CASE RECORDS AND COMMENTARIES

IN

OBSTETRICS AND GYNAECOLOGY

SEBUMITTED BY

DR. PATRICK MUKUI KIMATA

IN PART FULFILMENT FOR THE

DEGREE OF MASTER OF MEDICINE

IN

ONSTETRICS AND GYNAECOLOGY

OF THE

UNIVERSITY OF NAIROBI

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"None on earth is like her,

She that made me breathe....

She that protected me.

L.M. Asiedu.

The Stem of the branch

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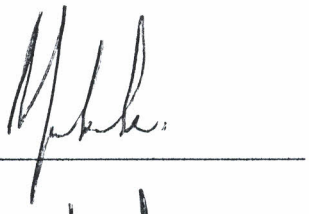
Last but not least, I am greatly indebted to my dear wife Wanjiru and my daughters for their encouragement and bearing the stress of my training.

DECLARATION

I declare that the short commentaries in this book were managed by me under the supervision and guidance of the senior members of staff at the Department of Obstetrics and Gynaecology at Kenyatta National Hospital.

I further declare that the two long commentaries in this book are my original work and have not been presented for a degree in any other University.

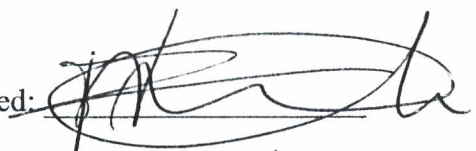
Signed: 

Date: 08/09/14

DR. PATRICK MUKUI KIMATA
M.B.CH.B (U.O.N)

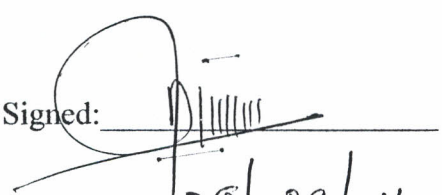
CERTIFICATION OF SUPERVISION

This is to certify that Dr. Patrick Mukui Kimata researched upon the long commentaries presented in this book under our guidance and supervision and that this book is submitted with our approval.

1. Signed: 

   Date: 13/9/04

   DR. P.M NDAVI
   MB.CHB, M.MED (OB/GY)
   CONSULTANT AND SENIOR LECTURER
   DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY
   UNIVERSITY OF NAIROBI

2. Signed: 

   Date: 08/09/04

   DR.WANYOIKE GICHUHI
   MB.CHB, M.MED (OB/GY)
   CONSULTANT AND LECTURER
   DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY
   KENYATTA NATIONAL HOSPITAL

CERTIFICATION OF SUPERVISION

This is to certify that obstetrics cases Nos. 1,4,7,10 and 13 and Gynaecology cases Nos.1,4,7,10 and 13 were managed by Dr Patrick Mukui Kimata under my supervision and guidance at Kenyatta National Hospital.

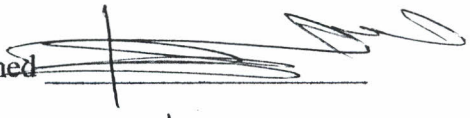
Signed :_____

Date:_____

DR. SAMSON H. M. WANJALA
MB.CHB, MMED (OB/GY)
SENIOR LECTURER
DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY
UNIVERSITY OF NAIROBI

CERTIFICATION

This is to certify that obstetrics cases No.2,5,8,11 and 14 and gynaecology cases No.2,5,8,11 and 14 were managed by Dr. Patrick Mukui Kimata under my supervision and guidance at Kenyatta National Hospital

Signed 

Date: 20/09/2004

PROF. OJWANG S.B.O.
M.D., M.MED (OB/GY) DIP. GYN. ONCOL
PROFESSOR OF OBSTETRICS AND GYNAECOLOGY
UNIVERSITY OF NAIROBI

CERTIFICATION

This is to certify that Obstetrics cases No.3,6,9,12,15 and gynaecology cases No.3,6,9,12,15 were managed by Dr. Patrick Mukui Kimata under my supervision and guidance at Kenyatta National Hospital.

Signed : 

Date : 13.10.05

DR. J.B.O. OYIEKE
MB.CHB, M.MED (OB/GY)
CHAIRMAN, SENIOR LECTURER
DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY
UNIVERSITY OF NAIROBI.

INTRODUCTION

Kenyatta National Hospital is situated in Nairobi. It is about 3 kms from the city center along Ngong Road. It serves as a referral center as well as serving the population within and around the city. It provides curative, preventive and rehabilitative services in all medical disciplines. It is a training center for undergraduate and postgraduate students from the College of Health Sciences of the University of Nairobi. It is also a training center for nurses, clinical officers and other paramedics from the Kenya Medical Training College.

The hospital is housed in a 10-storey building complex with extensions that serve as outpatient clinics, theatres, casualty, intensive care unit and laboratories.

The hospital is currently administered as a state corporation by a Parastatal Board established in 1986 by an Act of Parliament.

OBSTETRIC AND GYNAECOLOGY UNIT

The unit provides both in-patient and out-patient services. The out-patient services are provided at casualty department, antenatal clinics, post-natal clinic, gynecology clinics and the family welfare clinic (FWC). The in-patient services are provided in labour ward, acute gynecology ward, cold gynecology ward and antenatal/postnatal wards.

In terms of personnel the unit is divided into three Firms, each headed by a senior consultant obstetrician/gynecologist, with a team of senior registrars, registrars, nurses and paramedical staff. The senior medical staff are from both the University of Nairobi and KNH

Laboratory services are provided by the hospital laboratories. In addition to the hospital laboratory services, the Department of Obstetrics and Gynecology of the University of Nairobi offers the following laboratory services for the hospital: semen analysis, hormonal radio-immunoassay, cytology, chromosome analysis,

bilirubin spectro-photometry, surfactant test and glucose tolerance test. Radiological examination such as ultrasound are provided in radiology department of KNH and also at the department of Radiology University of Nairobi.

CASUALTY DEPARTMENT

This offers services 24 hours a day and all obstetric and gynaecologic emergencies are screened here. Most patients are treated and discharged or referred to the gynaecology or obstetric clinics. Patients requiring admission are admitted either to labour ward or acute gynaecological ward.

ANTENATAL CARE (ANC)

This is mainly a high-risk antenatal clinic although hospital staff members are also booked in this clinic. This booking is done every Monday morning. The criteria for booking include primigravida, grandmultipara, previous operative deliveries, medical conditions complicating pregnancy, bad obstetric history, those who have had delicate or difficulty gynaecological operations like urinary fistula or myomectomy among other high risk factors.

For those that are booked, a detailed history of past obstetrical and gynaecological, medical, family and social history is taken. The weight, height, blood pressure and urinalysis are done. A complete physical examination is done. Those that are found to need admissions are referred to labour ward while the others are given appointments for their next visits. Blood sample (s) is (are) taken for haemogram, serology, serology for syphilis and HIV and grouping for ABO and Rhesus factor.

ANTENATAL FOLLOW-UP

The follow-up is usually monthly up to 28 weeks gestation and fortnightly, from 28 weeks to 36 weeks till delivery. However for patients with obstetric or medical complications, the frequency of follow-up is individualized. At each visit health education about pregnancy, breast care, puerperium and baby care is given. The patients are then examined with particular attention to blood pressure, proteinuria, weight gain and edema. Abdominal examination is done to determine fundal

height, the fetal lie, presentation, engagement and fetal heart rate. The findings are recorded on the antenatal card which is kept in the hospital. For first pregnancies or previous pregnancies older than 3 years, two tetanus toxoid doses are given 4 weeks apart, otherwise only booster T.T is given during the second trimester.

At 36 weeks of gestation, clinical pelvic assessment is done on all primigravidae and radiological pelvimetry on patients with borderline pelvis or one previous scar with cephalic presentation. Amniocentesis for surfactant test is done at 38 weeks in those mothers who are planned for elective delivery to assess fetal long maturity. Patients for elective caesarean delivery are admitted at 38 weeks of gestation.

HOSPITAL ADMISSION

These fall into three categories namely:-

- Booked patients from our antenatal clinic.
- Referrals from other hospitals or health centers.
- Those without prior antenatal care.

The last two categories constitute the majority of admissions.

Booked patients report straight to labour ward when in labour or whenever they have a problem, when clinics are closed e.g. during weekends and at night. Unbooked patients are seen first in casualty before being sent to labour ward admission area. In labour ward all those requiring immediate delivery are retained in labour ward until after delivery and patients not due for delivery are sent to the antenatal clinic (ANC). Patients who are very ill are admitted to the acute room in labour ward and managed accordingly.

Patients in labour ward are seen by the House Officers and Senior House Officers. Difficult cases are managed in consultation with the specialist obstetrician and gynaecologist and/or consultant obstetrician and gynaecologist.

COMMON OBSTETRIC PROCEDURES

The following procedures are performed frequently within the obstetric unit. The description of the procedures given in this book refers to the standard or preferred method(s) as performed and taught within the department.

VAGINAL EXAMINATION

This involves the speculum and digital examination. The description below refers to digital examination. Vaginal examination is an aseptic procedure and it is done on admission during the initial assessment of labour. The examiner washes his/her hands and wears sterile surgical gloves. Explanation is made to the patient on the nature of the procedure. After consent has been obtained, the patient is placed in dorsal position with knees drawn.

The vulva is inspected and any abnormalities noted. The vulva is then cleaned using five swabs soaked with antiseptic solutions as follows: a swab is picked by the right hand and transferred to the left hand using the left hand, the left labia majora is swabbed once anteroposteriorly then the swab is discarded. Another swab is picked again and the same procedure is repeated on the right side. The procedure is repeated on the right and left side. The left hand now separates the labia using the index and thumb fingers and the introitus is gently swabbed anteroposteriorly.

The right index and middle fingers are gently introduced into the vagina. The position direction of the vagina and the status of the mucous membrane are noted. Next the position, consistency, effacement and dilatation of the cervix are noted. The status of the membranes, presenting part, presence or absence of caput and moulding are noted. The colour, smell and quantity of liquor and presence or absence of cord are also noted.

SPECULUM EXAMINATION

In obstetric speculum examinations, the bivalve Cusco's speculum is frequently used. Indications include: Antepartum haemorrhage, premature rupture of membranes, vaginal discharge and removal of a McDonald stitch.

The procedure and reasons for it are explained to the patient and verbal consent obtained. The patient is placed in dorsal or lithotomic position on the examination couch. The surgeon scrubs and wears sterile gloves. The vulva is swabbed as described above. The labia are the separated with the index and thumb of one hand to expose the vaginal introits. The Cusco's speculum is then gently introduced into the vagina with the width of its blades in transverse. The blades are then opened and the lateral walls are exposed and observed for any abnormality. The cervix is observed for the dilatation, bleeding and draining of liquor or bulging membranes. If the speculum examination is done to confirm premature rupture of membranes and does not show any liquor, the patient is asked to cough or fundal pressure is applied. The speculum is withdrawn in the same way it was introduced. During the procedure the patient is kept informed of each step as this makes the examination easy.

MANAGEMENT OF LABOUR

The main objective of labour management in our unit is to achieve delivery within 12 hours of admission for every mother admitted in active phase of labour.

FIRST STAGE OF LABOUR

Patients in active or latent phase of labour are admitted in the first stage. Progress of labour is recorded graphically on a partogram where uterine contractions, fetal heart rate, maternal pulse rate and blood pressure are recorded every half hour. Vaginal examination to assess the cervical dilatation in cms, presence and degrees of moulding and colour of draining liquor is done and recorded every 4 hours. Artificial rupture of membranes is performed for all patients in active phase of labour at cervical dilatation of 6cm or more. Urine testing for proteinuria, ketones and glycosuria is performed each time the patient passes urine. An intramuscular injection of Bus Copan 40mg is given routinely to hasten cervical dilatation. In patients at cervical dilatation of 4 to 6 cm an intramuscular injection of pethidine is given for analgesia.

The partogram has two parallel lines: the "alert line" and "the action line". The action line is 4 hours to the right of the alert line. At admission, for patients in

active phase of labour cervical dilatation is marked on the alert line and the time noted. Cervical dilatation of at least 1 cm per hour is expected. Any deviation of cervical dilatation curve towards the action line is an indication of some abnormality in the progress of labour and corrective measures are instituted accordingly. Corrective measures may involve augmentation of labour if contractions are poor or caesarean section delivery if there is cephalopelvic disproportion (CPD). Augmentation of labour with syntocinon is done in those patients without a previous uterine scar, maternal or fetal distress and those who are not grand multipara. Induction of labour routinely starts in the morning and invariably done by ripening of the cervix with prostagladins initially, then artificial rupture of membranes followed by the syntocinon drip.

MANAGEMENT OF SECOND STAGE

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

Normal deliveries are usually conducted by a midwife, student mid wife or a medical student under instruction. High risk cases like multiple pregnancy, premature deliveries and breech presentations are delivered by the registrar in attendance. Strict asepsis is observed during the deliveries; sterile gowns and towels are used. The vulva and perineum are cleaned with antiseptic solution (commonly savlon) and then the patient is encouraged to bear down with each contraction and to take deep breaths between contractions. Fetal heart rate is monitored every 15 minutes.

As the head distends the perineum, the left hand of the midwife maintains flexion of the fetal head and if episiotomy is indicated, 5-10mls of lignocaine are infiltrated on one side of the vulva and a mediolateral episiotomy is performed using a blunt tipped Mayo's scissors. The perineum is supported by the right hand with sterile pad.

Once the delivery of the head has occurred, the mouth and nose are wiped with a gauze to prevent aspiration of blood or amniotic fluid. A finger is swept around the fetal neck for the cord. If the cord is too light around the neck it is divided between clamps and if it is too loose it is stripped over the head. The anterior shoulder is delivered then followed by the posterior shoulder and the trunk. If the umbilical cord was not clamped, it is done so and the baby shown to the mother for sex identification before handing over to another midwife who carries out or pharyngeal suction as need be. In high risk case, a paediatrician is usually in attendance. At delivery of anterior shoulder 0.5mg of ergometrine is given intramuscularly to the mother except where contraindicated, like in hypertensive diseases.

MANAGEMENT OF THIRD STAGE

The placenta and membranes are delivered by controlled cord traction after signs of separation such as rise in uterine fundus, lengthening of umbilical cord and gush of blood. After the delivery of the placenta, the perineum, vagina and cervix are inspected for any tear. The blood loss is estimated and the placenta and membranes are examined for completeness. If however the placenta is not delivered by 30 minutes and there is no active bleeding then infusion of 20-30 units of syntocinon in 5% Dextrose is used. If this measure fails, then the patient is prepared for manual removal of the placenta in theatre under general anaesthesia.

REPAIR OF EPISIOTOMY

This is carried out in three layers using chronic catgut suture No.2/0. The apex of the incision is identified and from here repair of the vaginal mucosa is carried out in continuous suture while the muscle layer is approximated with interrupted sutures. The skin is opposed using interrupted or continuous chronic catgut 2/0 burying the knots and starting from the lateral edge. After repair the patient is advised on perineal hygiene and saline sitz baths.

THE FOURTH STAGE

After delivery and repair of episiotomy blood pressure, pulse rate, uterine contraction and lochial loss are observed and recorded. The patient is encouraged

to empty the bladder. The patient is then observed for one hour and then transferred to the postnatal ward for subsequent observations. Patients with normal delivery are discharged home after 24 hours due to pressure of bed space.

OPERATIVE DELIVERY

VACCUM EXTRACTION

Vacuum extractor is used to accomplish delivery in prolonged second stage due to poor maternal effort or where bearing down is contraindicated as in cardiac disease or where expedite delivery is desired as in fetal distress occurring in the second stage of labour.

The procedure and its indication are explained to the patient and a verbal consent is obtained. The patient is placed in lithotomy position. The vulva and perineum are cleaned with antiseptic solution and draped. Aseptic catheterization of the bladder is done and repeat vaginal examination performed to rule out any contraindications to vacuum delivery such as cephalo-pelvic disproportion and mal-presentation. A mediolateral incision (episiotomy) is made under local anaesthesia. 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.

Suction pressure is then built up slowly at a rate of about $0.1 Kg/cm^2$ per minute up to a maximum of $0.8 Kg/cm^2$. This allows for formation of an artificial caput within the cap that holds firmly and allows adequate traction.

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 rest of the delivery is completed as described above.

CAESAREAN SECTION

The commonest caesarean section 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

Caesarean section operations are either emergency or elective. For elective caesarean section, baseline investigations like haemogram and urea and electrolytes are done, blood is taken for grouping and cross-matching and two units of blood are reserved and an informed consent for general anaesthesia and operation is taken. The patient is starved for at least six hours before the operation. The abdominal wall is shaved clean before theatre. Premedication with atropine 0.6 mg is given intramuscularly half hour before theatre. For emergency caesarean section, blood is taken for grouping and cross-match and an informed consent for general anaesthesia and operation is taken. The abdominal wall preparation is similar to that of elective operation. The patient is premedicated with atropine 0.6 mg intramuscularly before being wheeled to the theatre.

Operation

In theatre the patient is placed in supine position with the legs separated, the vulva and perineum are cleaned with antiseptic solution such as savlon. Aseptic catheterization is done and the catheter is left in situ after draining all the urine. A repeat vaginal examination is done.

The anterior abdominal wall is cleaned with antiseptic solution and painted with iodine. The patient is then draped with sterile towels. Anaesthesia is induced with intravenous sodium thiopental. Succunylcholine 50 – 80 mg is also given for temporary muscle relaxation to enable endotracheal intubation. Anaesthesia is then maintained with nitrous oxide, oxygen and halothane.

The abdomen is opened in layers either through a lower midline incision or through a pfanniestel incision depending on the surgeon's and /or patients preference. After opening the skin, the rectus sheath is opened with curved

Mayo's Scissors. One side of the divided rectus sheath is elevated with two artery forceps and the rectus 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 between 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 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 utero-vesical peritoneum is lifted up with a pair of dissecting forceps and incised. The incision is extended in an elliptical fashion downwards. The peritoneum is 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 2cm is made in the lower segment about 2cm below the uterine attachment of the uterovesical peritoneal fold. Once the membranes are reached or uterine cavity opened the incision is extended laterally on either side using curved scissors directed by two fingers of the left hand. The incision is enlarged enough to allow delivery of the head and trunk. The Doyen retractor is then removed and the right hand is introduced into the uterine cavity under baby's head which is delivered gently out through uterine incision. Delivery is aided by gentle trans-abdominal fundal pressure. After delivery of the head, the mouth and nostrils are wiped with soft gauze. The shoulders are then delivered using gentle traction and still with some fundal pressure. The trunk follows readily. The umbilical cord is divided between clamps and the baby is handed over to a midwife or paediatrician. The placenta is delivered by either controlled cord traction or manually. The inside of the uterus is wiped with a swab on a holder.

Bleeding margins of the incision are held by Green Armitage clamps. In transverse lie or breech presentation, the baby is delivered by breech extraction. The uterine incision is then repaired in 2 layers with chronic catgut stitch number 2 on traumatic needle. The utero-vesica peritoneum is then closed with a continuous chromic catgut stitch number 1/0.

The abdomen is mopped and the abdominal packs are removed. The pelvic viscera is 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. Peritoneum is closed with continuous No 1/0. chromic catgut stitch, rectus sheath is similarly closed with number I vicryl stitch and skin with interrupted silk or nylon. The wound is cleaned and then dressed. The catheter is checked for the urine draining and if clear the catheter is removed and the uterus is massaged and clots evacuated from the vagina. General anaesthesia is reversed with 1.2mg of atropine and 2.5mg of neostigmine intravenously. Extubation is done and or pharyngeal suctioning done.

