64% of patients as confirmed by β-hCG levels less than 10mIμ/ml; The mean time of resolution was 20±13 days.

Garcia and colleagues have suggested that expectant management of tubal pregnancies is appropriate under rigidly controlled conditions (25,26). Further investigations in larger patient groups are needed to assess the morbidity and subsequent fertility among patients so treated. It is still not practiced in many centers, Kenyatta National Hospital included (3)

Medical Treatment:

Systemic Medical Treatment:

Methotrexate (MTX) is a folic acid antagonist that can be administered to eradicate trophoblastic tissue in an ectopic pregnancy. Tanaka and Colleagues reported the first use of systemic methotraxate for an ectopic pregnancy in 1982. It should, however, be used in selected cases of unruptured ectopic pregnancies that can be viewed on ultrasound. It can also be used to treat persistent ectopic pregnancy after conservative surgery. The patients should be carefully monitored with haematologic indices and liver chemistries. (3,27)

Local Injection:

This may involve the injection of methotrexate directly into the ectopic gestational sac under ultrasound guidance (28,29,30,31). Its advantages are higher concentration of methotrexate at the site of implantation and less potential for toxic effects of the drug.

Other studies involve the use of prostaglandins, hyperosmolar glucose and potassium chloride injected locally into the gestational sac by guidance of ultrasound or laparoscopy.

Surgical Treatment:

Conservative Surgical Treatment:

This is possible if diagnosis is made sufficiently early before rupture of the oviduct or serosal invasion. It is particularly important where conservation of the fertility of the woman is extremely called for. The patient should also be in a surgically stable condition. It can be done by either the laparoscopic method or by laparotomy. The operations may be: linear salpingostomy or segmental resection (32,33)

Radical Surgical Treatment:

Total salpingectomy is required when a tubal pregnancy has ruptured, causing intraabdominal haemorrhage that must be quickly controlled. Under no circumstances should a conservative operation be attempted (3). Both ovaries are preferably left in situ.

The choice of treatment for an interstitial cornual pregnancy depends on the extent of trauma that has occurred in the uterine wall and on the interest of the patient in preserving her childbearing function. Cornual resection and repair of the defect are possible in more than 50% of cases; hysterectomy is required for the remainder.

In case of ovarian ectopic pregnancy, partial resection or oophorectomy may be opted for. Many authors agree that the placenta should be left in situ in case of an abdominal pregnancy and it should only be removed if it is accessible and its removal can be accomplished without excessive blood loss (34).

Cervical ectopic pregnancy may be managed by medical means or by dilation or curettage, but may rarely require hysterectomy.

Rhesus Immunoglobulin Use After Ectopic Pregnancy:

In Rhesus–negative women, fetomaternal haemorrhage may occur. There is, therefore, need to determine the blood group of every patient with ectopic pregnancy so that prevention of isoimmunization may be effected by the use of 50µg of Rhesus immunoglobulin. (5)

Complications of Ectopic Pregnancy:

About 1 in 1000 ectopic pregnancies result in maternal death (2,6). This could be much higher in some centres. Haemorrhage is the major cause of maternal death in untreated

ruptured ectopic pregnancy.

Chronic salpingitis often follows neglected ruptured tubal ectopic pregnancy. Infertility or sterility develops in many patients who have undergone surgery for extrauterine pregnancy. In a 1975 study, Shoen and Nowak concluded that about 70% of patients who have an ectopic first pregnancy are unable to produce a living child.

As many as 30% of patients who have an ectopic first pregnancy will have a repeat ectopic pregnancy, which compares with the total repeat ectopic pregnancy rate of 10% to 20% for the general population of reproductive age women. More than half of the subsequent extrauterine pregnancies will occur within 2 - years, and 80% will occur within 4 years of the initial ectopic pregnancy (35,36,376). Fetal Mortality has been notoriously high, ranging from 75% to 95% of all cases of abdominal pregnancy. (3)

Rationale of The Study:

Homabay district hospital caters principally for a rural population and so far, there is no data available on the patterns of presentation of ectopic pregnancy in such a set up since the studies carried out so far in the country tended to concentrate on the urban population. The problems encountered in making the diagnosis and treatment of such patients may also not be the same and these may have a bearing of the complications that may be expected to arise in such patients. In addition to this, Homabay district and the neighboring ones, which were hived off it are officially known to be some of those with a high prevalence of Human immunodeficiency virus infection and by extrapolation, it would be expected that the prevalence of the other sexually transmitted diseases is also high. The data from the Homabay District hospital blood bank between 1989 and 1999 have shown that 24.06% of the blood donated is seropositve for Human Immodeficiency Virus (HIV). With the sexually transmitted diseases control programme which currently offers effective drugs for the treatment of the said diseases, it would be expected as well that there are many women whose tubes could be deformed but not completely occluded thereby increasing the chances of them getting ectopic pregnancies.

Ectopic pregnancy is a disease with many potential complications in terms of morbidity and mortality which means that its frequency of occurrence and the changing trends of this should be determined from time to time and this alone or in conjunction with the prevalence of the resultant complications may be a good indicator of the success or failure of the reproductive health programmes within the district or country at large. In deed, even if nothing could be done about its prevention, health education strategies could be instituted to sensitize both the medical personnel and the lay communities about the clinical presentation of the disease and the need to seek urgent medical attention should the symptoms and signs arise.

Objective:

To determine the pattern of occurrence of ectopic pregnancy at the Homabay district hospital - a rural district hospital.

Specific Objectives:

1) To determine the frequency of occurrence of ectopic pregnancy at the Homabay District hospital.
2) To determine the sociodemographic characteristics of the patients with ectopic pregnancy at the Homabay district hospital.
3) To determine the seasonal variation in the number of patients with ectopic pregnancy as seen at the Homabay district hospital.
4) To evaluate the challenges encountered in making the diagnosis of ectopic pregnancy.
5) To evaluate the challenges encountered in the treatment of the patients seen with ectopic pregnancy.
6) To determine some of the major complications arising in the patients with ectopic pregnancy upto the time they are discharged from the hospital.

METHODOLOGY

Study Area:

The study was carried out at the Homabay district hospital which serves mainly a rural population drawn from Homabay district itself as well as other districts which were created out of the former South Nyanza district viz: Rachuonyo, Suba, Kehancha and Migori. These districts have only health centres which serve as the district hospitals and, therefore, most of the patients with complicated medical conditions that may necessitate surgical operation end up at the Homabay district hospital. There is one gynaecologist in the hospital, one surgeon, two medical officers and clinical officers and these are the ones charged with the onus of examining all the patients from the vast catchment area. Homabay district as well as the neighboring ones are inhabited mainly by peasant farmers and the communication system by way of road or telephone is still far from being satisfactory. In contrast to the major urban centres where the sick are likely to seek medical care in medical facilities, some of them in rural areas still visit traditional healers whereas some belief that prayers may lead to spontaneous remission of the medical problem.

Study Design:

This was a retrospective descriptive study.

Sample Size:

All patients diagnosed as having ectopic pregnancy clinically or at surgery were listed for the study.

Sampling Method/Procedure

The registers of the patients seen at the Homabay District Hospital on outpatient and inpatient basis during the period January, 1997 to December, 2001 were reviewed. The same was done to those at the Mortuary. Where a diagnosis of ectopic pregnancy had been made either clinically or at surgery, the file number was used to trace the case records from the hospital records department. Relevant data was then transferred from the files to the questionnaires if the clinical notes were deemed adequate, since some of the

files had only a sentence or two instead of comprehensive clinical and demographic data.

Inclusion Criteria:

- Patients whose records were available
- Patients who were examined at the Homabay district hospital.

Exclusion Criteria:

- Patients whose records were incomplete, for instances, the clinical notes of some of the patients indicated only the diagnosis without records of clinical findings, investigations and treatment.
- Unavailable files.

Data Management:

Data was entered in a computer using SPSS for windows version 7.5 and analysed by use of ratios, rates, tables and pie charts.

Outcome Measures

The main outcome measures were the frequency of occurrences of ectopic pregnancy at the Homabay District Hospital, the seasonal variations in the number of patients seen with this condition, the challenges encountered in the diagnosis and treatment as well as the accruing complications noted.