Post-caesarean care

The vital signs: blood pressure, pulse rate, respiration and body temperature are observed half hourly until the patient is fully awake then 4 hourly. Intravenous fluids are given until she can take orally. Pethidine 100 mg is given every 8 hours for the first 24 hours to relieve the pain. She is also given antibiotics Xpen 2mu 6 hourly and Gentamicin 80mg –8- hourly intravenous. Flagyl is added to those at risk of sepsis. On the first post-operative day the patient is ambulated and oral sips started if bowel sounds present. When she starts taking orally, medications are converted to oral medicines. On the third post-operative day haemoglobin is checked. The stitches are removed after seven days of operation. The patient is discharged home with a case summary and having been explained about nature and findings of operation and wound care. She is booked to be seen in the post-natal clinic after six weeks.

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 problems are transferred to New Born Unit (N.B.U). The premature babies are managed in NBU until their weights are about 2000gms when they are discharged. All babies are immunized with BCG before discharge. Normal mothers who have babies in NBU are lodged in the mother's hostel.

POST-NATAL FOLLOW-UP

The clinic is held on every Friday. Only those patients who had complications or operative delivery are seen. Patients with normal deliveries are followed up in their nearest health facility.

The blood pressure and weights are taken. Urinalysis is performed. History is taken of the peurperium, lactation and immunization 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.

THE GYNAECOLOGY UNIT

The Gynaecology unit consists of the outpatient wing at clinic 18 and two gynaecological wards 1B and 1D on the first floor of the tower block.

Ward ID is the acute gynaecological ward while ward IB caters for non-emergency cases. The unit is managed by the three firms in the department.

GYNAECOLOGICAL OUTPATIENT SERVICES

There are three outpatient clinics per week. Specific firms run the clinics on different days; Firm I on Tuesdays, Firm II on Thursdays and Firm III on Wednesdays. The clinics are run by consultants, senior registrars and registrars.

Teaching of the medical students takes place in the clinics. There is also a colposcopy and oncology clinic on Friday morning.

The majority of the patients attending the gynaecology clinic are referred from casualty and emergency gynaecology ward after emergency management. Post-operative patients also attend this clinic. Some other patients are referred from other specialized clinics in Kenyatta National Hospital. The rest of the patients are referred from the district and provincial hospitals.

Infertility patients constitute about two thirds of the gynaecology consultation followed by uterine followed by uterine fibroids, abnormal uterine bleeding and oncology patients. In the clinic a thorough history and physical examination is conducted and most of the diagnostic investigations are done. The investigations ordered depend on the diagnosis after history and physical examination. Some of the investigations include: pelvic ultrasound, semen analysis, hysterosalpingogram, pap smear and pregnancy tests among others. For patients requiring operation, the pre-operative investigations are done from the clinic to eventually reduce the hospital stay.

FAMILY PLANNING CLINIC

The clinic is situated at the Family Welfare Center (clinic 66). Here oral and injectable contraceptives, intrauterine contraceptive devices, Norplant and barrier methods are offered. Also situated in this clinic in this clinic is a theatre or laparoscopy and tubaligation procedures. Patients requiring interval sterization are counseled and referred to this clinic for the procedure by minilaparatomy. Patients with infertility secondary to tubal factor are referred to this clinic for dye laparoscopy after HSG.

GYNAECOLOGY IN-PATIENT SERVICE

ACUTE GYNAECOLOGICAL ADMISSIONS– WARD 1D

This is the emergency ward with a bed capacity of 32 but usually has about 60 patients. It caters for all gynaecological emergencies seen and admitted at the Kenyatta National Hospital. An average of 15 patients are admitted daily and more than two thirds of these cases are abortion. Patients are mainly admitted through the casualty department.

All patients for admission are clerked by the houseman and reviewed by the senior house officer (registrar) who undertakes the management in consultation with senior members of the department. Patients in the ward are reviewed daily by the registrar, senior registrar and consultant.

Apart from abortions, 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 1D using Karman's cannula and syringe. They are discharged immediately after being counseled about contraception. Patients who have undergone emergency laparotomy for pelvic abscesses, ectopic pregnancy or pelvic masses have a minimum stay of four days post-operatively due to pressure of bed space.

Patients with suspected carcinoma of the cervix are admitted at the first instance to ward 1D where they receive emergency treatment such as blood transfusion, antibiotic treatment e.t.c. Routine clerking and investigations are done. Examination under anaesthesia staging and biopsy is done. After staging and biopsy the patient is taken either to ward 1B for Wertheim's hysterectomy or taken to radiotherapy unit for radiotherapy treatment. Patients with confirmed carcinoma of the cervix but have complications such as bleeding, anaemia etc are also admitted to ward 1D for management of the complications before they continue with radiotherapy.

COLD GYNAECOLOGY ADMISSION – WARD 1B

Ward 1B is the non-emergency gynaecology ward to which patients are admitted from the clinic or transferred from acute gynaecology ward for further management. The ward has a bed capacity of 33 beds. The beds are shared equally among the three firms. The patients commonly admitted in this ward are those for elective gynaecology operations or for chemotherapy due to gynaecological malignancies. Uterine fibroids, vesico-vaginal fistulae (VVF), tubal infertility and gynaecological malignancies are among the conditions necessitating patients to be admitted to this ward.

GYNAECOLOGICAL OPERATIONS

A theatre is reserved in main theatre for emergency gynaecological operations daily. Laparatomy 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 intra-uterine contraceptive devices, marsupialization of bartholin's abscess and suction curettage are also performed here.

Elective operations are done on firm basis. Firm II doing theirs on Mondays and Firm 1 and111 doing theirs on Thursdays. The operations are done from 8.00a.m. to 5.00 p.m. The operations are performed under general anaesthesia as outlined below:

- Intravenous sodium thopentone and succinylcholine are used for induction of anaesthesia
- Nitrous oxide, oxygen and halothane provide maintenance anaesthesia.
- Curate is given intermittently for muscle relaxation.
- Atropine and neostigmine are used for reversal.

PRE-OPERATIVE PREPARATIONS

Patients for emergency laparotomy are prepared for theatre on admission. Ruptured ectopic pregnancies are the most common indications for emergency laparotomy. In this case blood is urgently cross-matched and an intravenous drip of N/saline started. The abdomen is cleaned and shaved. Premedication is provided by atropine 0.6 mg intramuscularly half an hour before theatre. An informed written consent is taken before theatre.

For cold (non-emergency) operations, baseline investigations such as the full haemogram, urea and electrolyte levels are done and the date of surgery fixed. The nature and purpose of the operation is explained to the patient and an informed written consent for the operation is obtained. Blood is ordered and reserved for the day of the operation. For most operations gut preparations is done by enema at 6.00 p.m. on the day before the operation and repeated at 6.00a.m. on the operation day. The patient starves from midnight to morning of the day of operation. The skin over the area of operation is cleaned and shaved. Premedication is provided by atropine 0.6mg and pethidine 50-100mg intramuscularly half hour before theatre.

POST-OPERATIVE MANAGEMENT

After the operation general anaesthesia is reversed and the patient wheeled to the recovery room where half hourly observations of blood pressure, pulse rate, respiratory rate and temperature are monitored until she is fully awake and stable. She is then transferred to the ward where observations are done 4 hourly.

Patients who have had uncomplicated laparatomy for hysterectomy, ectopic pregnancy, ovarian cyst etc are usually kept in the ward for 4 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. Pethidine 100mg 8 hourly for 24 to 48 hours is routinely given for analgesia. Phophylactic antibiotics are given routinely. A check hemoglobin level is

determined on the third post-operative day. Before discharge, the patient is informed about the findings at operation and a discharge summary is issued. Patients are reviewed in the gynecology clinic after six weeks or earlier when there is an indication.

The most common acute gynaecological operation is laparotomy due to ruptured ectopic pregnancy while total abdominal hysterectomy (T.A.H) is one of the common cold gynaecological operations done in this unit. Total abdominal hysterectomy is described below.

TOTAL ABDOMINAL HYSTERECTOMY

General anaesthesia, induction and maintenance are done as described above. A vulvo-vaginal toilet is done with antiseptic solution such as hibitane or savlon. Aseptic catheterization is done next and the catheter left in situ to maintain continuous bladder drainage during the operation. Pelvic examination under anaesthesia is done and findings noted. The abdomen is then painted with methylene blue dye. The abdomen is thoroughly cleaned with hibitane or savlon and painted with iodine and then draped with sterile towels.

The abdomen is opened in layers either through a pfanniestel incision or through a lower midline incision. The intestines are packed away from the intestines with wet gauze packs and a self-retaining retractor applied. The round ligaments are identified and beginning on either side using straight long artery forceps the round ligament is double clamped and divided between the two forceps. The lateral stump is transfixed with no. 0 or no 1 vicryl. This procedure opens the anterior leaf of the broad ligament, which is pushed forwards through this opening with a surgeon's finger and incised with fingers. The same is done for the opposite side.

The next step depends on whether the tube and the ovary are to be saved or removed. If they are to be saved, the tube and the ovarian ligament are double clamped en masse and cut using a scalpel. The distal clamp holds the ovarian

vessels as the approach the anastomosis with the uterine vessels. The stump is ligated using a transfixed vinyl no. 1 or no. 0. The same is done for the opposite side. If the tube and ovary are to be removed with the uterus, the infundibulo pelvic 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 ligament together with ovarian vessels are divided between clamps and ligated using vicryl no.1 or0. 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 and not bluntly forced.

Next 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 vessel between the leaves of the broad ligament for clamping. The uterine vessel 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 grip, 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 lower portion of the pelvic ureters as they course beneath the uterine artery lateral to 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 vinyl No.1. The same is done for the opposite side.
The uterus is retracted forward and upward to demonstrate and stretch the uterosacral ligaments posteriorly. A transverse incision is made through the uterine reflection of the cul-de-sac peritoneum between the attachment of the two uterosacral ligaments. The peritoneum is the incised with the scalpel and reflected, mobilizing it past the cervix to the posterior vaginal fornix. Care is

taken not to dissect extensively laterally where the haemorrhoidal vessel are inserted into the rectum. Each uterosacral ligament is double clamped, cut and ligated with a No.1 vicryl 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 cardianal 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 fornix is opened initially with the scalpel and the vagina is circumcised by a sharp knife or scissors. As the anterior, posterior and lateral margins of the vagina are opened, straight artery forceps are used to secure vaginal margins. These margins are then closed using a series of figure-of –eight sutures. Particular care is taken when tying the lateral angles to ensure the descending vaginal branches of the uterine vessels are securely ligated.

Suspension of the vaginal vault is done by tying the peritonization suture to the lateral and mid sutures of the vault. Peritonization is accomplished by means of a continuous No.1 chronic 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 center. The same is done for the opposite side with 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 stitched separately with a purse string of No.2/0 chromic catgut. The free margin of the pedicle is left high against the pelvic wall and is not anchored to the vaginal vault. This is advised in order to avoid subsequent dyspareunia and avoid stretching of the ovarian vessels with possible thrombosis, ischaemia and cystic changes of the ovary. After this abdominal viscera are well inspected. If haemostasis has been achieved and instruments and swabs count are normal, the abdomen is closed in anatomical layers.

The post-operative management is as described above.

OBSTETRIC CASE 1

MALARIA IN PREGNANCY, ANAEMIA, PREMATURE DELIVERY – LIVE BABY

Name:	C.M	LMP: 15/08/02
IP NO:	0875173	EDD: 22/05/03
AGE:	28	GBD: 31^{+} / 40
PARITY	2 + 0	DOA: 21/03/03
		DOD: 28/03/03

Presenting Complaints

Patient was admitted with complaints of inability to walk or talk with confusion of sudden onset.

History of Presenting Illness

The patient was admitted to labour ward as a referral from Pumwani Maternity Hospital where she had presented the same day with a one-day history of inability to walk or talk. She was also confused and refused to eat or drink. There was no diarrhoea or vomiting or any treatment administered prior to admission. Relatives did not give history of recent travel outside the usual place of residence.

Obstetric and Gynaecologic History

She was a para 2+0 gravida 3 with two living children. Her last menstrual period was on 15/08/02 and expected date of delivery was 22/05/03 giving her a gestation by dates of 31^{+} weeks. She attended her antenatal clinic at a Nairobi City Council Clinic in Kangemi. Antenatal profile done included VDRL which was negative. Her first delivery was in 1998 at Kenyatta National Hospital by SVD to a male infant. Second delivery was in the same hospital in 2000 by SVD to a female infant. Both children were alive and well. Age at menarche was not clear but had regular cycles of 3 days duration and 28 days in length. She had not used any contraceptives.

Past Medical / Surgical History

This was not significant.

Family and Social History

She was a housewife married to a handyman and living at Kangemi off Nairobi area. She neither smoked cigarettes nor took alcohol. There was no family history of chronic illness.

Physical Examination

She was sick looking, febrile with a temperature of 38^0c, moderately pale, no jaundice, no lymphadenopathy and no oedema. Blood pressure was 110/70mmHg, pulse rate 108/min regular, good volume and respiratory rate 22/min. The respiratory and cardiovascular systems were essentially normal. On central nervous system examination, she was mute, eye movements were present and pupils were bilaterally reacting to light. The neck was soft and Kernig's sign was negative.

Abdominal Examination

The abdomen was uniformly distended, moving with respiration and fundus corresponding to 32 weeks gestation. The fetal lie was longitudinal with cephalic presentation. The presenting part was five fifths above the pelvic brim. There was no tenderness or contractions noted. The fetal heart tones were present and regular at 142/min. There was no liver or spleen enlargement.

Vaginal Examination

This was not indicated.

Diagnosis

A diagnosis of severe clinical malaria with anaemia in pregnancy was made.

Management

The patient was admitted and the following investigations done.

1. Blood slide – Heavy parasitaemia of P. falciparum trophozoites
2. Random blood sugar – 3.6 mmol/L
3. Urea and Electrolytes – Na^+ - 136mmol/L
   K^+ - 5.25 mmol/L
   Urea – 7.6mmol/L
   Creatinine – 51 Umol/L
4. Full Haemogram _ White cell count 6.3x 10^9/L
   Haemoglobin 6.3 Gm/dl
   PCV 19.5%
   Lymphocytes 16.7%
   Monocytes 7.0%
   Granulocytes 76.3%
   Platelets 107 X 10^9/L
   PBF – Not done
5. Grouping and Cross-matching 2 units of blood

With the diagnosis confirmed, the patient was started on the following drug regimen.

1. 1.m Aspergic 1g Stat
2. 1.m Artenum 300mg Stat then 100mg OD x 4/7
3. 1.v Normal Saline/5% dextrose drip 3L/24 hrs
4. Paracetamol 1g three times daily for three days.
5. Ranferon – 12-10ml BID x 2/52.
6. Observation of Vital signs 6 hrly.

Later in the day she went into spontaneous labour and progressed to have a spontaneous vertex delivery to a live male infant who scored 7/1 and 9/5 and weighed 2900g. The placenta weighed 490g and the estimated blood loss was 300ml. The following day the patient was transferred to the lying-in ward where she continued recuperating.

On the second post-natal day the patient was much better and started visiting baby in the newborn unit. Repeat investigations showed: -

1. Blood slide – scanty malarial parasites
2. Random blood sugar – 5.9 mmol/L

After completion of the treatment and with the baby having been discharged from the newborn unit to the mother the patient was discharged home on the seventh post admission day. Instructions were given to continue with anti-malarial prophylaxis (SP) and hematinics during puerperium. She was scheduled for post-natal checkup after six weeks at a hospital of her choice – she did not report to Kenyatta National Hospital for the follow-up.

DISCUSSION

Malaria continues to be a major public health problem in the world especially in the majority of African countries. The causative organism is a protozoan of the genus plasmodium with four species viz: P – faciparum; P. ovale, P. vivax and P. malariae. P. Falciparum is the commonest in Kenya and accounts for 98% of the cases (2). In a study at Kilifi District, Rukaria found P. falciparum in 21.7% of pregnant women (6). P. Falciparum causes the most severe form of malaria. The patient presented had malaria caused by P. Falciparum species.

Endemic Malaria is facilitated by the presence of infected humans, susceptible female anopheles mosquitoes and a suitable climate. Malaria in a community is described as

either stable or unstable (1). Stable malaria occurs in areas with constant transmission i.e. holoendemic areas. There is high immunity and epidemics do not occur e.g. Coast and Lake regions of Kenya (2). In unstable malaria regions, transmission is intermittent, there is poor immunity and epidemics occur.

In Kenya the overall prevalence of malaria in pregnancy was noted to be 41.8 – 60.5% in studies in Kilifi and Kisumu respectively while it was higher in primigravidae (4,6). Malaria has been shown to be a cause of anaemia in pregnancy. In a study done in a district hospital in Coastal Kenya, the prevalence of anaemia was 9.8% in all parities while 15.3% of the primigravidae were severely anaemic as compared to 7.9% of multigravidae (7). The cause of anaemia is haemolysis of the parasite infested red blood cells and defective erythropoiesis. This results in a macrocytic anaemia with folate deficiency. Our patient had anaemia with a haemoglobin level of 6.3g/dl.

The effects of malaria in pregnancy is demonstrated by poor pregnancy outcome both to the mother and the fetus. Notable of these are the maternal morbidity and pre-term delivery and small for gestation age fetus. This was true of our patient who delivered at 31^{+} weeks gestation although the weight was higher than expected i.e. 2900g. The poor fetal outcome is due to the effect of malaria to the placenta. Histologically, placental malaria is characterized by the presence of parasites and leucocytes with the macrophages fibrin deposits trophoblastic proliferation of cytotrophoblastic cells and thickening of trophoblastic basement membranes (3)

Treatment of malaria in pregnancy is aimed at reduction of pyrexia, dehydration, correction of anaemia and clearance of parasitaemia using antimalarials. Our patient was put on aspergic stat followed by paracetamol for the fever, intravenous fluids for dehydration, ranferon for anaemia and antenum for parasitaemia. In the very sick patients, parenteral antimalarials are used, as in our patient. (1,2,6). Haematimics and or blood transfusion are used to correct the anaemia depending on severity.

The fall in acquired immunity caused by pregnancy indicates the initiation of chemoprophylaxis as early as possible and its continuation for at least six weeks post partum (2,6). Artemisinin derivatives and quinine are used to treat severe malaria while sulphadoxine/pyrimethamine (SP) is used for both treatment and prophylaxis. Intermittent presumptive treatment with sulphadoxine pyrinaethamine (SP) is safe and efficacious for the prevention of placenta malaria in pregnancy in sub-saharan Africa. While a two dose SP regimen maybe effective in areas with low HIV seroprevalence,

administration of SP monthly during 2nd and 3rd trimesters of pregnancy should be considered in areas of high HIV seroprevalence to prevent the effects of maternal malaria on the new born.

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OBSTETRIC CASE 2

CARDIAC DISEASE GRADE IV – ASSISTED VACUUM DELIVERY

NAME:		H.W.K	L.M.P	07/02/03
IP NO	:	0911420	EDD	14/11/03
AGE	:	27 YR	DOA	22/09/03
PARITY		1+0	DOD	12/11/03

PRESENTING COMPLAINTS

She was admitted wit two months history of easy fatigability, shortness of breath, dry cough and leg swelling. She had been referred from a City Council Clinic where she presented with above complaints. Easy fatigability and shortness of breath were worsened by exertion and were even present at rest. Cough was non – productive.

Obstetric and Gynaecologic History.

Menarche was at 17 years and cycles were established lasting 7 days after every 28 days. She was a para 1+0 having had a spontaneous vertex delivery in 1999. Last menstrual period was on 07/02/03 giving her an expected date of delivery of 14/11/03. She attended antenatal clinic at a City Council Clinic in Kangemi. Antenatal profile done included blood group – O positive, PCV – 32% VDRL – negative, HIV – Negative.

No history of contraceptive use.

Past Medical History

This was not significant

Family Social History

She was married and worked as a hair dresser. She did not take alcohol or smoke cigarettes. Her husband was a hotelier. There was no history of chronic illness.

Physical Examination

She was sickly, afebrile, not pale, no jaundice, no cyanosis and no finger clubbing. She had mild bilateral pitting pedal oedema.

Respiratory System- She had dysphoea at rest. Chest was clear with occasional rhonchi.

Cardiovascular System – Blood pressure was 100/70 mmHg. Heart rate was 128/min, regular with low volume peripheral pulse. Jugular venous pulse was not raised. She had an active praecordium, apex beat was at 5th intercostal space mid-chricular line, S_1, lond and S_2 soft. She had a mid diastolic murmur.

Central nervous system – was essentially normal.

Abdominal Examination

Fundal height corresponded to 32 weeks gestation, longitudinal lie, cephalic presentation, fetal heart rate was 140/min and regular. There was no hepatomegally or splenomegally.

Vaginal Examination

It was not done since it was not indicated.

Impression

An impression of cardiac disease in pregnancy grade IV was made.

Management

The patient was admitted for in-patient care. She was propped up in bed and put on tablets digoxin 0.125mg and lasix 40 mg daily plus monthly benzathine penicillin 2.4 mega units. A cardiologist confirmed the above diagnosis and the following investigations were done.

1. Urinalysis – Ph 6.0
   Specific gravity 1.015
   Proteins - Nil
   Lencocytes - Nil
   Nitrites - Nil
   Blood - Nil
   Growth -Nil
2. Total Blood Count
   WBC – 7.4 x 10^9/L
   RBC – 3.26 x 10^{12}/L
   Hb – 8.2 g/dl
   HCT – 26.5 %
   MCV – 81.4 Fl
   Platelets – 267 x 10^9/L

3. Urea and Electrolytes

   Na+ - 138 mmol/L

   K+ - 4.0 mmol/L

   Urea – 3.7 mmol/L

   Creatinine 64 Umol/L

4. ECG – Tachycardia, LVH

5. Echocardiogram

   Severe mitrostemosis

   No pleural effusion.

6. Stool - soft

   Normal colour

   No occult blood

   No ova and cyst

With the above investigations done a diagnosis of rheumatic heart disease with severe mitral stenosis in pregnancy was made corresponding to New York Heart Association Class IV.

Due to the Hb 8.2g/dl she was put on hematinics and transfused two units of blood. The results of a repeat haemogram were:-

WBC – 6.7 x 10^9/L

RBC – 4.04 x 10^{12}/L

Hb – 10.8 g/dl

HCT – 34.4 %

MCV – 85.1 Fl

Platelets – 179 x 10^9/L

She was scheduled for transoesophageal echocardiography (TEE) and then parcutaneous ballon mitral vulvoplasty on 24/09/03 but was not done due to lack of bed in high dependency unit.

Labour and delivery

On 01/11/03 she went into spontaneous labour and at 11:10 am she was found to be in fair general condition. The fundus was term, lie longitudinal and presentation cephalic. She was getting three strong contractions in every 10 minutes and the fetal heart was 136/min, regular. On vaginal examination, the external genitalia was

normal, cervix was 7 cm dilated and membranes were bulging with no cord presentation.

Artificial rupture of membranes was done and clear liquor drained. Patient was put on her side in propped up position, oxygen administered by mask and blood taken for grouping and cross matching after establishing a wide bore needle intravenous line. Intramuscular tramadal 100mg stat was given plus crystalline penicillin 2mu and gentamycin 80 mg stat. Partogram was commenced.

At 2.20 pm the patient was in second stage. She was advised not to bear down and was transferred to the delivery room. She had a vacuum assisted delivery to a live male infant who weighed 3100g and score 10/1 10/5. Intravenous lasix 80mg stat was given and a drip of syntocinon 40 1.u set up. Uterus was massaged after delivery of the placenta that weighed 500g. She sustained a 1^0 perineal tear that was repaired under local anaesthesia. Estimated blood loss was 200ml.

Post delivery observations were normal and after 24hrs she was transferred to the lying-in ward to continue with digoxin, lasix and ampicillin. She missed bilateral tubal ligation post partum due to lack of consent on time. She was scheduled for interval BTL and discharged home on the 10^{th} post- natal day through the cardiac clinic. She was yet to be seen in the post natal clinic.

DISCUSSION

The patient presented was a newly diagnosed cardiac patient, the lesion being predominantly mitral stenosis, a long term sequelae of rheumatic heart disease (RHD). She had a successful vacuum assisted vaginal delivery.

Cardiac disease associated with pregnancy contributes significantly to maternal morbidity and mortality (1).

Cardiac disease complicates 1-2% of all pregnancies (2,3). In Kenyatta National Hospital an incidence of 0.66% was reported by Ngotho (4) with 86.4% being due to rheumatic heart disease (RHD) and 12.9% due to congenital heart disease. These results compare well to other studies from the African region where RHD is predominant (5). Rheumatic heart disease in pregnancy is the commonest in our set-up in contrast to the developed world where congenital heart disease predominates. However due to improved medical services and advancement on cardiac surgery more

and more women with congenital heart disease can now survive to reach child bearing age and even carry a pregnancy to term successfully (5).

The commonest lesion in rheumatic heart disease is mitral stenosis accounting for upto 90% and is also the most important haemodynamically (3,4). Bhatt in 1978 found that majority of the patients had combined mitral stenosis and mitral regurgitation. The other lesions in order of frequency include aortic incompetence and aortic stenosis. The pulmonary and tricuspid valves are less frequently affected.

The cardiovascular changes observed in normal pregnancy underlie the danger pregnancy presents to the patient with a significant cardiac disease. The management of cardiac disease in pregnancy is based on the functional capacity of the heart and special emphasis should be placed on prevention and early detection of heart failure. The New York Heart Association (NYHA) provides a clinical classification of functional disability due to cardiac disease in pregnancy with no relationship to the extent of the heart lesion as follows:-

Class I - patients with cardiac disease but no limitations in physical activity.

Class II - patients with cardiac disease and only slight limitations in physical activity.

Class III - cardiac disease and marked limitation in physical activity.

Class IV - inability to perform any activity without discomfort, symptoms at rest.

Management of cardiac patients is a concerted effort involving the obstetrician, cardiologist and anaesthetist.

Grade I and II Patient are management as out-patients after clinical evaluation and are only admitted to the ward at 36 weeks to await normal delivery.

Grade III and IV patients are admitted at the first hospital visit until delivery. During the antenatal period maternal physical activity is restricted to avoid cardiovascular compromise and improve uteroplacental perfusion(7). They are nursed propped up in bed to reduce pressure on the inferior vena cava. Hematinics are recommended for prophylaxis of anaemia. Diuretics are not recommended unless the patient is in failure. Respiratory infections are treated with antibiotics while oxygen is used liberally. It is prudent to await spontaneous labour for vaginal delivery unless there are obstetric contra-indications since induction of labour and / or caesarean section carry added risks(6).

During labour and delivery adequate analgesia is important to relieve pain and apprehension. Intramuscular morphine 15 mg is recommended where available. Our patient received tramadal 100mg instead. The patient is nursed in semi-Fowlers position on oxygen by mask while monitoring pulse and respiratory rates every 15 minutes during labour. The patient is started on parenteral antibiotics and digoxin and lasix administered in grade III and IV cases. An emergency tray containing aminophylline, sodium bicarbonate morphine and frusemide and dygoxin, oxygen should be ready. Assisted vacuum delivery is aimed at shortening the second stage as the patient avoids the strain of bearing down. Ergometrine is avoided during third stage since ergot alkaloids produce marked elevation of central venous pressure and transient hypertension. Uterine massage and syntocinon are used to control uterine bleeding. Excessive fluid administration should be avoided as this may precipitate heart failure.

A bolus of frusemide 40 – 120 mg is given immediately after third stage to offset the anticipated cardiac output increase from the placental bed. Post-natally patients are kept under close surveillance particularly during the first 24 – 48 hrs to monitor haemodynamic changes and for the next 10 – 14 days to monitor for infections mainly infective endocarditis. Several studies have shown that pregnancy does not have long-term deletrious effects on the prognosis or progress of cardiac disease or progress of cardiac disease. Patients with cardiac disease are advised to complete their families early and then have sterilization.

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OBSTETRIC CASE 3

HUMAN IMMUNE DEFICIENCY VIRUS INFECTION IN PREGNANCY – LIVE BA BABY

NAME:	A.N.W	LMP:	22/05/02
IPNO:	0850740	EDD:	29/02/03
AGE:	35YRS	DOA:	24/02/03
PARITY:	2+0	DOD:	25/02/03.

Presenting complaints

The patient was admitted complaining of lower abdominal pain of six hours duration. The pain was progressive in frequency, duration and intensity and associated with backache. There was no drainage of liquor or vaginal bleeding. There were no urinary symptoms like dysuria or vaginal discharge but there had been frequency and urgency during pregnancy.

Obstetric and Gynaecologic History.

She was a para 2+0 with two living children .The first delivery was in 1990 in a hospital to a live male infant who weighed 3500g. The second was also a hospital vaginal delivery in 1993 to a live male infant who weighed 3400g. Her menarche was at 15yrs and had established regular cycles of 4 days after every 28 days. She was certain of her last menstrual period which was on 22/05/02 and her expected date of delivery was therefore on 29/02/03 giving her a gestation by dates of 39^{+} weeks. She attended antenatal clinic at Kenyatta National Hospital since 30 weeks gestation and had the following antenatal profile: -haemoglobin 11.9g/dL; blood group 0+ve; VDRL negative and ELISA for HIV antibodies positive. She was started on Zidovudine (AZT) 300mg BID from thirty-six weeks upto the time of delivery. Albeit counseling she had opted to have a vaginal delivery and breastfeed.

Post medical /surgical history

This was not significant.

Family and social history

She was a housewife married to a public service vehicle driver. She neither smoked cigarettes neither took alcohol. There was no family history of twins or chronic illness.

Physical examination

She was in good general condition, afebrile, not pale, no oedema, no lymphadenopathy or herpetic lesions. Blood pressure was 110/70mmhg, pulse rate 80/min, regular and of good volume, respiratory rate 20/min. Respiratory, cardiovascular and central nervous systems were essentially normal.

Abdominal Examination

The abdomen was uniformly distended moving with respiration and a fundus corresponding to term gestation. Lie was longitudinal and presentation cephalic with the presenting part two-fifths above the pelvic brim. She had three strong contractions occurring in 10 minutes and the fetal heart was 136/min and regular. There was no hepatomegally or splenomegally.

Vaginal Examination

She had normal external genitalia; the cervix was anterior, fully effaced, 6cm dilated and membranes bulging through the os. There was no cord presentation, pelvis was adequate and there was show on examining fingers.

Diagnosis

An impression of active phase of labour in a HIV infected mother was made.

Management

Labour was monitored using a partogram, artificial rupture of membranes was not done although she ruptured membranes spontaneously about 1 hr before delivery and 4 hours after admission she had a spontaneous vertex delivery to a live male infant who weighed 3400gm and scored 8/1, 10/5, 10\10 on the APGAR scale. No episiotomy was given and the third stage of labour was uneventful. The baby had mucus secretions wiped dry without suction and given to the mother for rooming-in.

With mother and child stable, they were transferred to the lying –in ward with an anti-retroviral treatment prescription for the baby i.e. syrup Zidovudine 2mg/kg body weight six hourly for six weeks. On the second post natal day the mother had no complaints was afebrile, breast lactating and not engorged, uterus was well contacted at 22/40and lochia loss was normal. She was discharged from hospital with instructions to attend post-natal clinic after six weeks but she did not turn up on the date of appointment.

DISCUSSION

A.N.W was a patient who was found to have HIV infection during antenatal period. She had opted to be screened for HIV as part of antenatal profile after its importance had been emphasized. Despite having the HIV infection, she was however made to understand that she did not have the disease AIDS.

HIV is a single-stranded RNA virus, which replicates by using the reverse transcriptase enzymes to translate its genomic RNA into DNA copy. The three modes of transmission are parenteral exposure to infected blood or tissue, sexual exposure to genital secretions of infected person and perinatal exposure i.e mother to child exposure. Mother to child transmission occurs prenatally through the placenta, perinatally through blood and vaginal secretions or postnatally through breast milk (5).

There are three major recognizable epidemiological patterns of HIV infection. Pattern 1 occurs in North America, Europe and Australia and occurs among intravenous drug users, their partners and offspring. Pattern 2 occurs in Sub-Saharan Africa and increasingly in other parts of the world. The mode of transmission is heterosexually, vertical transmission or blood transfusion. Pattern III includes the other countries where HIV has recently been introduced and where small numbers have been infected in various ways (13). The exact incubation period from infection is unknown but it is usually 2-3 months. The stimulus that causes further progression from a symptomatic viraemia to AIDS is also unclear but the median time for this change to occur is about 10yrs but it can take as long as 20 yrs (7).

In Kenya, in 2001, the HIV prevalence among the urban population was 15% and 12% among rural populations. The prevalence of HIV infection among pregnant

women in Kenya is currently estimated at 13% while in Nairobi the same stands at 14 % (12).

It is currently recommended that routine confidential voluntary HIV screening be done on all antenatal clients. In Nairobi, the rate of antenatal screening acceptability has been reported as 99.4% (10).

The essence of antenatal HIV screening is to offer anti retroviral chemo –prophylaxis to those found HIV - positive since this has been found to significantly reduce the risk of mother to child transmission (12).

The rate of perinatal transmission is estimated to be 15-20% in Europe, 15-30% in USA and 25-35% in Africa. The likelihood of mother-to-child transmission is related to maternal viral load and is therefore high in the early and late phases of the natural history of HIV infection. Although two-thirds of mother –to-child transmission occurs around the time of delivery, it can also occur in utero or through breast milk after birth (1,9).

Reduction / prevention of mother –to-child HIV/AIDS transmission can be provided by the use of antiretroviral drugs, modification of routine care during labour and delivery and proper post partum care. Various drug protocols are available for use antenatally, intrapartum and post partum.

The AIDS Clinical Trial Group Protocol 076 (ACTG 076) demonstrated a three-fold reduction in transmission rate from 25% to 8% after use of prophylactic zidovudine (ZDU, AZT). In this protocol oral AZT 100mg five times daily or 200mg TID or 300mg BID from 14-34 weeks gestation is administered throughout pregnancy plus intravenous AZT intrapartum given 2mg/kg for the first hour then 1mg/kg six hourly until delivery. Syrup AZT 2mg/kg six hourly for six weeks is also prescribed for the baby.

A shorter and cheaper regimen of the same protocol has been shown to be effective in reducing perinatal transmission in the studies in Cote d`Ivoire and Thailand. This involves administration of oral AZT 300mg BID from 36weeks of pregnancy until onset of labour followed by 300mg orally 3hourly until delivery. This regime is associated with a 51% reduction in the rate from 19% in the placebo group to9% in the treatment group 2,3,9.11). Our patient was put on this drug regimen.

In the PETRA (Perinatal Transmission) protocol a combination of AZT and Lamivudine (3TC) is employed. AZT 300mg BID and 3TC 150 mg BID from 36 weeks upto the onset of labour; AZT 300mg 3 hourly and 3TC 150mg BID

intrapartum; AZT 300mg BID for one week for the mother postpartum and AZT 4mg/kg BID and 3TC 2 mg/kg BID for a week for the infant comprises the protocol. The perinatal transmission with PETRA protocol is only 10.8% (14).

In the HIV NET 012 protocol, Nevirapine (NVP), a non-nucleoside benzodiazepine derivative and a potent inhibitor of HIV replication is highly effective when given intra-partum at the onset of labour, 200mg stat and to the infant 2 mg/kg stat with 72 hours of birth. The mother-to – child HIV transmission rate with this protocol is 13.5% at 14 – 16 weeks post- partum and is currently the cheapest at a cost of about $ 4 (4,14).

Other measures include vaginal cleansing with hibitane (chlorhexidine 0.25%) solution after every vaginal procedure (which should be kept to a minimum required) and before delivery, avoidance of invasive obstetric procedures like fetal scalp electrodes, amniocentesis, episiotomy, operative vaginal delivery and breastfeeding. The baby once delivered should have all secretions wiped dry while avoiding suction and bathed in hibitane. Elective caesarean section delivery has been reported to reduce the transmission rate by 50% (6) while transmission rate of as low as 3 – 5 % has been reported with AZT prophylaxis alone and 1 – 2 % with combined use of AZT and elective caesarean delivery (11).

Effects of pregnancy on the progression of HIV infection to AIDS is unclear. Theoretically, pregnancy being an immunosuppressive condition could accelerate the onset of AIDS. The effect of HIV on pregnancy is also an unresolved issue but studies have shown an increased incidence of low birth weight (LBW) in infants born to HIV positive mothers (9). HIV infection has also been associated with abortion, premature labour and delivery, stillbirth and neonatal death (8).

Our patient delivered at term to a live male infant who weighed 3400g, a weight similar to her two previous deliveries.

HIV seropositive women can use all modern methods of contraception. However, in immunosuppressed women an IUCD may be associated with increased risk of infection. Barrier methods should be used in conjunction with other methods to offer protection against STDs and re-infection with additional HIV strains since the HIV virus is constantly mutating.

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OBSTETRIC CASE 4

UNSESITISED RHESUS (D) NEGATIVE MOTHER – LIVE BABY

Name:	N.M	Parity: 1 + 0
Age :	27 yr	DoA : 18/11/03
Ip No:	0924075	DoD : 21/11/03

Presenting Complaints

The patient was admitted complaining of labour pains and drainage of liqour for six hours.

Obstetric And Gynaecologic History

She was para 1 + 0. Her last delivery, SVD, was in 2000 to a live infant who weighed 3.5 Kg. Her last menstrual period was on 18/02/03 and expected date of delivery 08/11/03. She was uncertain of menarche but had regular cycles of 3 days after every 28 days. She had not used contraceptives. She was booked in at Kenyatta National Hospital antenatal clinic at 36 weeks from Thika District Hospital due to being rhesus negative. She had not received anti-D vaccine.

Antenatal profile Include

- Blood group O negative (spouse A +ve)
- Hb – 12.8 g/dl
- VDRL – Negative
- HIV – Not done
- Indirect Coombs Test (ICT) – Negative at 38 weeks.

Past Medical History

Not significant.

Family and Social History

She was a married teacher who neither smoked cigarettes nor took alcohol. No history of chronic illness.

Physical Examination

She was in good general condition, afebrile, not pale, no oedema on jaundice. Blood pressure was 110/60 mmHg, pulse rate 80/Min, respiratory rate 22/min.

Cardiovascular respiratory and Central nervous system were essentially normal.