Study Period:

1st January, to 31st December of the years 1997-2001

Study Limitations:

1. Poor record keeping at the hospital records departments.
2. Inadequate documentation of the patients' data by the clinicians

Ethical Consideration:

1. Permission to carry out the study was sought from the office of the Homabay

District Medical Officer of health and The Kenyatta National Hospital research and ethical Committee.

2. The study findings remain confidential.

Personnel (Study Team)

1. The investigator in close liaison with the supervisors.

RESULTS

1. Sociodemographic characteristics of the patients:

a) Table I: Age

Age (years)	Number	%	Cumulative %
< 20	10	9.5	9.5
20 - 24	26	24.8	54.3
25- 29	35	33.3	67.6
30 – 34	21	20.0	87.6
≥35	13	12.4	100.0
Total	**105**	**100**	

The results in table I show that 10% of the patients were teenagers and 68% were below 30 years. 2 of the patients never had their ages indicated.

The mean age was 27 years.

Figure I: Marital status (n=107)

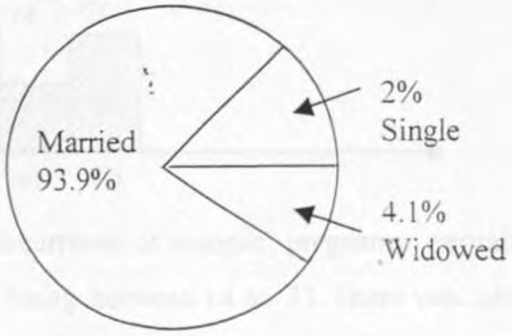


Figure I shows that 94% of the patients were married with only 2% being single and 4% widowed

2. Table II Past – obstetric performance:

Past viable deliveries	**Number**	**%**
0	15	17.2
1 – 2	38	43.7
3 – 4	20	23.0
≥ 5	14	16.1
Total	87	100
Abortions:	**Number**	**%**
0	68	78.2
1	15	17.2
2	3	3.4
≥ 3	1	1.1
Total	87	100

Only 87 of the patients had the parity indicated in the clinical papers.

Table II shows that 61% were of between para 0 and 2, the mean parity being 3 standard edeviation of 2.2 About 17% had had a previous abortion, 3% 2 previous abortions and 1% 3 or more abortions.

3. Figure II :The distribution of the cases of ectopic pregnancy by by number over the 5 years: (n=90)- confirmed ectopic pregnancies.