Abdominal Examination

Fundal height corresponded to a term pregnancy, fetus was in longitudinal lie, cephalic presentation. Fetal heart was heard and regular at 136/min. There were mild contractions palpable.

Vaginal Examination

She had normal external genitalia, cervix was 2 cm dilated, partially effaced, no cord presentation and clear liquor drainage.

Impression

A rhesus negative mother in latent phase of labour.

Management

Labour was augmented with syntocinon and she progressed well to second stage. She had a SVD to a live male infant who weighed 3100g and scored 9/1, 10/5. The baby was admitted to new born unit. Baby's blood group was A+ve, direct Coomb's test negative and bilirubin levels were less than 3.0 mmol/L. The mother was given anti – D immunoglobulin the following day. On the second post-natal day both mother and baby were well and were discharged home to be followed up in post-natal clinic after six weeks.

DISCUSSION

Hemolytic disease of the newborn is a disorder that occurs in response to maternal antibodies that result from antigenic stimulation from fetal cells. The ABO and CDE antigens are the commonest cause of hemolytic disease of the newborn, especially CDE (1,7). CDE complex genes are carried on the short arm of chromosome one and are inherited independent of other red cell antigens.

Rhesus antigens are lipoproteins found on the red cell membranes (2). The dominant D gene is the most important in rhesus incompatibility. Presence of D antigen in an individual categorizes that individual as Rhesus Positive while its absence or presence of recessive 'd' allele is termed rhesus Negative. About 45% of Rh positive individuals are homozygous for D and 55% heterozygous . The incidence of rhesus negativity varies from one region to another and from one race to another. Asians have the highest, 34%, White Americans 7 – 8 %, (1,3). In 1987, Muroki found an incidence of 2.6% Rh negative patients admitted to Kenyatta National Hospital following spontaneous abortions (4). There is no difference in distribution with regard to sex. Rhesus isoimmunization occurs when a rhesus negative mother is transfused with a rhesus positive blood. This occurs during therapeutic blood transfusion or feto-

maternal transfusion.Isoimmunization can also occur if a rhesus positive mother passes red blood cells to rhesus negative fetus in materno-fetal haemorrhage – the so called "grandmother theory". (1) In isoimmunization fetal red blood cells enter maternal circulation especially near term with resultant formation of 1gM antibodies. IgM antibodies do not cross the placental barrier. Subsequently IgG antibodies are formed of lower molecular weight that can cross the placental barrier and cause fetal red blood cell haemolysis, (1,6). Pre-disposing factors to fetomaternal transfusion include amniocentesis, abdominal trauma, abruptio placenta, manual removal of placenta, incomplete abortion, cordocentesis and external cephalic version.

ABO incompatibility offers some protection to rhesus isoimmunization as the incompatible fetal red blood cells are quickly mopped up by the maternal immune system before eliciting any reaction. In general the risk of rhesus sensitization for all rhesus negative ABO compatible women is 8% in the first pregnancy and in the second pregnancy another 8% risk is added. In ABO incompatibility the risk is 1 – 3% (1,3).

The risk of sensitization depends on the volume of fetomaternal transfusion. A critical volume of 0.25 ml can cause sensitization while a volume of 200ml will give 80% chance of sensitization. Haemolytic disease of the newborn results in fetal anaemia, hyperbilirubinemia, hypoxia and acidosis, impaired liver function, skin oedema ascites, pericardial effusion and possibly death.

Prevention of isoimmunization can be done by doing blood ABO and rhesus negative mothers should have indirect Coombs test (ICT) done at 28 and 34 weeks gestation. For those with ICT negative results prophylactic anti-D globulin should be given at 28 weeks and 34 weeks and after delivery preferably within 72 hrs (7). The amount of fetal blood in maternal circulation can be determined by Betke Klerhaur Test and the dosage of antiD titrated against the volume. Spectrophotometry is used to assess the severity of haemolysis in the fetus and bilirubin levels charted in the Liley's graph. In the sensitized mothers, immuno-suppression with steroids, high dose promethazine and rhesus D positive erythrocyte membrane in coated capsules is administered orally throughout pregnancy(5).

In our unit the advocated regime for anti-D is not available to all mothers due to cost but a dose of 300 ug has been found to be effective within 72 hours of delivery of a rhesus positive infant. Our patient benefited from this regime.

OBSTETRIC CASE 5

ANTEPARTUM HAEMORRHAGE 2^0 PLACENTA PRAEVIA 11B CAESAREAN SECTION – LIVE BABY

NAME:	M.H	PARITY	3+ 0
IP NO:	0913679	LMP	15/12/02
AGE:	35 YEARS	EDD	22/09/03
DOA:	14/09/03	GBD	39 WKS
DOD:	18/09/03		

Presenting Complaints

The patient was admitted through labour ward casualty complaining of reduced fetal movements for five days, lower abdominal pain and backache for one day. There was no drainage of liquor or bleeding vaginally. There were no urinary symptoms. There was no history of illness or trauma prior to the complaints.

History of Current Pregnancy

The patient was sure of her last menstrual period which was on 15/12/02 giving her an expected date of delivery of 22/09/03 and a gestation by dates of 39 weeks. She attended antenatal clinic in Pumwani Maternity Hospital that was uneventful with antenatal profile of blood group AB +ve; Haemoglobin 9.2g/al and VDRL – negative.

Obstetric and Gynaecologic History

She was a para 3+0 with 3 living children. Her first delivery was in 1982 at home to a live female infant. The second delivery was in 1984 in Pumwani Maternity hospital, SVD to a live female infant of birth weight 3.0 kg. The 3rd delivery was in the same hospital in 1992, SVD, to a live female infant who weighed 4.0kg. Menarche established was at 14 years and had established regular cycles of 3 – 4 days after 28 days. She used an IUCD between 1993 and 2002 when it was removed to conceive.

Post Medical/ Surgical History

She was admitted at Kenyatta National Hospital in 1996 with lobar pneumonia and did well on treatment.

Family and Social History

She was a house staying in Pumwani with her family, Muslim by religion, smoked cigarettes and took alcohol occasionally. Husband was a salesman. No family history of chronic illness or twins pregnancy.

Physical Examination

She was in good general condition afebrile, not pale and no oedema. Blood pressure was 110/70 mmhg, respiratory rate 22/min and pulse rate 80/min. The respiratory, cardiovascular and central nervous systems were essentially normal.

Abdominal Examination

The abdomen was uniformly distended fundal height was term, longitudinal lie and cephalic presentation. The head was five fifths above the pelvic brim. There was no tenderness or contractions palpable. Fetal heart tones were present at 140/min and regular.

Vaginal Examination

She had normal external genitalia; cervix was anterior, soft, parous.

Diagnosis

Para 3+0 gravida 4 at term with reduced fetal movements.

Management

A decision to induce labour with misoprostol (Cytotec) 50ug 6 hourly was made. The first dose of cytolec 50ug was inserted in the posterior fornix and patient taken to the lying-in ward for observation. Two hours later the patient was brought back to labour ward with profuse P.V bleeding with minimal lower abdominal pains.

A speculum exam was done and confirmed moderate bleeding through the cervical os that was about 3 cm dilated. An intravenous drip of normal saline was set up, blood taken for urgent grouping and cross-matching for two pints of blood and an informed consent obtained from the patient to be taken to theatre for an emergency examination under anaesthesia (EUA) / caesarean section. Vital signs were within normal limits, fetal heart tones heard and regular 135/min and the patient was premedicated with intramuscular atropine 0.6 mg stat.

Examination Under Anaesthesia/Caesarean Section

In theatre the patient was put under anaesthesia and in a double set-up vulvovaginal toilet done and catheterized. The bleeding was mild to moderate through about 3 cm

dilated cervix, the pouch of Douglas felt doughy but no placental tissue was felt through the cervix. The abdomen was cleaned, draped and opened through a sub umbilical midline incision. The lower uterine segment was identified and after palpating the fetal head with ease a transverse incision was made without going through the placenta. The outcome was a live male infant who scored 8/1 9/5 and 10/10 and weighed 3000g. The placenta was found implanted in the lower uterine segment posteriorly just touching the cervical os. It was then delivered easily by controlled cord traction. Uterus was repaired and hemostasis achieved. The abdomen was closed in anatomical layers after a correct instrument and swab count. Post-operative vulvo-vaginal toilet was done and anaethesia reversed successfully. Estimated blood loss was 500ml.

Post-Operative Care

The patient had 1/2hrly observation of vital signs until fully awake then 4 hrly observations. She was maintained on 3L intravenous fluids for 24 hrs while feeds were introduced gradually after 6 hrs. Prophylactic antibiotic cover was given i.e. i.v crystalline penicillin 2mu 6 hrly and gentamcycin 80 mg 8 hrly for 48hrs and thereafter caps amoxil 500mg eight hourly. Analgesia was by i.m pethidine 100mg 6 hrly for 48 hrs followed by ponstan 500mg three times daily for five days. On the third day a check PCV was 29% and the wound was exposed and found to be healing well. On the fourth post-operative day both mother and child were discharged home to be followed up in the post-natal clinic after six weeks in Pumwani Maternity Hospital.

DISCUSSION

Third trimester haemorrhage continues to be one of the most ominous complications of pregnancy. Causes can either be non obstetric or obstetric. Non-obstetric causes include local lesions of the vagina and cervix and usually result in relatively little blood loss and little threat to mother or fetus. An exception is the cancer of the cervix. Obstetric causes are of more concern and include abruptio placenta, placenta praevia, circumvallate placenta, uterine rupture and abnormal blood- clotting mechanisms (5). In placenta praevia, the placenta is implanted in the lower uterine segment within the zone of effacement and dilatation of the cervix, thus constituting an obstruction to

descent of the presenting part. Placenta praevia is classified and typed according to the implantation in relation to the internal os thus:

Type I low-lying placenta implanted in the lower uterine segment in close proximity to the internal cervical os.

Type II Marginal placenta praevia in which case the placenta is at the margin of the internal os.

Type III Partial placenta praevia whereby the placenta partially covers the internal os.

Type IV Total placenta praevia i.e the placenta totally covers the internal os.

Further typing depends on whether the implantation is in the anterior (a) or Posterior (b) uterine wall. The patient presented had placenta praevia type II b. As a practical matter, a precise clinical classification of placenta praevia is not of great importance since the management depends on the status of the patient (1,5).

The incidence of placenta praevia is increased by advancing maternal age, multiparity, multiple gestation and previous caesarean delivery. Thus possible aetiologic factors include scarred or poorly vascularized endometrium in the corpus, a large placenta, and abnormal forms of placentation e.g. succenturiate lobe (1,4,5). In Kenyatta National Hospital the incidence of antepartum haemorrhage was found to be 4.7 – 6.7 % of all deliveries while the cause was found to be placenta praevia in 12.7%, abruptio placenta in 15.4% local causes, 3.6% and intermediate causes in 68.3% (3). Our patient had no clear cause for the placenta praeria. Diagnosis of placenta praevia is based on symptoms and signs, and placentography. Painless haemorrhage is the cardinal sign of placenta praevia. The first episode of haemorrhage usually begins at some point after the 28^{th} week and is characteristically described as being sudden, painless and profuse but the blood loss usually is not intensive, seldom produces shock, and is almost never fatal. In a small minority of cases, bleeding will be less dramatic or will not begin until spontaneous rupture of membranes or the onset of labour. The patient presented started bleeding in the latent phase of labour. In about 15% of cases the fetus will present in an oblique or transverse lie. No evidence of fetal distress is likely unless there are complications such as hypodermic shock, abruptio, or a cord accident (5). The fetus delivered in the case presented had no distress (Apgar score 8/1 9/5 10/10).

During examination under anaesthesia (EUA) the placenta can be palpated through the cervical os though not always (1) as was in our case.

Placentography is accomplished by trans-abdominal sonography with an accuracy rate over 95%. Other methods include magnetic resonance imaging (MRI), soft tissue radiography, radioisotope, displacement placentography, arteriography and infrared thermography (2). Our patient had no benefit of the above as the bleeding occurred in labour.

Management of placenta praevia is either expectant therapy or delivery vaginally or by caesarean section. The mode of treatment is dependent on extent of haemorrhage, duration of pregnancy and viability of the fetus, degree of placenta praevia, presentation, position, and station of the fetus, the gravidity and parity of the patient, status of the cervix and whether or not labour has began (1,5).

Complications include anaemia, haemorrhagic shock and death puerperal sepsis for the mother and prematurity and birth injury for the fetus.

The dosage of misoprostol (50ug) used in the patient for cervical ripening was higher than the dosage used elsewhere i.e misoprostol 25ug. This was due to the drug presentation available of 200ug tablets. However, this may not have contributed to the bleeding and routine sonographic placentography is not recommended prior to misoprostol use.

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OBSTETRIC CASE 6

CEPHALOPELVIC DISPROPORTION – EMERGENCY CAESAREAN SECTION – LIVE BABY.

Name	:	J.N	Parity	:	0+0
Age	:	28	LMP	:	22/12/02
IP No	:	0919851	EDD	:	29/09/03
DoA	:	09/10/03	DOD	:	13/10/03

Presenting Complaints

She was admitted complaining of labour pains six hours.

History of Presenting Complaints

The pains started late in the night, were initially mild but were progressive in frequency, intensity and duration. There was no drainage of liquor or bleeding vaginally. There were no symptoms of dysuria or frequency but urgency. The pains radiated to the back.

Obstetric and Gynaecologic History

She was a primigravida who attained menarche at 13 yr. She had established menstrual cycle of 3 – 4 days duration and 28 days in length. She had not used any contraceptive method. Her last menstrual period was on 22/12/02 giving her an estimated date of delivery of 29/09/03. She was therefore 40 weeks plus 10 days at the time of labour. She had an antenatal clinic attendance at Kenyatta National Hospital which was uneventful. Antenatal profile done included:-

1. Blood Group – A+ve
2. VDRL – Negative
3. HIV – Negative
4. Hb. Level – 13.1 g/dl
5. Height – 5 feet tall

Past Medical History

She had been managed for hyperacidity.

Family and Social History

She was married and took alcohol occasionally outside pregnancy. Husband was self-employed. There was no chronic illness or history of twins in the family.

Physical Examination

She was in good general condition, afebrile, not pale, no oedema. Blood pressure was 110/70 mmHg and pulse 82/min regular and good volume. Respiratory, cardiovascular and central nervous systems were essentially normal.

Abdominal Examination

The abdomen was uniformly distended, fundus corresponded to a term gestation, the fetus was in longitudinal lie, cephalic presentation, head 4/5 up and the uterus had three moderate contractions each lasting about 40 seconds in ten minutes. Fetal heart was heard and regular at 138/min.

Vaginal Examination

She had normal external genitalia, cervix was anterior, fully effaced about 4 cm dilated, membranes intact without cord presentation. The pelvis felt clinically adequate.

Impression

An impression of primigavida in active 1st stage of labour was made.

Management

The patient was planned for normal vaginal delivery. Artificial rupture of membranes (ARM) was done and clear liquor obtained without cord prolapse. She was monitored and labour findings charted on the partogram. As scheduled, a repeat vaginal examination was done. The cervix was found to be fully dilated, fetal head had moderate caput and third degree moulding. On abdominal examination the head was 3/5 above pelvic brim. An intrapartum diagnosis of cephalopelvic disproportion (CPD) was made and the patient scheduled for an emergency caesarean section. An informed written consent was obtained from the patient, blood taken for grouping and cross-matching of two units, and an intravenous line established. She was premedicated with intra-muscular atropine sulphate 0.6 mg stat. In theatre, she was asceptically catheterized and clear urine obtained. The abdomen was cleaned and draped under general anaesthesia, the abdomen was opened through a Pfannenstiel incision. The bladder that was grossly normal was retracted and a lower uterine segment caesarean section done. The outcome was a live male infant, birth weight 3600g and scored 6/1 9/5 10/10. The cord was about 30 cm long. After delivery of a healthy placenta, the uterus was repaired, hemostasis achieved and abdomen closed in

layers after a correct instrument and swab count. Anaesthesia was reversed after vulvovaginal toilet. Estimated blood loss was 500ml.

Post-Operative Management

Vital signs were observed 1/2hrly till she was full awake then 4 hrly. She was on nil by mouth for 6 hrs. Intravenous normal saline alternating with 5% dextrose were administered amounting to 3L/24 hrs. Prophylactic antibiotics crystalline penicillin 2 mu 6 hrly and gentamycin 80 mg 8 hrly were prescribed. Pethidine 100g 8 hrly intramuscularly was given for pain. After 48 hrs she was put on oral medication i.e amoxycillin 500 mg tid and ponstan 500g tid. On the third post-operative day the wound was exposed and found to be clean and dry. Blood was taken for check Hb. On the fourth day both mother and baby were stable and were discharged home through post-natal clinic for review after six weeks.

Follow up

In the post-natal clinic, the patient had no complaints. She was breast feeding, wound was well healed with no adnexal tenderness. Uterus was well involuted. She was counseled on family planning.

Discussion

The patient presented was a 28 year old primigravida who had an emergency caesarean section due to cephalo-pelvic disproportion (CPD) with good outcome. Cephalo-pelvic disproportion (C P D) refers to the observations of pelvic architecture and its relationship to the fetal presenting part. Abnormalities of the passage constitute the pelvic dystocia while abnormalities of the passenger are known as fetal dystocia (4).

The condition of CPD is rare in the developed countries where the abnormalities of labour are more related to uterine dystocia i.e uterine activity that is ineffective in eliciting the normal progress of labour. Hypertonic, hypotonic or dis-co-ordinated uterine activity is characteristic of ineffective uterine action. In developing countries, the prevalence of CPD varies from country to country and even from tribe to tribe (5). The commonest cause of CPD in the developing world is a contracted pelvis which may be due to nutritional or genetic reasons. Other causes of pelvis dystocin are soft tissue abnormalities of the birth canal, reproductive tract masses or neoplasia aberrant

placental location (1,2,4,5). High parity may also lead to sublaxation of the lumbar vertebra thus reducing the antero-posterior diameter of the pelvic brim (2,5).
Common fetal abnormalities leading to dystocia include excessive fetal size, mal-positions, mal-presentations, congenital abnormalities and multiple gestations. A mal-position such as persistent occipital posterior position are considered as relative causes of CPD. Our patient delivered a baby weighing 3600g who had no abnormalities but it is still possible that both maternal and fetal factors played a role for CPD.
The best pelvimeter is labour itself since a small primigravida with a "contracted pelvis, may also have a small baby who can be delivered normally. It is general practise to do clinical pelvimetry at 36 weeks gestation on all primigravidae although this can lead to a lot of erring. X-ray pelvimetry has generally not been found helpful in the diagnosis of CPD although any maternal pelvis with an obstetric diameter less than 10 cm should be viewed with suspicion (4). Although fetal mal-position congenital abnormalities maternal soft tissue dystocia, and neoplasms are easily diagnosed by roentgenography, ultrasound, they occur in a minority of cases. Clinical assessment of the fetal head may be the best way to either start suspecting CPD or even rule it out. If the fetal head is engaged CPD is unlikely. However, in the Negroid race usually there is no engagement of the presenting part before onset of labour and hence antenatal assessment may be misleading (1,2,4,5).
Once CPD is diagnosed, the only mode of delivery is by caesarean section – as was the case in our patient. In other centers, symphysiotomy may offer an alternative .
Only in a minority of cases will a diagnosis be made before onset of labour. In some cases of borderline pelvis a carefully managed trial of labour. In some cases of borderline pelvis a carefully managed trial of labour is desirable with the patient fully prepared for emergency caesarean section if need arises.
CPD is associated with various complications. It is one of the causes of feotal distress and accounts for 45.1% of all caesarean sections performed at Kenyatta National Hospital (3,7). Other complications include, uterine rupture, intrauterine fetal death, vesicovaginal and rectovaginal fistulas, maternal morbidity and mortality

OBSTETRIC CASE 7

FOETAL DISTRESS – EMERGENCY CAESAREAN SECTION – LIVE BABY

Name	:	G.M	LMP	:	03/01/03
Age	:	26	EDD	:	10/10/03
IP No	:	0919862	DOA	:	09/10/03
Parity	:	0 + 0	DOD	:	14/10/03

Presenting Complaints

She was admitted in labour ward complaining of labour pains for six hours. There was no drainage of liquor or vaginal bleeding. There were no urinary symptoms like dysuria or frequency.

Obstetric and Gynaecologic History

She was a primigravida who had her menarche at 15 yr. She had regular cycles lasting 3 days after every 28 days. She had never used family planning. He last menstrual period was on 03/01/03 and her expected date of delivery was therefore on 10/10/03. She had an uneventful antenatal attendance at Kenyatta National Hospital. Antenatal profile done include:-

Blood group O+ve, Hb 12.9 g/dl; VDRL – negative and HIV – negative

Past Medical History

This was not significant.

Family Social History

She was a housewife and the husband was self-employed. She did not smoke or drink alcohol. No history of chronic illness.

Physical Examination

She was in good general condition, afebrile, not pale, no oedema. Blood pressure – 110/70 mmttg, pulse rate 80/min regular, good volume and respiratory rate 22/min. Respiratory cardiovascular and central nervous systems were essentially normal.

Abdominal Findings

It was uniformly distended, moving equally with respiration. Fundus corresponded to a term pregnancy, cephalic. Foetal heart was 142/min and regular. She had two moderate contractions in every ten minutes.

Vaginal Examination

She had normal external genitalia, cervix was anterior fully effaced and 5 cm dilated, membranes were bulging with no cord presentation. Pelvis was adequate. Artificial rupture of membranes was done and meconium stained liquor grade II drained.

Impression

An impression of foetal distress in early labour was made.

Management

The diagnosis was conveyed to the patient and she gave an informed written consent for an emergency caesarean section. Blood was taken for grouping and cross-matching, intravenous 5% dextrose drip set up, oxygen by mask given and patient premedicated with intramuscular atropine sulphate 0.6 mg stat.

In theatre, patient was catheterized and clear urine drained. In supine position, abdomen was cleaned and draped. Under general anaesthesia, abdomen was opened in layers though a P fannestid incision, paracolic gutters packed and bladder retracted. A lower uterine segment transverse incision was made and a live male infant extracted weighing 3500g and scored 9/1, 10/5. The placenta was delivered by controlled cord traction. Uterus was repaired in layers, hemostasis achieved and abdomen closed in layers after a correct instrument and snab count. Vulvovaginal toilet was done and anaesthesia reversed successfully. Estimated blood loss was 600ml. Post operatively the patient remained stable. She was put on crystalline penicillin and gentamycin for 48 hrs and then amoxycillin for five days. Analgesia was provided by pethidine 100 mg 8 hrly for 48 hrs then Ponstan 500mg TID for five days. On the fourth post operative day mother and child were discharged home to be reviewed in post-natal clinic.

In the post-natal clinic both mother and child were well, she was breast-feeding, uterus had well involuted, no adnexal tenderness and no lochia loss. She was referred to the family welfare clinic for family planning services.

DISCUSSION

The patient presented was a primigravida who was promptly delivered by caesarean section due to foetal distress.

Foetal distress may be defined as a complex of signs indicating a critical response to stress. It implies metabolic derangements – notably hypoxia and acidosis- that affect the functions of vital organs to the point of temporary or permanent injury or death

(6). In a study by Fongoh (5) at Kenyatta National Hospital 7% of all deliveries had maconium stained liquor with 81% of those having normal deliveries. These results compared well with other studies done elsewhere (1). Aetiology of fetal distress is a combination of factors. Maternal factors include decreased placental perfusion as in hypertensive disease, diabetes, cardiac disease or inadequate oxygenation due to emphysema or high altitude. Possible fetal causes are multiple gestation, post-maturity, congenital anomalies, congenital infections and erythroblastosis fetalis. Placental and cord causes include abruptio placenta, placenta praeria, ruptured vasa praeria, cord knots and entanglement. Mechanical stresses in labour may also cause fetal distress e.g hypertonic uterus (6).

Foetal distress may be categorized into chronic or acute fetal distress. Chronic fetal distress implies an interval of sublethal fetal deprivation that affects growth and development. The distress may be caused by any factor enumerated above mainly due to a reduction of placental perfusion, placental abnormality or deficient fetal metabolism. Acute fetal distress is a manifestation of fetal compromise due to sudden changes as occur in labour. Signs of fetal distress therefore include affected growth development, significant alterations in fetal heart rate or rhythm, meconium in the liquor, amni and tumultuous fetal movements (4). Fetal scalp blood sampling monitors fetal distress and a Ph $\leq$ 7.20 is an indicative of fetal acidosis.

Diagnosis of fetal distress is achieved by antepartum assessment of both maternal and fetal well-being. Manual assessment of fetal size and real time ultrasonic evaluation are essential. Amniocentesis for analysis of genetic disorders, rhesus isoimmunization, infections, physiologic maturity can be done. Foetal movement counting can be done. Intra-partum fetal heart rate monitoring by auscultation or electronic monitoring will screen for intra-partum fetal distress (6).

Specific considerations for the management of foetal distress are:

1. Position of the patient

   With the patient on her lateral position pressure on the umbilical cord may be relieved. Uterine blood flow is also increased by relieving pressure on the inferior vena cava.

2. Hypotension

   Supine hypotensive syndrome is corrected by placing the patient on her side. Legs may be elevated and if drugs are required then cardiotonics like ephedrine are preferred.

3. Decreasing uterine activity

   Discontinuation of oxytocin decreases uterine activity permitting better placental perfusion.

4. Hyperoxygenation.

   Fetal hypoxia is corrected by raising the maternal –fetal PO_2 gradient. Oxygen is administered to the mother by face mask.

5. Acid base balance

Maternal acidosis can be corrected by administration of sodium bicarbonate and hypertonic glucose (2,3).

If the situation worsens, if the signs of probable fetal distress persist for 30 minutes, or if there is fetal distress despite conservative treatment, immediate delivery is mandatory. Obstetric judgement must dictate how the delivery will be accomplished in accordance with the presentation, position, cervical dilatation and presumed fetal status. Our patient was delivered by caesarean section due to meconium staining in early labour.

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OBSTETRIC CASE 8

CERVICAL INCOMPETENCE

MAC DONALD STITCH INSERTION –

EMERGENCY CAESERIAN SECTION AT 40 WEEKS – LIVE BABY

NAME:	M. M	IP NO	0693660
Age	28yrs	DOA	02/09/02
Parity	1 & 3	DO2	02/09/02

Presenting Complaints

The patient was admitted through the antenatal clinic at Kenyatta National Hospital after being advised to have a Mac Donald stitch insertion owing to three previous abortions and clinical findings suggestive of cervical incompetence.

Obstetric and Gynaecological History

She was a para 0 & 3 gravida 4. Last menstrual period was 14/05/02. Expected date of delivery was 21/02/02. Gestation by dates was $15^{+}/40$.

In 1998 she has an induced abortion at six months gestation. In March 2000 she had a spontaneous abortion at three months gestation and manual vacuum aspiration was done. In 2001 she had another spontaneous abortion and MVA was also done. Her menarche was at 13 years and her menstrual cycle was regular and no dysmenorrhoea with a duration of 3 days and length of 28 days. There was no history of contraceptive use.

Past Medial History

This was not contributory.

Family and Social History

A housewife married to a peasant farmer. She neither smoked nor drunk alcohol. There was no family history of chronic illness. Like diabetes mellitus or hypertension. No maternal history of twin pregnancy.

Physical Examination

She was in good general condition. She was a febrile, had no pallor, cyanosis, jaundice or oedama. Vital signs were within normal range i.e. B.P – 130/80 mmthg, pulse 80/min, regular and of good volume, respiratory rate 22/min

Respiratory system) essentially normal

cardiovascular system) essentially normal

Central nervous system) essentially normal

Abnormal exam

On inspection there was a slight sub umbilical abdominal distension. No surgical or therapeutic marks and the abdomen moved well with respiration. On palpation the uterine fundus was corresponding to a gestation of 16 weeks. There was no tenderness elicited. There was no orgamomegally.

Pelvic examination

She had normal external genitalia. The cervix was about I am long and had a left lateral cervical tear less that ½ cam in length that had healed with a rugged margin. The uterus bimanually corresponded to the 16 weeks gestation

Antenatal Profile

1. Haemoglobin – 13g/dh
2. Blood group – O Rh positive
3. Serdogy – VDRL Negative

Other investigations

2. Urea and Electrolytes

Na^+	138 mmol/L	(135 – 145)
K^+	4.3 mmol/L	(3.5 – 5.0)
Urea	4.1 mmol/L	(1.7 – 8.3)
Creatinine	70 Umol/L	(60 – 120)

2. Urinalysis – NAD
3. Obstetric Ultrasound scan

   Single viable intrauterine fetus as 16 weeks. No abnormality detected.

Procedure

After giving a written informed consent the patient was taken to theatre on 04/09/02 for insertion of Mac Donald stitches having been premedicated ½ hr before the

operation. In theatre, she was anaesthetized fully and put under a mask on spontaneous ventilation. She was then put in lithotomy position and vulvorvaginal toilet (VVT) done. She was draped catheterized and the bladder emptied. A digital vaginal exam revealed normal external genitalia a cervix less than I cm long admitting a tip of a finger. The uterus was 16 weeks in size. An Auvard's speculum was inserted to retract the posterior vaginal wall and Sim's speculum used to retract the anterior vaginal was A short cervix with rugged margins was visualized and the anterior lip held with a volsellum forceps. A non – absorbable silk suture No. 2 was inserted in a purse string manner deep into the substance of the cervix while avoiding its canal, at the 7,11,1,5 0'clock positions. A knot was made at 6 o'clock for easier removal. After insertion of the stitch there was minimal bleeding and the cervix still admitted a tip of a finger. The stitch was inserted at the level of the internal os that is externally marked by the junction between the smooth surface of the cervix and the vaginal rugge. The patient was then repositioned, sanitary pad applied and anaesthesia successfully reversed by use of 100% oxygen. The patient was transferred to the antenatal wards for observations. After two days she was discharged home through the antenatal clinic on buscopan plus and amoxil.

DISCUSSION

The patient had cervical incompetence for which cerviclage was performed. The cause of incompetence was most likely the induced abortion with subsequent trauma to the cervix. The patient continued with her antenatal clinic uneventfully and was re-admitted on 04/02/03 at 37 weeks gestations for removal of the stitch. She was later allowed home to continue her antenatal clinic. However on 25th/02/03 she was admitted to labour ward with complaints of reduced foetal movements for four days. There was no history of drainage of liquor or P.V bleeding. A decision to deliver her by an emergency caeserian section was made and the outcome was a live female infant with a birth weight of 3700g, Apgar score 6/1 9/5 10//10. There was a cord round the neck x 3. The mother and child were discharged home on the fourth post-operative day.

Nb/ Cervical incompetence is a clinical syndrome characterized by painless, passive, premature effacement and dilation of the cervix, accompanied by loss of tone in the absence of perceptible uterine contractions (7,10). This leads to herniation of intact membranes which may rapture spontaneously with subsequent onset of labour before the end of thirty-six weeks gestation (1). The cervical dilatation and effacement may occur over several weeks and in some cases it is not totally painless. The presence of uterine contractions before membrane rupture therefore does not exclude the diagnosis of cervical incompetence (3). There is a great variation in the incidence of cervical incompetence due to lack of standard considerations to establish a certain diagnosis of cervical incompetence. It varies between 1 – 2 % (4) or 1:300 to 1: 540 deliveries (1). In Kenyatta National Hospital, Njage (9) reported a crude incidence of 1:90 in 1978. In 1979 Kagia (6) demonstrated a positive radiological findings of cervical incompetence of 82.6% of patients who had premature deliveries in Kenyatta National Hospital what seems to be more established is that approximately one in five mid-trimester abortions is due to cervical incompetence (8,11).

The aetiology of cervical incompetence is obscure but possibly several factors contribute to it. It is basically due to a weakness in the sphincteric mechanism of the internal os (8). The acquired causes include prior trauma as in precipitate labour, operative deliveries with an incompletely dilated cervix and rapid traumatic dilatation of the cervix during dilatation and curettage (5).

Surgical amputation and cone biopsy of the cervix are also actiological factors. Congenital or dysfunctional cervical incompetence occurs in about 2% of the cases of the cases and may be caused by neuromuscular endocrine mechanism which is inherent weakness in the musculature of the upper end of the cervix and internal os (4,8). Exposure t diethyl stilbestrol in – utero may lead to impairment of normal functioning of muscle fibres causing cervical incompetence (5).

The diagnosis is mainly made by history and clinical examination.

The history of past pregnancies is most important and a significant issue in accurate diagnosis (7,8,10). The history is one or more mid-trimester abortions with early rupture of membranes, usually before onset of labour. There is absence of significant haemorrlage and labours are short and relatively pain free. Repeated middle term miscarriage at the same time of gestation are significant. A diagnosis is confirmed on pelvic examination, which demonstrates a short cervix with a patent os, defects of the cervix. The only investigative procedure during pregnancy is ultrasonography in

which case the os may be shown t open with herniation of foetal membranes (2). Outside pregnancy invasive procedures have been used to diagnose cervical incompetence. Passage of Hegar's dilator size 6-8 through the cervix with ease suggests cervical incompetence and in the traction test of Bergman and Strenurund a Foley's catheter with I ml of water is pulled through the internal os of a non-gravid uterus using less than 600g of pull if there is cervical incompetence. By hysterogram isthmal funneling can be demonstrated in the non-gravid uterus using this method (6). Block et al suggest a diagnostic prognostic scoring system in the diagnosis of cervical incompetence so that the patients most likely to benefit from treatment are identified. Five factors were identified and the presence of each given a score of one

1. Previous premature delivery
2. Surgical or obstetric trauma to the cervix
3. History of painless premature labour and rapid delivery
4. Progressive cervical dilatation greater than 2 cm on initial exam during mid trimester.
5. Previous diagnosis of cervical incompetence with previous cerclage.

Different methods of operative treatment advocated all have the aim of reinforcing the constructive action of the cervix (5). The procedures recommended include Shirodkars technique where a strip of fascia lata is tied submucorally around the cervical isthmus after vaginal mucora and bladder are reflected. This has the disadvantage that it is not easily removed and is more difficult to insert than Mac Donald's stitch. Transabdominal cerclage placed at the level of the isthmus has been recommended by some but this requires laparatomy for insertion and removal or delivery (4). Mac Donald cerclage is advocated by many authors since it is quicker, easier, less traumatic and allows for vaginal delivery in all cases without obstetric indications for abdominal delivery (5,8). The technique involves inserting a purse string round the cervix at the level of the internal or using an absorbable suture. The ideal time for insertion of the stitch is around fourteen weeks gestation as the placental hormones have greater influence and it is technically easier to carry out before the cervix is effaced or dilated (4,5). Njagi in his series found that MacDonald stitch insertion gave the best results when it is done at 13-19 weeks gestation. He also found that the stitch had a success rate of 55% in leading to term pregnancy and 64.2% in foetal survival. More recently Ruminja gave success rates of 64.2% and 78.1% respectively. After insertion the patient remains in hospital for a few days since

it has been shown that when failure occurs it is most likely in the first few days. Betasympathomitrietic drugs e.g Salbutamol, orciprenaline may have a place in inhibiting uterine contractions.

In case if cervical defects such as old cervical tears, modified MacDonald stitch may be inserted during pregnancy while in the non-pregnant state tracheloplasty and tracheloraphy may be performed.

Contractions of cervical cerclage include uterine contractions, chorioamnionitis, ruptured membranes per vaginal bleeding, non-viable fetus. Risks of cerclage include rupturing the membranes, introduction of infection which can ascend and stimulate uterine contractions and cervical injury if the stitch is not removed before uterine activity is established in labour. Mac Donald stitch should be removed at 37 weeks gestation unless the patient has complications or is in labour before then (4,5,8).

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OBSTETRIC CASE 9

TWO PREVIOUS CAESAREAN SECTIONS – ELECTIVE 3RD CAESAREAN SECTION – LIVE BABY

NAME:	F.M.	PARITY	2 + 0
I.P No	0707325	DOA	23/07/03
AGE	26 YRS	DOD	30/07/03
LMP	28/10/02	EDD	05/08/03

Presenting Complaints

The patient had no complaints. She was admitted through the antenatal clinic at 38 weeks for elective caesarean section due to two previous caesarean sections.

History of the Present Pregnancy

Her last menstrual period was on 28/10/02 giving her an expected date of delivery of 05/08/03 and gestation by date of 38 weeks. She booked antenatal clinic at Kenyatta National Hospital at 10 weeks gestation. Antenatal profile included blood group B+ve; haemoglobin 12.9 g/dl; VDRL –ve; and height 5 feet 1 inch. An obstetric ultrasound scan done on 24/01/03 showed a single intrauterine pregnancy at 11 weeks ± 7 days with no obvious abnormalities. A repeat scan on 21/03/03 showed a single intrauterine pregnancy at 19 weeks by femoral length and abdominal circumference. There were no gross abnormalities and the estimated fetal weight was 523 g. The biophysical profile score was 10/10. The antenatal follow-up was uneventful.

Post Obstetric and Gynaecologic History

The patient was para 2 +0. The first delivery was in 1999 by caesarean section at term at Nazareth Mission Hospital. The outcome was a live female infant who weighed 3.8kg. The baby had spinabifida and died at 4 months.

The second delivery was in 2001 by caeseran section at term at Kenyatta National Hospital. The outcome was a neonatal death of a female infant who weighed 1.5 kg and had anencephaly. Her menarche was at 14 years and had regular menstrual cycles lasting 3 days after every 30 days. There was no history of family planning use.

Past Medical/Surgical History

This was not significant.

Family and Social History

She was a housewife, form IV leaver with no history of cigarette smoking or alcohol ingestion. Husband was a salesman. No history of chronic illness or twins in the family.

General Examination

The patient was in good general condition, afebrile, not pale and had no oedema. Vital signs were within normal limits.

Respiratory/Cardiovascular/Central Nervous Systems

Systemic examination was essentially normal.

Abdominal examination

The abdomen was uniformly distended and had an old Misgar ladach scar. Fundal height corresponded to a term gestation; lie was longitudinal with cephalic presentation. The fetal head was 4/5 above the pelvic brim. The fetal heart tones were heard and regular at 138/min. No contractions were palpable.

Vaginal examination was not indicated.

Impression

An impression of a 2 previous caesarean scars at 38 weeks was made.

Management

The patient had the following laboratory investigation done in readiness for an elective caesarean section.