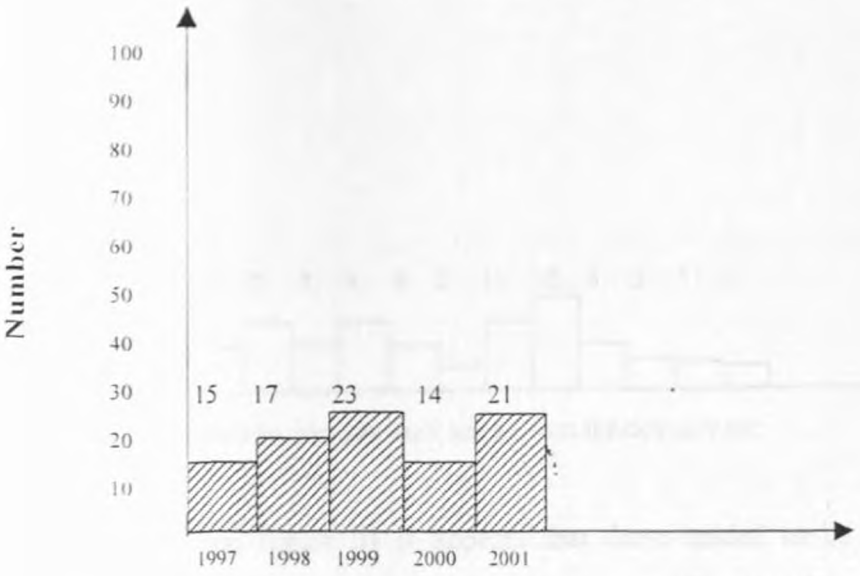


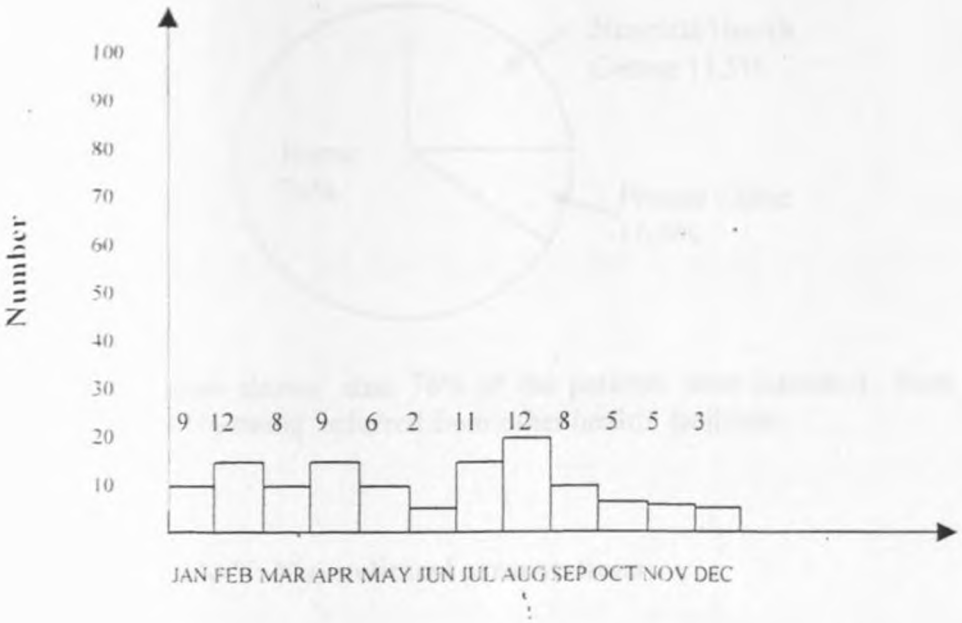
Figure II shows that the occurrence of ectopic pregnancy remained fairly stable over the 5 years with the range being between 14 to 23. There was abit of peaking in 1999.

4. Table III : Ectopic pregnancy as a percentage of deliveries.

Year	Number of ectopic pregnancies	Total deliveries	%
1997	15	1657	0.9
1998	17	1439	1.18
1999	23	1525	1.51
2000	14	1562	0.89
2001	21	1601	1.31
Total	90	7784	5.79

This shows that the number of ectopic pregnancies in relation to the number of deliveries over the 5 year period remained fairly stable, with the peak having been in 1999 where it was 2 per 100 deliveries. The average was 1 per 100 deliveries.

5. Figure III : Seasonal variation in the rate occurrence of ectopic pregnancies (all the 5 years combined) (n=90)



From figure III it appears that there tended to be more patients with ectopic pregnancy between January and April, then July to September, with fewer patients in the months of June, October, November and December, but overally there was no clear cut seasonality.

6. **Table IV : Gestational age at the time of diagnosis(in weeks)**

Value	Frequency	%
0-10	56	70.0
11-20	22	27.5
21 and above	2	2.5
Total	**80**	**100**

The mean gestational age at diagnosis (In weeks) was 9, std deviation 1

Table IV indicates that 70% of patients had the diagnosis of ectopic pregnancy made by the 10^{th} week of gestation or below.

27 of the patients did not have the gestation age indicated in the clinical records.

7. **Figure IV : From where was the patient admitted? N = 107**

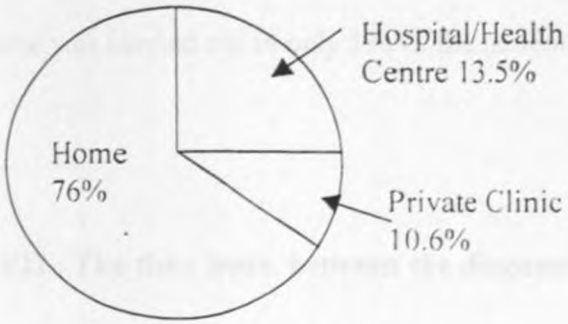


Figure shows that 76% of the patients were admitted from home, with only 24.1% being referred from other health facilities.

8. **Table V: Main clinical presentations**

	Abdominal pains		Vaginal bleeding		Ammerrhoea	
	No.	%	No.	%	No.	%
Present	103	96.3	39	36.4	56	52.3
	----		----		----	
Not indicated	4	3.7	68	63.6	51	47.7
Total	107	100	107	100	107	100

The main clinical presentation was that of abdominal pain which occurred on 96% of the patients. Vaginal bleeding was noted in 64% of the patients while ammerrohoea was actually recorded in 48% of the patients.

9. **The diagnostic aids / maneuvers employed.**

	Frequency	%
None	12	11.2
Abdominal paracentesis	72	67.3
Ultrasnography	16	15.0
Urine β-hcG	1	0.9
Paracentesis + ultrasonography	6	5.6
Total	**107**	**100**

Table VI shows that abdominal paracentesis was employed in a total of 73% of the patients while ultrasonography was applied in a total 21% of the patients while β-hcG levels in the urine was carried out in only 1% of the patients

10. **Table VII : The time lapse between the diagnosis and surgery. (n = 90)**

Value (hours)	Frequency	%
1-12	74	82.2
13-24	9	10.0
24 and above	7	0.8
Total	**90**	**100.0**

Table VII shows that 82% of the patients were operated upon within 12 hours of diagnosis. 5 patients were referred to other health facilities while 3 left against medical advice

11. **Table VIII whether ectopic pregnancy was found to have ruptured or not:**

Value label	Frequency	%
No	4	4.9
Yes	77	95.1
Total	**81**	**100**

Table VIII shows that at the time of surgery, 95% of the ectopic pregnancies had ruptured , 5% were still intact. The findings were not recorded in 17 of the patients operated.

12. Table IX
Nature of surgery performed for tubal ectopic pregnancy.

	Frequency	Percentage
Conservative surgery	4	5.1
Radical surgery	74	94.9
Total	**78**	**100**

Table IX shows that 95% underwent radical surgery with only 5% undergoing conservative surgery. The nature of surgery was not indicated in the rest of the patients.

13. Table X Major pre-operative complications:

Value label	Frequency	%
None	83	84.7
Shock	1	1.0
Severe anaemia	8	8.2
Shock and anaemia	6	6.1
Total	**98**	**100**

From table X it is evident that 85% of the patients did not have any major pre-operative complications.
Severe anaemia occurred in 8% of the patients while shock was reported in only 1% of the patients. Both these complications occurred in 6% of the patients.

14. **Table XI Major intra-operative complications:**

Value Label	frequency	%	Valid %
None	98	91.6	100
Missing	9	8.4	
Total	**107**	**100**	

None of the patients had intra-operative complications.
8 of the patients went home or to other hospitals and, therefore, it was not possible they truly hhad ectopic pregnancy or not. They have, hence been excluded here.

15. **Table XII: Post-operative complications:**

Value label	**Frequency**	**%**
None	94	95.9
Wound sepsis	1	1.0
Fecal fistula	1	1.0
Wound dehiscence	1	1.0
Paralytic ileus	1	1.0
Total	**98**	**100**

From table XII, it is evident that only about 4% of the patients had significant past-operative complications. The occurrence or not of complications was not indicated in 9 of the patients.

a. Figure V : Whether the patients were transfused or not.

n = 107

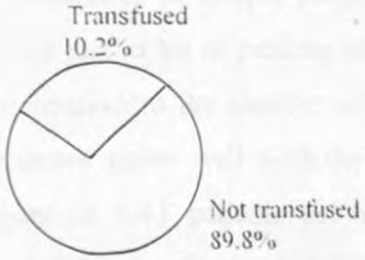


Figure V indicates that upto 10% of the patients were transfused.

DISCUSSION:

In this study, it was evident that about 88% of the patients were below the age of 35 years. It has been shown in other studies that age is a risk factor in the occurrence of ectopic pregnancy since diseases such as pelvic inflammatory disease and pregnancy, in general, are more likely to occur in the younger unmarried women. (15).

Most of the patients (94%) were married, but this could reflect the fact that the married women are more likely to get pregnant as opposed to the single women who would tend to either abstain from sexual intercourse or make use of the available contraceptive methods.

It was found that 61% of the patients were of low parity, ranging from being nulliparous to being para 2, the mean parity being 2.7. Upto 17% of the patients had had a previous abortion. 3% previous 2 abortions and 1% 3 or more previous abortion. The low parity in women with ectopic pregnancy may be due to the fact that the women have relative infertility in which case the factor leading to infertility also contributes towards the development of ectopic pregnancy (5).