1. Full haemogram – Hb 11.2 g/dl; WBC 8.2 x 10^9\l platelets 164 x 10^9\l
2. U\E\C – Na^+ 134)
   K^+ 4 -mmol\L
   Urea 1.2 mmol/L
   Creatinine 57 Umol/L

Blood was taken for grouping and cross matching and two units of fresh blood made available. An informed consent was obtained from the patient. Premedication of 1.m-atropine sulphate 0.6 mg ½ before the operation was prescribed.

In theatre vulvovaginal toilet was done and the bladder asceptically catheterized. In supine position the abdomen was cleaned and draped. Under general anaesthesia the old scar tissue was excised and then the abdomen opened through a Misgar Ladach incision. A lower uterine caesarean section was done, a live female infant extracted who weighed 3200g and had an apgar score of 10/11 10/5. The baby had dysmorphic features with no CNS abnormalities. The placenta and membranes were delivered

whole and healthy. The uterus was repaired and hemostasis achieved. Abdominal was then repaired in anatomical layers after correct instruments and swab count, VVT done and then anaesthesia reversed. Estimated blood loss was 700ml.

Post operatively the patient remained stable and did well on analgesics and prophylactic antibiotics.

She was discharged home on the 4th post-operative day to have stitches removed at the nearest health centre with instructions to be seen at the post natal clinic after 6 weeks.

Post-natal Follow-up

The patient was in good general condition, breast-feeding, afebule, not pale, no oedema. Incisional wound was well healed, uterus well involuted, no abdominal or adnexal tenderness. She had no lochia loss. She was discharged from the clinic.

DISCUSSION

The patient presented had two previous caesarean section with no living child and an elective 3rd caesarean section was planned. She was delivered of a healthy baby at 38 weeks.

In general a caesarean section is performed whenever there is an indication that a vaginal delivery would compromise the fetus, the mother or both. The rate of caesarean sections has greatly increased in the recent past. Indications attributed to this include the reduced parity with almost half of the pregnant women being nullipara. These women are known to have increased rates of dystocia and pregnancy induced hypertension. Older women are also having children and have a relatively higher rate of caesarean sections. Better antepartum and intra partum fetal monitoring increases the chances of detecting a compromised fetus and hence the increased rate of caesarean sections just like breeches are being delivered more frequently by caesarean section than before (3,4). Repeat caesarean sections contribute significantly to the total increase in caesarean sections and in our set-up. A study on the trend of caesarean section in Kenyatta National Hospital by Karanja revealed a caesarean section rate of 17.8% of all deliveries in 1980, of which 51.2% were repeat sections (3). In the developed countries, there is increasing concern for malpractice suits and this too has increased the caesarean section rates (6). The management of a patient

with a previous caesarean section scar is primarily a decision on mode of delivery. Trial of scar for vaginal delivery is limited to one previous scar so long as there are no complicating factors such as cephalopelvic disproportion, malpresentation, or of estimated fetal weight exceeding 3.5kg. A true conjugate of 10.5cm by maternal clinical and X-ray pelvimetry is taken as the cut off point for vaginal delivery. It also depends on whether the indication of the previous section is recurrent or not and the type of previous incision on the uterine wall. Patients who have had a classical incision are at a higher risk of rupture of the uterus and therefore are not allowed trial of labour. Trial of vaginal delivery after one previous scar is done in a set up where constant fetal monitoring is possible and the facility to perform an emergency caesarean section is available, should the need arise.

There is inadequate literature on vaginal delivery after two or more caesarean sections and it is currently advocated that once a patient has had two or more sections then subsequent deliveries should be by elective caesarean sections (5). This applied to the patient presented. The issue that prevents most physicians from allowing women to undergo vaginal delivery following a caesarean section has been the fear of uterine dehiscence or rupture. Most studies have reported a rate of 1 – 3 % of uterine dehiscence and 0.5 – 2% of uterine rupture in patients with previous caesarean sections undergoing trial of scar (1,7). The incidence of uterine dehiscence and rupture increases by 15% if there are two previous scars but by nearly 200% if there are more than three previous scars.

Complications of elective caesarean sections include pain, pyrexia, bowel distention, blood transfusion, wound infection (1.8%). Later complications of intestinal obstruction or of dirarication of the rectus abdominis and abdominal herniation also occur (4). The patient presented had two previous scars and therefore could not be allowed for Anal of scar. She did not have any major post-operative complications.

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OBSTETRIC CASE 10

PREGNANCY INDUCED HYPERTENSION (PRE ECLAMPSIA)

EMERGENCY CAESAREAN SECTION – PERINATAL DEATH

NAME	J.R.M.	LMP:	17/11/02
IP NO	0896851	EDD:	24/08/03
AGE	43YRS	DOA:	26/06/03
PARITY	4+0	DOD:	30/06/03

PRESENTING COMPLAINTS

She was admitted complaining of reduced fetal movements for five days. She had previously been seen in a private hospital in the city where she complained of leg swelling and swelling of the fingers. She had no blurring of vision or epigastric pains. She had been put on tablets aldomet 500mg three times daily which she was on for three weeks before admission. She had no systemic complaints.

OBSTETRIC AND GYNAECOLOGIC HISTORY

She was para 4+0 with history of deliveries as follows:

1980 – Normal term delivery to a female infant 4000g

1981 – Normal term delivery to a female infant 3800g

1983 – Normal term delivery to a male infant 4000g

1986 – Normal term delivery to a male infant 4000g

There was no history of pregnancy-induced hypertension during the four pregnancies. Menarche could not be ascertained but had regular cycles of 3 – 4 days after every 28 – 30 days. Her last menstrual cycle was on 17/11/02 and therefore an estimated date of delivery of 24/08/03. Her gestation by dates was therefore 31 weeks at Marie Stopes Hospital where she was found to have pregnancy induced hypertension and started on treatment. Her antenatal profile record was not available.

She had used an intrauterine device for contraception between 1986 and 2002 when it was removed to conceive.

Past Medical History

It was not significant

Family and Social History

She was a primary school teacher, separated from first husband in 1992 but re-married in 2001. She did not smoke cigarettes or take alcohol. The spouse was a pastor. Her sister was hypertensive. There was no family history of twins.

Physical Examination

She was in good general condition, afebrile, not pale, no jaundice. She had no facial puffiness but bilateral pitting pedal oedema. Blood pressure was 150/100 mmttg, pulse rate 80/min regular; blood good volume, respiratory rate 22/min, respiratory and central nervous system were essentially normal.

Abdominal Examination

Abdomen was uniformly distended, moving with respiration and fundus corresponding to a gestation of 30 weeks. The lie was longitudinal with cephalic presentation and fetal head five-fifths above the pelvic brim. Fetal heart tones were heard and regular at 142/min. There were no contractions, tenderness or organomegally.

Vaginal Examination

This was not indicated.

Investigations Done

1. Urinalysis – Proteinuria + +
   - No Glycosuria
2. Urgent Obstetric ultrasound scan, Biophysical profile, resistive index.
   Single intra-uterine pregnancy with reduced body movements, fetal heart rate 146/min. Reversed diastolic flow of umbilical artery but normal MCA. There was normal amniotic fluid, placenta was posterior and not low lying.
   Estimated fetal gestation 30 weeks. Biophysical profile score 4/10.

Diagnosis

An impression of pre-eclampsia with compromised fetus at 31 weeks was made.

Management

A decision to deliver her loy emergency caesarean section was made. The same was communicated to the patient and an informed written consent obtained. Blood was taken for grouping and cross matching, intravenous lime established. Pre-medication with1.m atropine was not given due to the high blood pressure. In theatre a lower

uterine segment caesarean section was performed and a live male infant weighing 1400g and scored 31 and 7/5 was extracted and taken to the newborn unit. Placenta and cord were grossly normal. Uterus was repaired with heomostasis easily achieved abdomen closed in anatomical layers after correct instrument and swap count. Introvaginal toilet was done and anaesthesia successful reversed.

Post- operatively the patient remained stained on analgesics and antibiotics. The baby succumbed in the newborn unit. On the second post-operative day the blood pressure of was 140/80 mmttg. On the fourth day the mother was discharged home after the wound was exposed and fomal clean and dry. She went home on remaining treatment and was advised on breast care to avoid engorgement to be reviewed in post-natal clinic after six weeks.

Follow-up

After six weeks she was seen and found to be in good general condition, blood pressure 120/70 mmttg, wound well healed. She was referred to family welfare clinic for family planning.

DISCUSSION

J.R.M is a patient who presented with a pregnancy severely compromised by pre-eclampsia. Her baby succumbed in newborn unit due to asphyxia and prematurity

Hypertensive states in pregnancy include induced hypertension, chronic hypertension with or without superimposed pre-eclampsia and transient hypertension (2).

Pre-eclampsia is a trial of oedema, hypertension and proteinuria occurring primarily after 20^{th} gestational week and most frequently near term

Eclampsia is the occurrence of seizures that cannot be attributed to other causes in a pre-eclamptic patient.

Chronic hypertension is defined as hypertension that is present before conception or before 20 weeks gestation or that persists for more than 12 weeks post-partum.

Transient hypertension denotes hypertension developing in labour or immediately post-partum in patients who do not have other signs of pre-eclampsia or pre-existing hypertension.

The incidence of hypertensive disease in pregnancy is 5 – 8% in the U.S.A (2) while in Kenya the incidence is 1.5 – 9% (5) and that of pre-eclampsia 3.7% (1,4).

Aetiology of pregnancy induced hypertension remains unclear. Predisposing factors include null parity, extremities of age, multiple gestation, diabetes, molar pregnancy, pre-existing hypertension and change of spouse (3,6).

The patient presented was 43 years old and had recently re-married probably explaining the cause of her pre-eclampsia unlike in her previous four pregnancies.

Pre-eclampsia is either mild or severe. Severe pre-eclampsia is characterized by blood pressure > 160/110 mmttg; proteinuria of 3 – 4+ on dipstick testing (more than 2g/24hr); .

Oliguria (< 500ml urine / 24 hrs); cerebral or visual disturbances, epigastrin pain; thrombocytopania (platelet count < 100000/$mm^{3)}$; haemolysis; elevated liver enzymes; pulmonary oedema and fetal growth restriction (2). Thus pre-eclampsia is a multisystemic disease. Several theories have been proposed to explain the pathophysiologic changes. This include genetic predisposition, endothilins nitric oxide, endothelial cell activation and immunologic response (7).

Abnormalities of placentation lead to failure of the conversion of musculo-elastic layer of the spiral vessels to fibrous dilated vessels. The pathological effects of hypertensive disease in pregnancy is presumably due to vasospasm and ischaemia.

The maternal effects include:

1. Central nervous system - cerebral oedema, infarcts leading to convulsions.
2. Eyes – retinal detachment and cortical blindness may occur.
3. Pulmonary system – pulmonary oedema mainly post partum.
4. Cardiovascular system – reduced plasma volume and increased peripheral resistance.
5. Liver – chronic passive congestion similar to that seen with right heart failure and sub capsular haemorrhage that may lead to hepatic rupture.
6. Blood – spectrum ranges from thrombocytopenia to microangiopathic hemolytic anaemia to disseminated intravascular coagulation (DIC).
7. Renal – the characteristic lesion is glomeruloendotheliosis that causes reduced glomerular perfusion and glomerular filtration rate, the lesion is however, totally reversible over about six weeks (2, 6).

   Foetal effects are due to reduced placental perfusion due to vasospasm, which may lead to growth restriction and even fetal demise. Occassionally abruptio placenta may develop.

Prevention of hypertensive disease in pregnancy is based on early detection and monitoring during antenatal visits. Prevention methods include administration of low-dose aspirin, calcium supplements and anti-oxidants like vitamin C and E. Treatment of pre-eclampsia 12-bed rest and delivery depending on severity. Management measures include blood pressure monitoring daily body weight, daily urinalysis for proteinuria, weekly liver and renal functions, two weekly or oftener obstetric ultrasound scans in case of mild pre-eclampsia and in severe pre-eclampsia the goals of management are prevention of convulsions, control of blood pressure and initiation of delivery. Mode of delivery depends on obstetric indications (6)

J.R.M was delivered by emergency caesarean section due to jeopardized fetal status and prematurity.

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OBSTETRIC CASE 11

UNDIAGNOSED TWIN GESTATION – VAGINAL DELIVERY

Name	:	S.0	Parity: 0 + 0
Age	:	23 yrs	DOA: 10/11/03
IP No	:	0926187	DOD 18/11/03

Presenting Complaints

She was admitted as a referral from a private clinic in active phase of labor. There was no drainage of liquor or vaginal bleeding.

Obstetric and Gynaecologic History

She attained menarche at 13 years and had regular menses of 3 days after every 28 days. She had never used any contraceptives. Her LMP was on 05/03/03 and her EDD on 12/12/03. She attended antenatal clinic at a city clinic and antenatal profile record was not available.

Medical History

This was not significant.

Family and Social History

She was single, unemployed, staying with relatives. She did not smoke cigarettes or take alcohol. Father was hypertensive. No maternal history of twins.

Physical Examination

She was in fair general condition, mildly pale, a febrile, no oedema.

Vital signs – BP – 110/70mmHg, PR – 76/min, RR – 20/min; T – 36.8^{0}c.

The cardiovascular, respiratory and central nervous systems were essentially normal.

Abdominal Examination

Fundal height was term with a fetus in longitudinal lie, cephalic presentation and a fetal heart rate 140/min. She was having 3 strong contractions in 10 min.

Vaginal Examination.

The external genitalia was normal, cervix was 6 cm dilated with membranes bulging. There was no cord presentation and pelvis was adequate.

Impression

An impression of a primigravida in active phase of labor was made.

Management

Artificial rupture of membranes was done, clear liquor obtained and partogram started. After about 4 hrs the mother had an SVD to a live female infant weighing

2300g and scored 8/1, 10/5. On further examination, she was found to have a second twin in breech presentation. Artificial rupture of membranes was done, clear liquor drained and shortly after a live male infant extracted weighing 2350g and scored 8/1 10/5.

Two placentae were delivered fused. Then she was found to have light vaginal bleeding and a poorly contracted uterus. Perineum was intact but for the episiotomy. Bladder was emptied, uterus massaged, ergometrine given and a drip of syntocinon set up. Episiotomy was repaired. Blood was taken for grouping and cross-matching and for packed cell volume PCV was found to be 18%. Post-natally she received 3 units of blood. On the 8th post-natal day mother and babies were well and were discharged home to be followed up in the post-natal clinic.

DISCUSSION

The patient presented had undiagnosed twin gestation. She had pre-term vaginal delivery with first twin cephalic and second twin breech.

Twin gestation results from fertilization of two separate ova (dizygotic, fraternal twins)or a single fertilized ovum that subsequently divides into two separate embryos (monozygotic, identical twins) (1,2). The incidence of monozygotic twins is relatively constant world wide at a rate of 1:250 deliveries and is not influenced by heredity, age or race (1,2). Incidence of dizygotic twins on the other hand varies from one race to another and is influenced by race, heredity, maternal age, parity and fertility drugs. Africans seem to have more than twice the incidence rate of Caucasians. At Kenyatta National Hospital, incidences of 1:58.8 and 1:46 twin deliveries have been reported (3,4). Women who have delivered dizygotic twins have a 10 fold increased chance of subsequent multiple pregnancy. Monozygotic twins are sub-divided according to time of division of the ovum.

1. Diamniotic dichorionic monozygous twins .
- Division occurs at morulla stage (2 – 3 days after fertilization).
2. Diamniotic monochromic – division after formation of inner cell mass (4 –8 days post fertilization).
3 Monoamniotic monochorionic – division after 8 days post fertilization.

Division after the embryonic disc is formed results in complete cleavage and twins are formed. Differences in frequency of dizygotic twins among various populations

could be due to genes that regulate FSH and LH secretions. LH, FSH and 17estradiol have been found in higher levels in blood of mothers of dizygotic twins and such women are likely to have multiple ovulation.

Early diagnosis of multiple gestation is important in reducing perinatal and maternal morbidity and mortality. Unfortunately, the diagnosis of twin pregnancy is sometimes not made until late in the pregnancy and often as late as during parturition. In his study, Oyieke, found that only a quarter of twins were diagnosed before 35 weeks gestation, 54% were diagnosed before labour while 38% were diagnosed in labor or after delivery (3).

Diagnostic aids include suggestive history and clinical signs and ultrasonography. Complications of multiple gestation include anaemia, pregnancy induced hypertension, polyhydramnios, placenta praevia, abruption placenta, cord accidents, mal-presentations, pre-term labor and post partum hemorrhage (1,2).

Mode of delivery is mainly dictated by obstetric indications as well as presentation of the first twin. In 42% both twins are cephalic, 27% first twin cephalic and the second breech and in 13% of cases both twins are non-cephalic (2). The first twin is cephalic the preferred mode of delivery is vaginal, all other obstetric indications permitting. The American College of Obstetricians and gynaecologists advocates for caesarean section as the method of choice if the first twin is not cephalic. Early use of biochemical markers may be used to screen mothers at risk of pre-term labor. Fetal fibronectin inter-face is found in cervico-vaginal secretions 1 – 2 weeks before 37 weeks in patients at risk of early delivery. It is not present before 37 weeks except in patients at risk of early delivery. It can therefore be used to detect women at risk of pre-term delivery as in multiple pregnancy (5).

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OBSTETRIC CASE 12

DELAYED SECOND STAGE OF LABOUR- VACUUM EXTRACTION – LIVE BABY

Name	: S.W.C	LMP: 07/01/03
Age	: 24 yrs	EDD: 14/10/03
IP No	: 0919881	DOA: 10/10/03
Parity	: 0+0	DOD: 12/10/03

PRESENTING COMPLAINTS

She was admitted complaining of reduced fetal movements for one day. There was no history of drainage of liquor, vaginal bleeding, no trauma nor urinary symptoms such as dysuria, frequency, urgency.

Obstetric and Gynaecologic History

She was a para 0+0 who had her menarche at 14 years and established menstrual cycles of 4 days duration and 28 days in length. No history of contraceptive use. Her last menstrual period was on 07/01/03 and expected date of delivery on 14/10/03. Gestation by dates was therefore 39+ weeks. She booked antenatal clinic at 23 weeks at KNH. Antenatal profile was:- Blood group 0+ve, Hb 12.6 g/dl; VDRL – Negative and Height 5ft 4 inches. HIV status was unknown.

Past Medical History

This was not significant.

Family and Social History

She was a housewife whose husband was self employed. She did not smoke or drink alcohol. There was no history of chronic illness in the family.

Physical Examination

She was in good general condition, not pale, not febrile, no oedema. Vital signs were:- Blood pressure 130/70 mmttg, Pulse rate 80/min, Regular and good volume, Temperature was 36.8^{0}c.

Respiratory, cardiovascular and central nervous system were essentially normal.

Abdominal Examination

The abdomen was uniformly distended. Fundal height was term, fetus was in longitundinal lie, cephalic presentation. The heas was 5/5 up and there were no contractions palpable. The fetal heart tones were heard and regular at 140/min.

Pelvic Examination

She had normal external genitalia. Cervix was central, soft, closed and about 1.5 cm long. Pelvis felt clinically adequate.

Impression

An impression of a primigravida at term with reduced fetal movements and poor Bishop Score was made.

Management

A decision to induce labour was made and the same explained to the patient.
The patient bought a tablet of misoprostol 200Ug and 50 Ug was inserted in the posterior fornix.