It is interesting that a significant percentage of the patients had had abortions previously. Kevin and Co-workers, however, reported that a history of one induced abortion did not significantly increase the risk of ectopic pregnancy, while two or more induced abortions doubles the risk for tubal pregnancy (1,2).

It was not clear whether the patients in our study had had spontaneous or induced abortions. Abortion, if accompanied by sepsis, world to a great extent lead to tubal damage and hence, increase the risk of occurrence of ectopic pregnancy (1).

The rate of occurrence of ectopic pregnancy tended to remain fairly constant over the study period with just a bit of peaking in 1999. Overally, the average number of ectopic pregnancies in relation to the number of deliveries in this study was found to be 1 per 100. This compares quite well with the figure of 1:100 in the United States (6). Miyoro reported a figure of 4.41 patients per week at the Kenyatta Hospital (38). This showed an almost two fold rise from what Sinei and Okumu found of about two patient a week.(39).

There was no clear cut seasonal variation in the occurrence of ectopic pregnancy although most of the patients tended to be seen between January and April then July and August.

About 70% of the patients had a gestational age of 10 weeks and below. Most of the ectopic pregnancies were tubal (80.6%). This was, indeed, in keeping with the general trend. Upto 96% of ectopic pregnancies have been reported in many other studies to be tubal which results in early rupture of the tube (2,5).

Many of the patients (about 76%) were admitted from home with only 24.1% having been referred from private clinics or other health institutions. This could be due to the fact that the presentation of ectopic pregnancy tends to be dramatic with sudden onset of pain, fainting and per vaginal bleeding that may be accompanied by a period of ammmenorrhoea. Under such circumstances, the relatives, notably in the rural areas, may not have sufficient funds to take the patient for treatment at a private health institution or they may simply have the feel he patients having had the diagnosis made by its application. A further 6% of the patients needed both the use of paracentesis and ultrasonography to make the diagnosis.

Ultrasound scanning and the β-hCG determinations seem not to be over relied upon for the diagnosis of ectopic pregnancy to be reached in the rural set-up. Since these are not readily available according to Lekha, ultrasonography had a positive predictine value of 48% while the negative predictive value was 97%. It would therefore, be more useful to rule out rather than diagnose ectopic pregnancy in those centers where they are available(15).

It is encouraging to note that 82% of the patients were operated upon within 12 hours following the diagnosis. A further 10 had laparotomy done within the next 12 hours and 1% had operation done beyond 24 hours. The delays were due to various reasons such as lack of theatre equipment. Some other patients were referred due to these reasons, while others opted to go home or other health facilities due to ignorance about the magnitude of the problem or simply because they feared losing their relatives as arrangements were made to have them operated upon at the Homabay district hospital. There have been reports that same ectopic pregnancies resolve without treatment. (25,26).

Expectant management of ectopic pregnancy was not practiced in the hospital where this study was carried out. Expectant management would be possible in a center where such investigations such as ßhCG determinations could be carried out routinely and these were not readily available in the center where this study was done.

Upto 95% of the patients were found to have had ruptured ectopic pregnancy. This contrasts with the developed countries where ultrasound facilities are almost universally available, and therefore, many of the patients may have the diagnosis made before the stage of rupture is reached. (3, 5).

In this study, it was found that 95% of the patients had radical salpingectomy and only 5% had conservative surgery.

This poses a great challenge as far as the subsequent fertility in these patients is concerned, given that they tend to be of low parity.

It was shown that 8% of the patients did not have any major complications preoperatively, with severe anaemia occurring in 8% of the patients and shock in 1% of them. These complications necessitated blood transfusion in 10% of the patients. There were, however, no intra-operative complications while 1% of the patients developed wound sepsis, 1% fecal fristula, 1% wound dehiscence and 1% paralytic ileus.

CONCLUSION:

1. Ectopic pregnecy was found to occur at a rate of about 1 per 100 pregnancies.

2. About 88% of the patient were below 35 years of age with 94% being married.

3. There appeared to be no clear cut seasonal variation in the rate of occurrence of ectopic pregnancy.

4. Whereas about 95% were admitted with ruptured ectopic pregnancy, only 75% of the patients in overall were taken for laparotomy within 12 hours mean there was a degree of delay in offering treatment to about 20% of the patients.

5. The complications noted in 4% of the patients were in the post-operative period.

RECOMMENDATIONS

1. Because ectopic was noted to occur in a ratio of 1 per 100 deliveries in Homabay District Hospital , high index of suspision is necessary to make the dignosis early. This should be done throughout the year since there doesn't seem to be a clear cut seasonal variation in its rate of occurrence.

2. In order to avoid complications that way occure, it is necessary to offer prompt appropriate treatment and this would call for the improvement of the hospital to cope with such emergencies.

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OBSTETRIC LONG COMMENTARY

QUESTIONNAIRE

Sociodemographic data:

1. Patients' identification code. | | | |

2. Age in completed years. | | |

3. Age at first delivery | | |

4. Age at first caesarian section | | |

5. Educational background :

None	
Primary level	
Secondary level	
College	

6. Marital status

Married	
Single	
Divorced/seperated	

Data on previous caesarian section:

1. Parity at the last caesarian section | | + | |

2. Gestation at the time of the last caesarian section weeks.

3. Was antenatal clinic attended during the pregnancy that ended in caesarian delivery?

Yes	
No	

4. If the answer to number 3 above is yes, then where?

KNH	
Others (Specify)	
None	

5. What was the indication for the last caesarian section?

6. Is it possible to establish the type of uterine incision in the last caesarian section?

Classical	
Transverse lower segment incision	
Lower midline	
Inverted T	

7. List the major complications in the pregnancy ending in caesarian section (intrapartum/immediate postpartum).

APH (Antepartum haemorrhage)

- Ruptured uterus
- Postpartum haemorrhage
- Severe puerperal infection
- Ruptured uterus
- Others.

8. What was the weight of the baby in the last caesarian section?

1.	
2. Unknown	

Current pregnancy

1. Which antenatal clinic was attended in the current pregnancy?

KNH	
Others (Specify)	
None	

2. What is the weight of the heaviest baby ever delivered vaginally?

1.	
2. Unknown	

3. Is there history of previous operations on the uterus? E.g.

- Myomectomy
- Metroplasty
- Hysterotomy

4. Method of pelvic assessment in the current pregnancy:

- Radiological means
- Clinically
- None.

5. At what gestation was the pelvic assessment done? ____

6. Was decision on the mode of delivery based on the pelvic assessment findings?

Yes	
No	

7. Was the weight of the baby estimated in the antepartum or intrapartum period in the current pregnancy?

Yes	
No	

8. Indicate the following concerning the deliveries if any, after the caesarian section:

(i) Weight of baby

(ii) Where did the delivery occur –

- Major hospital
- At home
- Health care

(iii) At what parity

9. How was the assessment of the weight of the baby done?

a) By ultrasound scan

b) Clinically (symphisiofundal length multiplied by the abdominal circumference at the level of the umbilicans minus 450 grammes)

c) None

10. What is the gestational age in the current pregnancy

[ ]

11. Mode of delivery in the current pregnancy:

a) Sponteneous vertex delivery (vaginally)

b) Caesarian section

c) Assisted vaginal delivery (operative) e.g. vacuum extraction.

12. Timing of Caesarian section delivery

(a) Elective Caesarian section

(b) Emergency Caesarian section

13. If elective caesarian section was done, how was the fetal maturity confirmed?

Ultrasound	
Surfactant test	
None	

14. What was the indication for repeat caesarian delivery?

15. What was the duration of time between the decision to operate and the start of?

Operation in the repeat caesarian delivery?

16. What form of analgesia was used during labor in the current pregnancy?

17. Method of fetal surveillance

a) Intermittent auscultation.

b) Intermittent electronic monitoring

c) Continuous monitoring [electronic].