After six hours the patient was reviewed and the cervix found to be partially effaced and another misoprostal 50 Ug inserted in the posterior fornix. After a further 6 hrs the patient was found to have mild uterine contractions and the cervix was 4 cm dilated, membranes intact and no cord presentation. Artificial rupture of membranes (ARM) was done and clear liquor drained. There was no cord prolapse and fetal heart remained regular. Labour was then augmented using oxytocin 5.1.u in 5% dextrose and titrated against contactions. Analgesia was provided by intramuscular tramadal 100mg stat, 100mg. Tramadal in 5% dextrose chip plus intravenous plasil 10mg stat.
Labour progressed uneventfully and about 20hrs since the insertion of first dose misoprostol the patient was in 2^{nd} stage of labour. The patient was wheeled t the delivery room where for the next 45 minutes she was encouraged to push.
Review of the patient found her exhausted with inadequate uterine contractions. On vaginal examination the fetal head had no caput but first degree moulding.
A decision to deliver the patient by vacuum extraction was made. In lithotomy positive a left mediolateral episiotomy was given. A plastic number 6 cup was applied on the fetal head occiput and vacuum created using a head pump at a rate of 0.2 kg/cm^2 upto 0.6kg/cm2. With the next contraction the patient was encouraged to bear down while traction was applied initially downward until the head crowned then the force was applied upward. The vacuum was immediately released after delivery of the head and the rest of the delivery conducted normally. The outcome was a live male

infant who weighed 3000g and scored 9/1 and 10/5. Placenta was delivered whole and healthy by controlled cord traction and episiotomy repaired using catgut 2/0 suture. Estimated blood loss was 300ml. Post-natally the mother and baby did well and were discharged home after 24 hrs through well maternal child health clinic. She was lost to follow-up.

DISCUSSION

The patient presented was a primigravida who had successful induction of labour but delivered by vacuum extraction due to poor maternal effort.

The vacuum extractor was introduced in 1954 by Malmstrom and is designed to assist delivery by the application of traction to a suction cup attached to the fetal scalp (1,5). The data from Continental Europe, the United Kingdom, Australia and other areas in which the instrument is used extensively attest to its safety, provided the instrument is used correctly. In the U.S.A, the vacuum extractor has been slow to be accepted as a substitute for obstetric forceps. In Kenyatta National Hospital it is the only operative vaginal delivery performed with frequencies between 2.94 – 6.3% (2,3). Anaesthesia requirements are usually less than for forceps delivery, pudendal block usually suffices, and in many cases no anaesthesia may be needed or local infiltration of the perineum may be sufficient (2,3,5).

Indications of vacuum assisted delivery include delayed second stage, fetal distress in late first stage, accidental hemorrhage in late first stage, fetal distress in second stage, severe pre-eclampsia – eclampsia in second stage and cardiac disease, and cord prolapse in second stage. Contra-indications of vacuum extraction include cephalopelvic disproportion, breech, brow or face presentation, high head, extreme pre-maturity and in intact membranes.

Complications owing to vacuum extraction are usually attributed to improper use i.e failure to recognize the circumstances in which it is contra-indicated, overlong or incorrectly applied traction, use of excessive negative pressure, failure to prevent cervical or vaginal tissue entrapment. These include cephalohematoma (Chignon), lacerations and scalp bruises, intracranial haemorrhage, neonatal jaundice. These are no worse compared with other operative vaginal deliveries (1,4,5). The procedure should be considered to have failed if the head is not delivered after five attempts made over the course of 15 minutes in which case caesarean section is the preferable recourse.

OBSTETRIC CASE 13

SUCCESSFUL TRIAL OF SCAR

Name	:	P.A.O	LMP: 14/01/03
Age	:	22 YR	EDD: 21/10/03
IP NO	:	0918660	DOA: 06/10/03
PARITY		1 + 0	DOD: 07/10/03

Presenting Complaints

She was admitted complaining of labour-like pains at 7.45 am of about 8 hours duration. She had no drainage of liquor or vaginal bleeding. She had no urinary symptoms.

Obstetric and Gynaecologic History

She had her menarche at 14 yr. Her menstrual cycles were regular of 4 days in duration and 21 days in length. No use of contraceptives. Her last menstrual period was on 14/01/03 and expected date of delivery was 21/10/03 thus she was 38 weeks by gestation. She was 38 weeks by gestation. She was a para 1+0. Her last delivery was in 1999 by caesarean section at Pumwani Maternity Hospital due to a transverse lie and arm prolapsed. The outcome was a pre-mature still birth.

She had booked ante-natal clinic at a city council clinic and the pregnancy was uneventful. Ante-natal profile done included:- blood group – B Rh. Positive, Haemoglobin – 12.4 g/dl, VDRL – Negative, HIV not done.

Past Medical History

This was not significant.

Family and Social History

She was married working with a printing firm. She neither smoked cigarettes nor took alcohol. The husband was a self employed electrician. There was no family history of chronic illness.

Physical Examination

She was in good general condition, a febrile, not pale, no oedema. Blood pressure was 110/70mmHg, respiratory rate 20/min and pulse rate 78/min, good volume and regular. Temperature was 37^0c. Respiratory system, cardiovascular and central nervous systems were essentially normal.

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Abdominal Examination

Abdomen was symmetrically distended with a sub umbilical midline surgical scar. Fundus was tem, fetus was in longitudinal he and cephalic presentation. Fetal head was 4/5 above the pelvic brim. She had 3 moderate contractions palpable in every 10 minutes. Fetal heart tones were heard and regular at 142/min.

Pelvic Examination

She had normal external genitalia, the cervix was anterior, 4cm dilated, fully effaced, membranes bulging with no cord presentation. The pelvis was clinically adequate.

Impression

An impression of a one previous scar in active labour with adequate pelvis was made.

Management

A decision to manage her expectantly was made. The membranes were ruptured artificially and clear liquor drained. There was no cord prolapse. Blood was taken for grouping and cross-matching of two pints and intravenous solo dextrose set up. Tramadol and Plasil were administered for analgesia. Partogram was started and she was nursed in the left lateral position. She was also monitored for pain and tenderness over the scar and for vaginal bleeding. She was scheduled to be reviewed after 4 hrs or as necessary.

That labour progressed well and at the time of review she was found bearing down, already in second stage. In the delivery room she had a live male infant who weighed 3000g and scored 8/1 10/5 10/10. Ergometrine 0.5mg was given intramuscularly after delivery of the first shoulder. The placenta was delivered complete and healthy by controlled cord traction. Estimated blood loss was 300ml. The lower uterine segment was not explored. The patient remained stable after delivery with no undue vaginal bleeding while the uterus remained well contracted. The following day both mother and child were in good general condition and were discharged from hospital. The mother opted for further follow up at Pumwani Maternity Hospital.

DISCUSSION

The patient presented is a 22 year old para 1+0 who had a successful trial of scar. The indication for her first caesarean section was obviously a non-recurrent one. The biggest fear in her case was that the type of uterine scar she has was unknown. Generally the rate of vaginal deliveries after caesarean section has been on increase and this is attributable to a careful selection of patients in the antenatal period for trial

of scar followed by adequate monitoring of labour (3). At Kenyatta National Hospital the rate of caesarean section was found to be 17.8% with repeat section accounting for 51.2% of all cases (2). The management of a trial of scar is usually governed by fear of rupture of a scar, as opposed to asymptomatic dehiscence, are very low at about 2%. Of more importance is the integrity of the uterine scar which can withstand the strain of labour. This can be ensured by employing utmost care at caesarean section in the first instance especially for primigravida (4). Careful selection of patients antenatally and continuous monitoring during labour coupled with good operative practices negate the concept "once a caesarean section always a caesarean section". In selecting patients for trial of scar, Walton (7) recommended the following :

No associated or obstetric complications which may affect labour outcome.

a. The patient should have had one previous scar of the lower segment type.
b. No previous history of uterine rupture.
c. No associated or obstetric complications which may affect labour outcome
d. True conjugate should be at least 10.5 cm.

Using the above criteria, Walton obtained a successful trial of 73.9% which is comparable to other researchers (6,7). Our patient delivered an infant weighing 3000g and could not be excluded for trial of scar going by the above criteria although she did not have an X-ray pelvimetry done. Although X-ray pelvimetry has been a useful method of screening patients for a safe trial of scar. Some researchers have great reservations for elect lateral pelvimetry (ELP) as a tool of management of those with only one previous scar (1,6). A favourable cervix at the time of admission has been cited as more favourable sign (5).

The duration of trial of scar is not fixed and intervention by caesarean section is only warranted by other indications like poor progress of cervical dilatation after 6 hrs of oxytocin infusion, and development of signs of cephalo-pelvic disproportion. Oxytocin infusion is rare if at all used in previous scars in our set-up due to lack of proper intra-partum monitoring facilities. Trail of scar should only be done in a tertially medical facility where an emergency caesarean section can be done should the trial fail.

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OBSTETRIC CASE 14

RETAINED PLACENTA – MANUAL REMOVAL

NAME:	G.W.	LMP:	12/10/02
IPNO	0901971	EDD:	19/07/03
AGE	37 YRS	DOA:	23/07/03
PARITY:	3 +	DOD	25/07/03

Presenting Complaints

The patient presented with retained placenta following a spontaneous vertex delivery.

History of Presenting Illness

Patient was admitted to labour ward as referral from a private clinic where she has been presented in labour and delivered four hours prior to referral. Outcome was a live female infant who weighed 2800g and Apgar scored 10/1 10/5 1.m ergomentine 0.5mg was given after delivery of anterior shoulder. Attempt to deliver the placenta by controlled cord traction failed. 1.v syntocinon 2 0 1.v in 5% dextrose, drip was wet up but in vain and hence referral to Kenyatta National Hospital.

Obstetric and Gynaecologic History

She was a para 3+0 who had her menarche at 13 years. Her cycles were regular with a duration of 3 days and a length of 28 days. Her last menstrual period was on 12th/10/02 and delivered on 23/07/03 at a gestation of 40+ weeks. She attended antenatal clinic at a private clinic and the only antenatal profile done was blood group that was O+ve. She had used depo provera between 1998 and 2002.

Past Medical History

This was not contributory.

Family and Socio History

She was a housewife and the husband an accountant. She neither took alcohol nor smoked cigarettes. There was no family history of chronic illness or twins on the maternal side.

Physical Examination

She was weak with moderate pallor, afebrile, not cyanosed, no jaundice, no oedema but cold extremities. Blood pressure was 100/80 mmhg, pulse 100/min weak. The temperature was 36° c. RR – 20/min. Cardiovascular, respiratory and central nervous system were essentially normal.

Abdominal Examination

The abdomen was distended uniformly with the uterine size being 20 weeks and well contracted. There was no undue tenderness.

Vaginal Examination

There was normal external genitalia, perineum was intact, minimal vaginal bleeding with umbilical cord evident through the vaginal. The cervix was 5 cm dilated and the placenta wholly in the uterine cavity.

Diagnosis

Retained placenta

Investigations

1. Urgent PCV was 17%
2. Urgent group and cross match two units

Management

While on intravenous fluids an informed consent was obtained for manual removal of the placenta under general anaesthesia in theatre. Intra-muscular atropine 0.6mg stat was given for pre-medication. Under general anaesthesia in lithotomy position, vulva vaginal toilet was done, catheterized and clear urine drained. Examination under anaesthesia confirmed the diagnosis. Delivery of the placenta by cord traction failed. The line of clearage was identified using the right hand and while supporting the uterus with the left hand on the abdomen the placenta was separated from the uterine wall and delivered by controlled cord traction. This was accompanied by moderate bleeding. The uterus was explored and found intact. Intravenous symtounion 4.0 I.v in a drip of 5% dextrose was run. Blood transfusion was commenced and she received two pints. She was successfully reversed from general anaesthesia. Post operatively she did well and on 25/07/03 she was discharged home on hematincs and antibiotics.

DISCUSSION

The patient presented had three previous deliveries and was referred to Kenyatta National hospital in third stage of labour complicated by retained placenta. Failure of the placenta to deliver spontaneously shortly after the delivery of the foetus is an important cause of post partum haemorrhage and hence maternal morbidity and mortality. The duration of third stage of labour to be managed expectantly ranges widely between 10 minutes and two hours with an average of 30 minutes (1). The patient had stayed for four hours without spontaneous delivery of the placenta. The cause of prolonged third stage of labour is often not identified. Likely causes include uterine atony, abnormal placental implantation and inadequate efforts to express the placenta. Uterine atony may be caused by prolonged labour, augmented or induced labour and multiparity. Abnormal placental implantation such as placenta accreta may be expected in patients with previous abortions or caeserian deliveries. There is also an increased incidence of retained placenta among patients who had pre-term labour, previous retained placenta and or post partum haemorrhage (1.4.5). Physically the uterus should contract soon after the placenta separates from the uterine wall and is spontaneously expelled. Spontaneous placental separation is indicated by umbilical cord lengthening followed by a gush of blood. Third stage of labour should be managed actively by the use of oxytocin or ergometrine. Use of oxytocic drugs reduces the risk of post partum haemorrhage by about 40%. A combination of oxytocin and ergometrine is more effective in reducing the risk of post partum haemorrhage but either may be used alone.

The management of a patient with retained placenta involve resuscitation with intravenous fluids, re-administration of oxytocin, blood grouping and cross matching before manual removal, (2,3). Manual removal of a retained placenta is an emergency procedure carried out in theatre under general anaesthesia. In lithotomy position the placenta is separated manually from the uterine wall through the line of cleavage by sawing motion and then by Brandt – Andrews method of controlled cord traction (CCT). Meanwhile an intravenous oxytocic is administered to promote uterine contractions. Complications of manual removal of placenta include postpartum haemorrhage, uterine inversion, puerperal sepsis and weakening of the uterine wall with subsequent rupture. Puerperal sepsis is prevented by use of prophylactic antibiotics. (3,4,5). The patient presented received two pints of whole blood and was discharged on hematincs.

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OBSTETRIC CASE 15

UTERINE SCAR DEHISCENCE FOLLOWING VAGINAL DELIVERY – LAPARATOMY AND REPAIR

NAME:	B.M	DOA	14/09/03
IP NO:	0913687	DOD	22/09/03
AGE:	25 YEARS		
PARITY:	2+0		

Presenting Complaints

The patient was referred from Pumwani Maternity Hospital with a diagnosis of primary post-partum haemorrhage due to ruptured uterus. She was presented in the hospital in labour that progressed well and had a vaginal delivery to a live male infant who scored 8/1, 10/5, and weighed 4000g. It was after delivery of the placenta and membranes that she was found to have profuse bleeding vaginally and upon exploration was found to have lower uterine segment uterine rapture. It was then that she was catheterized and referred for further management.

Obstetric and Gynaecologic History

She was a para 2+0. First delivery was by caesarean section in 1998 due to breech presentation. She was uncertain of her menarche but had regular cycles of 3 – 4 days after every 28 days for the immediate pregnancy, her last menstrual period was on 03/12/02 and an expected date of delivery of 10/09/03. She had an uneventful antenatal clinic follow up at Pumwani Maternity Hospital. Antenatal profile record was not available. She had not used any contraceptive method.

Past Medical / Surgical History

No contributory history.

Family and Social History

She was a housewife married to a casual labourer. She neither smoked cigarettes nor took alcohol and there was no history of chronic illness or twins in the family.

Physical Examination

She was in fair general condition, afebrile. She had moderate pallor, no cyanosis, no oedema. Vital signs were: - blood pressure 113/59 mmHg, Pulse rate 100/min, regular, good volume; pulse rate 22/min respiratory, cardiovascular and central nervous systems were essentially normal.

Abdominal Examination

The abdomen had an old subumbilical midline incisional scar, a well-contracted uterus corresponding to 22 weeks gestation. There was moderate suprappubic tenderness.

Vaginal Examination

The patient had a fresh left mediolateral episiotomy, urethral catheter draining clear urine and heavily blood soaked sanitary pad.

Diagnosis

An impression of primary post partum haemorrhage secondary to ruptured uterus was made.

Management

The patient was informed of the diagnosis and a consent obtained for examination under anaesthesia (EUA) and laparatomy and repair of the uterus. Blood was taken for grouping and cross-matching for two pints of blood, intravenous line for fluids established with a wide bore needle atropine sulphate 0.6mg given for premedication. In theatre the patient was put under general anaesthesia and in lithotomy position, vulvovaginal toilet was done. A left mediolateral episiotomy was noted, vagina and cervix were essentially normal and approximately 8cm lower uterine-segmented transverse tear palpated. The episiotomy was repaired with catgut No 1 suture. The patient was then put in supine position, abdomen cleaned and draped. The old scar tissue was excised and abdomen opened in layers. The was no hemoperitoneum but there was a hematoma of about 100ml below the uterovesical peritoneal reflection. The bladder, both fallopian tubes and ovaries looked grossly normal. The uterine edges were freshened and the uterus repaired in layers with easy achievement of hemostasis. With instrument and swab count correct abdomen was closed in layers and vulvovaginal toilet done. During the operation and immediately after the patient was transfused two units of fresh blood. Foleys catheter was retained.

Post Operative Care

After an uneventful recovery from anaesthesia the patient was taken to the lying-in ward on prophylactic antibiotics intravenous crystalline penicillin 2 m.u 6 hourly and gentamycin 80 mg 8 hourly, intravenous fluids 3l/24 hrs and intramuscular pethidine 100mg 8 hourly. These were changed to oral drugs after the 3rd post -operative day was a g/dl. On the seventh post -operative day the catheter was still draining clear urine and was removed. Abdominal stitches were also removed and the patient discharged through post-natal clinic attendance and elective caesarean section in her subsequent pregnancies.

DISCUSSION

The patient presented had rupture of the uterus following a vaginal delivery after having had a caesarean section.

The incidence of uterine rupture in Kenya was reported to be 0.42% and that the majority had uterine scars giving scar rupture rate of 3.14% (5). In the U.S.A the incidence of uterine rupture was reported as 1 in 1500 deliveries (4). Predisposing factors include previous caesarean sections, myomectomy scars, oxytocin use especially in grandmultiparas, direct trauma to the uterus as in road traffic accidents, grandmultiparity, version in labour and any instrumental delivery (2). The patient presented had one previous caesarean section with a relatively big baby (4000g) while other details of labour were missing.

In a spontaneous rupture, dramatic symptoms are unusual at the onset, shock commonly developing at the end of a period of slow deterioration. Presenting signs include maternal tachycardia, fetal distress, arrest of progress of labour, vaginal bleeding and intrapartum collapse. Occassionally, a rupture is discovered only after vaginal delivery of the fetus, especially if it has been caused by an obstetric manouevre.

Maternal mortality is related more to the delay in diagnosis and transfer of the patient than to the rupture itself. Fetal mortality was found to be 100% for all the patients having spontaneous uterine rupture with no previous caesarean scars and those with previous lower segment scar had 50% perinatal mortality (3).

Treatment is aimed at the initial resuscitation measures of a patient in shock followed by urgent surgical management. Surgical management include primary repair of the

tear, repair of the tear and bilateral tubaligation and more radically subtotal or total hysterectomy (1). The mode of surgery depends on the desire to preserve fertility and the severity of the uterine tear.

Complication of uterine rupture include injuries to the adjacent structures e.g bladder and rectum, with fistula formation especially in obstructed labour, pelvic abscess or subphrenic abscess due to heavy contamination (1). Prevention is provided by adequate antenatal care, proper conduct of labour and delivery and better accessibility to move equipped health units.