18. Complications

a) Ruptured uterus

b) Wound dehiscence

c) Wound sepsis

d) Others

19. Fetal outcome (immediate)

a) Fresh still birth

b) Live birth

6. Type(s) of contraceptive method(s) used previously or currently:

Type	Duration
IUCD	
Oral pills	
Injectables	
Norplant	
Others	
Not indicated	

B. SEASONAL VARIATION:

1. Month of occurrence
2. Gestation age at the time of diagnosis.

C. The challenges encountered in the process of diagnosis, treatment and the complication noted:

1. From where was the patient admitted?

Home	
Referred from a hospital/Health center	
Referred from a private clinic	
Not indicated	

2. What was the clinical presentation?

		Duration
Abdominal pains		
Ammenorrhoea		
Bleeding vaginally		
Abdominal mass		
Others		

3. What diagnostic aids were employed?

a) Pregnancy test

Blood B-hcG	
Urine B-hcG	

b) Abdominal paracentesis

c) Culdocentesis

d) Ultrasonography

e) Others.

4. If ultrasound was done, what was the qualification of the person who did it and what were the findings?

5. What was the duration between the time of the diagnosis of ectopic pregnancy upto the time the operation began?

6. Was the ectopic pregnancy found to have ruptured at operation or not?

Yes	
No	

7. What kind of treatment was employed if the ectopic pregnancy was tubal?

Conservative surgery

Radical surgery

Others

8. What part of the tubal was involved?

9. What was reported about the status of the other fallopian tube?

Normal	
Abnormal	
Unrecorded	

10. What was the site of the ectopic pregnancy if it was not tubal?

11. What was reported about the status of the pelvis and other pelvic structures such as the ovaries?

12. If the clinical diagnosis of ectopic pregnancy was not confirmed during surgery, what diagnosis was made?
13. If the diagnosis of ectopic pregnancy was incidentally made during surgery or postmortem examination, what was the original clinical diagnosis?
14. List the major preoperative complications:

    e.g. Shock

    Severe anaemia

    Death

15. List the major intraoperative complications:
16. List the major immediate post-operative complications upto the time the patient was allowed home:

17. Was the patient transfused with blood?

Yes	
No	

18. What was the source of the blood?

Donor bank	
Patient's own blood	
Not applicable	

19. How many units of blood did the patient receive?

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726562 - 6
726450 - 9
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Ref: KNH-ERC/01/1345

3 May 2002

Dr. Aggrey Otieno Akula
Dept. of Obs/Gynae
Faculty of Medicine
University of Nairobi

Dear Dr. Akula,

RESEARCH PROPOSAL "ECTOPIC PREGNANCY AS IT IS SEEN IN A RURAL DISTRICT HOSPITAL - A 5 YEAR RETROSPECTIVE STUDY" (P24/3/2002)

This is to inform you that the KNH-Ethics and Research Committee has reviewed and approved your above cited research proposal.

Kindly note for your information and correction that "whole world" and "global" are synonymous and that any pregnancy implanted anywhere else apart from the uterine endometrium is an ectopic pregnancy.

On behalf of the Committee, I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of database that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely,

PROF. A.N. GUANTAI
SECRETARY, KNH-ERC

cc Prof. K.M. Bhatt, Chairperson, KNH-ERC
The Deputy Director (C/S), KNH
Supervisors: Brig. (Dr) Waweru-Mathu, Dept. of Obs/Gynae, KNH
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Ref: KNH-ERC/01/1304

Date: 25 March 2002

Dr. Aggrey Otieno Akula
Dept. of Obs/Gynae
Faculty of Medicine
University of Nairobi

Dear Dr. Akula,

RE: RESEARCH PROPOSAL "THE CURRENT MANAGEMENT OF PATIENTS WITH PRIMARY CAESARIAN SECTION SCAR AT THE KENYATTA NATIONAL HOSPITAL OBSTETRICS UNIT" (P11/1/2002)

This is to inform you that the KNH-Ethics and Research Committee has reviewed and approved your above cited research proposal.

In addition it is suggested that you note the following:

Under the specific objectives, it is more appropriate to talk of "assessing" rather than "reviewing" since the study is prospective in nature. You may also add another objective "To determine the percentage (%) of successful trial of scars". Check and include the national figures on the incidence of caesarian section (KDHS 1998).

On behalf of the Committee, I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of database that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely,

PROF. A.N. GUANTAI
SECRETARY, KNH-ERC

cc Prof. K.M. Bhatt, Chairperson, KNH-ERC
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The Dean, Faculty of Medicine, UON