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OBSTETRIC LONG COMMENTARY

EVALUATION OF THE QUALITY OF ANTENATAL CARE AND PREGNANCY OUTCOME AT THE DEPARTMENT OF DEFENCE NAIROBI UNITS.

ABSTRACT

OBJECTIVE

To determine the quality of antenatal care provided at Kenya Military Health facilities and how it affects pregnancy outcome.

DESIGN

This was a retrospective descriptive study.

SETTING

This was at Department of Defence health facilities in Nairobi, Kenya.

SUBJECTS

These comprised consecutively available case records of 256 mothers who delivered between 1st September 2003 and 31st December 2003.

RESULTS

The mean age of the mothers was 27 years with the majority (39.5%) aged between 25 – 29 years. The age range was 16 – 42 years and the teenage mothers comprised 4.3%

Of the study subjects, 16.4% had no formal education, 31.3% had primary level of education, 44.0% had secondary level of education and only 8.2% had attained college education.

Mothers who were nullipara comprised 18.8%, multipara were 69.5%, and 11.7% were grand multipara.

Study subjects who booked antenatal clinic in first trimester were only 5.5%, in second trimester 60.9%, and in 3rd trimester 33.6%.

Results of laboratory investigations were available as follows; haemoglobin 97.7% blood grouping/rhesus-98.4%; VDRL – 98.4% and ELISA for HIV – 81.7%. Mothers who had attended clinic three times or less comprised 20.7% while 79.3% had attended antenatal clinic four times or more.

Twenty seven mothers (10.5%) had obstetric and medical complications identified and appropriate remedial action taken. There were no direct or indirect maternal deaths.

Neonatal mortality rate was 4 per 1000 live births and perinatal mortality rate was about 8 per 1000 total births at discharge (within 1 week)

Of the mothers who delivered vaginally (94.5%), one was induced due to PET at 37 completed weeks and three due to post-term pregnancies. The caesarean section rate was 5.5% or a total of 14 mothers; three of which were elective and eleven emergencies due to various obstetrical indications.

CONCLUSION

About 1/3 of the mothers booked antenatal clinic in the third trimester. The HIV status was unknown in about 20% of the mothers which is unacceptable since all mothers should be encouraged to know their sero-status.

There was good quality of antenatal care as demonstrated by low neonatal and perinatal mortality rate. There were no maternal deaths.

INTRODUCTION AND LITERATURE REVIEW

The practice of prenatal care, as we know it today, originated in Boston USA in the first decade of the 20th Century. The nurses of Instructive Nursing Association in Boston, thinking they might contribute to the health of pregnant mothers, began making house calls on all mothers registered for delivery at Boston Lying- in Hospital. These visits were so successful that the principle behind them was gradually accepted by physicians, and our present systems of prenatal care which stresses prevention, evolved (1). A more crude antenatal care was practiced in Paris since 1788 as a social service for women who were both destitute and pregnant (2). Antenatal care has now become an established branch of preventive and therapeutic medicine. (3). The purpose of antenatal care is to ensure, as far as possible, an uncomplicated pregnancy for the mother and the delivery of a live healthy infant. The principal aim, therefore, is the identification and special treatment o the high-risk patient – the one whose pregnancy, because of some factor in her medical history or significant development during pregnancy, is likely to have a poor outcome. In absolute terms antenatal care should start before conception. It includes both physical and psychological preparation of both parents – a concept that is widely disregarded or ignored in the developing countries. Early and periodic appraisal of health is important if the goal of a successful outcome of pregnancy is to be achieved. It is towards this aim that the WHO expert Committee on Maternity Care (1952) recommended the following standard for perinatal care:- If pregnancy is progressing normally clinic visit should be monthly between conception and twenty eight weeks gestational age. Thereafter the visits should be fortnightly upto thirty six weeks and then weekly until delivery. Under different circumstances the clinic visits should be individualized. Focused antenatal care (FANC) refers to a minimum number of clinic visits each of which has specific items of client assessment, education and care to ensure prevention or detection and prompt management of complications. The focus is on birth preparedness and rediness to handle complications. WHO recommends that the pregnant woman should attend a minimum of four comprehensive personalized antenatal visits spreadout during the entire pregnancy during which specific focus acitivities are carried out to guide the woman along the path of survival as follows (4) first visit less than 16 weeks

second visit 20-24 weeks

third visit 28-32 weeks

fourth visit 36 weeks

The department of Health and Human services expert panel in the USA (Rosen, 1991) also suggested that women with no apparent complications would best be served by return visits targeted at specific times, for example, alpha – feto protein screening at 16 weeks.

The initial visit involves identification of risk factors involving the mother and foetus. This is achieved through:-

1. Past and present medical and obstetric history.
2. Physical examination
3. Laboratory tests

The history should include:-

a) Present pregnancy

b) Previous pregnancy, if any, regardless of outcome.

c) Medical history

d) Surgical history

e) Family history e.g diabetes mellitus, twinning since polyovulation (dizygotic) may be a maternally inherited trait.

Physical examination includes a general examination and more detailed abdominal and pelvic examination of soft tissue and bonny tissue for pelvic inlet, mid-pelvic and pelvic outlet at 36 weeks. Recording of maternal height during the initial visit screens for those at risk of developing cephalo pelvic disproportion (CPD) (6). Blood pressure recordings enable detection of hypertensive disease in pregnancy, which has been associated with maternal and perinatal morbidity and mortality. Maternal weight should be recorded in every visit as a monitor of maternal well being and foetal growth. Expected weight gain is 10 – 12 kg on average.

Laboratory investigations include

1. **Haemoglobin levels :** Should be done during the initial visit and at thirty four weeks gestation. Hb< 11 g/dl demands iron supplementation since anaemia in pregnancy is associated with a high perinatal mortality (5,7).

2. **Serology for VDRL:** Syphilis infection, if untreated is associated with poor pregnancy outcome. Syphilis is a component of the acronym TORCHES associated with congenital abnormalities.

3. **Blood group and Rhesus determination:** Rhesus incompatibility is associated with poor pregnancy outcome.

4. **Urinalysis:** Microscopy, culture and sensitivity if need be, is done to rule out urinary tract infection. Sugar and proteins are done to rule out diabetes mellitus and hypertensive disease in pregnancy respectively. This is done in every visit.

5. **ELISA** for HIV Antibodies is offered to every woman rountinely but they have an option to opt out as with other tests, pretest and post-test counseling is offered.

During antenatal care visits, clients are involved in interactive health talks relating to childbirth, care of the newborn, family planning and general health education. Subsequent visits involve measurements and records of weight gain, blood pressure, urinalysis, abdominal findings of Leopold's manoeuvres, fetal heart tones and check Hb at thirty-four weeks. The quality of antenatal care can be assessed by several indicators as attested by various studies. The best indicators of the quality of antenatal and obstetric care in a community are maternal and perinatal morbidity and mortality. In the Nairobi Birth Surrey, it was found that perinatal mortality rate was about five times higher in women who did not receive antenatal care (8). Other studies have shown the value of antenatal care in so far as it relates to the reduction of maternal and perinatal morbidity and mortality (9, 10,11). The findings relate well with those from developed countries (12,13). Antenatal care always stressed the importance of early clinic attendance as the best results are seen in those who start their antenatal clinics before thirteenth week of gestation (9). Early bookings are important because such a visit not only allows early records of blood pressure and weight in case they should alter abnormally later in pregnancy but also allow for early detection of and prevention of abnormalities such as iron and folate deficiencies and avoidance of

cytotoxic agents which may cause congenital abnormalities. In addition early medical problems can be detected and managed and the condition discussed with the patient. In a study of maternal mortality at Kenyatta National Hospital, Makokha (1980) found that 50% of maternal deaths occurred in clients who booked after twenty-eight weeks of gestation. Another study of maternal mortality at Pumwani Maternity Hospital, Ngoka (11) found that 69% of those mothers who died had no routine investigations done throughout their antenatal period even though they attended ANC. Solomon similarly in a study conducted at Coast Provincial General Hospital found that more than 50% of the mothers who died had no routine laboratory tests in their entire antenatal period. (7). The value of regular clinic visits is demonstrated by the perinatal mortality rate of 45/1000 among women who made only 1-4 visits and 35/1000 for those who made five or more antenatal clinics according to a study done in Cameroon (14). Other indicators used in assessing quality antenatal care are standard investigations such as blood group and rhesus factor, haemoglobin levels; serology for syphilis, urinalysis, measurements of blood pressure, maternal height and weight. According to Mati et al (1983A) and Nji P.C (1993) laboratory investigations and results are generally poorly recorded while the physical parameters i.e height, weight and blood pressure are well documented.

In another study in Thika (Ruminjo 1990) it was found that only 32.6% of antenatal mothers had had either VDRL, blood groupings, urinalysis or haemoglobin estimation done while only 13% had the results of all these investigations recorded (15).

The other indicator of quality antenatal care is the ability of the attending staff to take a good obstetric and medical history. The information obtained can directly influence the management of the pregnancy and therefore its outcome. Health education to the antenatal mothers and carrying out preventative measures against prevailing diseases are also other indices of quality of antenatal care.

Through the above, identification of high risk patients and provision of specialised medical care in tertiary health institutions is enabled (16,17). The quality of antenatal care can also be assessed by evaluating the decisions taken during the antenatal period regarding management of labour. This is demonstrated by a study in Kiambu in which 89.6% of the 'at risk' group had not been advised as to the place of labour and mode of delivery; 95.5% 'not at risk' were not advised either (18).

The outcome of pregnancy is an important measure of quality of antenatal care. This is dependent on the gestational age at first visit and the number of subsequent visit

(14,19). One of the commonest problem in obstetrics in Kenya is anaemia and has a direct effect on outcome of pregnancy (20).

Anaemia is considered to be present if Hb concentration is below 11g/dl according to WHO. This level has been accepted by many workers as the lowest normal limit in pregnancy (21,22,23,24). Anaemia is a common complication of pregnancy in the tropical countries due to the poor socio-economic conditions coupled with a host of other factors such as parasitic infections, malnutrition, chronic diseases climatic and weather conditions. (5).

Kitavi J.M. (1984) found that 4.9% of pregnant women were anaemic in Northern parts of Machakos district between 1981 and 1982 (25). In the Nairobi birth survey II, anaemia was present in 10.5% of the antenatal population screened. Although the sample size of the population in both cases is almost the same, the prevalence of anaemia is higher in Nairobi probably owing to the more rampant poor dietary habits in the low socio-economic groups in the urban areas.

Identification of antenatal obstetric and medical complications and institution of remedial measures greatly improves pregnancy outcome.

RATIONALE

The goal of modern obstetrics is to maximize the quality of fetal and maternal outcome. This can only be achieved by not just antenatal clinic attendance but by the quality of care provided. Although various studies have been undertaken in other hospitals no such study has been undertaken in the military hospitals. The study was carried out in four major units in Nairobi namely Moi Airbase, Eastleigh; Langata barracks; Kahawa Garrison; Department of Defence, Headquarters. The Department of Defence Headquarter unit offers comprehensive essential obstetric care and the management of a consultant obstetrician /gynaecologist. It serves as a referral centre for the other units. The other units offer basic essential obstetric care services and are managed by midwives and medical officers. The units provide medical services to military personnel and their families under full medical cover. However, emergency services are extended to members of the public.

OBJECTIVES OF THE STUDY

Main Objective

To determine the quality of antenatal care provided in Kenya military health facilities and how it affects pregnancy outcome.

Specific Objectives

1. To determine the quality of routine clinical and laboratory procedures offered during ante-natal period.
2. To determine the identification of antenatal complications among patients who attended ANC during the study period.
3. To assess the management of the identified complications.
4. To determine maternal perinatal morbidity and mortality.
5. To relate the quality of antenatal care to pregnancy outcome.

METHODOLOGY

Study Design

This was a retrospective descriptive study.

Study Population

These comprised records of mothers who attended ANC and delivered in the military units namely Moi Airbase Eastleig, Langata Barracks, Kahawa Garrison and Department of Defence Headquarters. Consecutively available patients records were retrieved from the latest deliveries until the required sample size was attained.

Sample Size

This was calculated using the formula

$$N = \frac{Z^2 (1-P) P}{D^2}$$

N = Sample size to be determined

P = Prevalence of 20% of maternal complications.

D = Absolute precision = 5% = 0.05 for 95% confidence interval.

Z = Standard errors from mean corresponding to 95% confidence interval.

NB/ In the Nairobi Birth Survey II about 80% of antenatal mothers had no complications.

Thus

$$N = \frac{1.96^2 \times 0.2 \times 0.8}{0.05^2} = 246$$

Inclusion Criteria

All clients who attended ANC and delivered in Moi Airbase Eastleig, Langata Barracks, Kahawa Garrison and Department of Defence Headquarters during the study period.

Exclusive Criteria

1. All the clients who attended ANC in the four units but delivered elsewhere.
2. All the clients who attended ANC elsewhere but delivered in any of the four units.

Study period

The study was conducted during the months of December 2003, January, February 2004.

DATA COLLECTION AD ANALYSIS

The data was collected by the principal investigator with the help of four assistants using a data collection sheet. The data was entered into the computer using D-base. Analysis was done using SPSS program. Test of significance was done at 95% confidence interval.

Study Limitation

- Incomplete medical records on patients information.
- Reliance on available information only.

Ethical Considerations

- The study did not infringe on patients privacy and no prior consent was required.
- The medical records were held confidentially with no specific information divulged.
- Study was carried out only after submission to and approval by Kenyatta National Hospital Research and Ethical Committee.
- Consent was sought from the authorities at the Department of Defence.

RESULTS

A total of 256 clients records who delivered at the four units during the study period were analyzed.

Table 1- Age Distribution

AGE	FREQUENCY	PERCENT
<=19	11	4.3%
20 – 24	67	26.2%
25 – 29	101	39.5%
30 - 34	49	19.1%
>=35	28	10.9%
TOTAL	256	100.0

The mean age of the mothers was 27 years with the majority (39.5%) aged between 25-29 years. The age range was 16 – 42 years and the teenage mothers comprised 4.3%.

Table 2 – Education Status

EDUCATION LEVEL	FREQUENCY	PERCENT
None	22	8.6%
Primary	42	16.4%
Secondary	59	23.0%
College	11	4.3%
Total	134	52.3%
Missing	122	47.7%
Total	256	100.0

Of the study subjects, 122 mothers (47.7%) did not have their level of education recorded signifying poor quality of records. Of those recorded, 16.4% had no formal education, 31.3% had primary level of education; 44.0% had secondary level of education and only 8.2% had attained college education. However, the level of education did not influence significantly the mothers clinic attendance as demonstrated below.

Table 3 – Level of Education Vs Number of ANC Visits.

Level of Education	Frequency of ANC Visits		Percent
	1- 3	≥ 4	
None	7	15	16.4
Primary	12	30	31.3
Secondary	13	46	44.0
Secondary	1	10	8.2
Total	33	101	100

$X^2 = 2.61$

P-value = 0.456

There was no association between the level of education and the quantity of antenatal clinic visits.

Table 4 – Distribution of Parity

PARITY	FREQUENCY	PERCENT
0+	48	18.8
1+	55	21.5
2+	58	22.7
3+	42	16.4
4+	23	9.0
≥5	30	11.7
Total	256	100.0

Mothers who were nullipara comprised 18.8%, multipara 69.5% and grand multipara 11.7%.

Table 5 – Gestation Age at 1st Visit

TRIMESTER	FREQUENCY	PERCENT
1st (<= 14)	14	5.5
2nd (15 – 28)	156	60.9
3rd (> = 29)	86	33.6
Total	256	100.0

Study subjects who had booked antenatal clinic in the first trimester were 5.5%, 60.9% in the second trimester and 33.6% in the third trimester.

Table 6 – Quantity of ANC Visits

Visits	Frequency	%
1 - 3	53	20.7
≥ 4	203	79.3
Total	256	100

The vast majority of the mothers (79.3%) attended ANC four times or more while 20.7% attended clinic three times or less.

Table 7 – Antenatal Profile Results

Variable	Frequency	%
Hb	250	97.7
Blood Group	252	98.4
VDRL	252	98.4
HIV	209	81.4

Results of laboratory investigations were available as follows: haemoglobin 97.7%, Blood group/rhesus - 98.4%, VDRL – 98.4% and ELISA for HIV in 81.4% of the study population.

Table 8 – Maternal Morbidity and Mortality

Condition	Frequency (%)	Management
Malaria	9 (3.5)	ANTI - MALARIALS
HIV / AIDS	5 (2.0)	ARVs
Anemia	4 (1.7)	HEMATINICS
UTI	3 (1.2)	ANTIBIOTICS
PET	2(1.0)	ANTIHYPERTENSIVES
Cervical Incompetence	2 (1.0)	MACDONALD STITCH
Diabetes Mellitus	1(0.4)	INSULIN
PPROM	1 (0.4)	ANTIBIOTICS
No Complication	229 (89.5)	
Total	256 (100)	

The proportion of the study population with antenatal medical or obstetric complications was 10.5%. The most prevalent was malaria (3.5%) followed by HIV/AIDS (2.0 %) and anemia (1.7%) There were no direct or indirect maternal deaths.

Table 9 – Mode of Delivery

Mode of Delivery	Frequency	Percent
Vaginal	242	94.5%
Caesarean section	14	5.5%
Total	256	100

The vast majority of mothers (94.5%) had vaginal delivery either spontaneous or assisted. Caesarean section rate was 5.5%

Table 10 – Gestation at delivery

Gestation (weeks)	Frequency	%
<38	37	14.5%
≥38	219	85.5
Total	256	100

The proportion of the study group that delivered before 37 completed weeks represented 14.5% while 88.5% delivered at term.

Table 11 – Pre-term deliveries

Gestation (weeks)	Frequency	%
30	1	2.7
32	1	2.7
35	2	5.4
36	13	35.1
37	20	54.1
Total	37	100

Majority of those who delivered before 37 completed weeks were delivered between 35 – 37 weeks (94.6%). The outcome of the delivery at 30 weeks was a macerated stillbirth due to severe PET. The baby born at 32 weeks due to PPROM later succumbed in the new born unit. The perinatal mortality rate for the study population was therefore 8 per 1000 total births while the neonatal mortality rate for the same population was 4 per 1000 live births.

Table 12 – Birth Weights

Birth weight (kg)	Frequency	%
<2.5	6	2.3
2.5 – 3.5	196	76.6
> 3.5	54	21.1
Total	256	100

Majority of the mothers delivered babies weighing between 2500-3500g (76.6%) while 2.3% had low birth weight babies and 21.1% had babies weighing more than 3500g

Table 13 – Relationship between birth weight and quantity of antenatal care

ANC Visits	Birth weight (g)	
	< 2500	≥ 2500
1-3	2(28.6)	51 (20.5)
≥ 4	5(71.4)	198 (79.5)
Total	7 (100)	249 (100)

Chi square = 5.4

P-value = 0.05

There was a weak association between birth weight and quantity of antenatal care.

Table 14 – Relationship between birth weight and trimester of ANC booking

ANC Booking	Birth Weight (g)	
	< 2500	*> 2500*
1st Trimester	1(16.7)	13 (5)
2nd Trimester	5(83.3)	155 (62)
3rd Trimester	-	82 (33)
Total	6 (100)	250 (100)

Chi square = 11.49

P- value = 0.02

There was a direct relationship between birth weight and trimester at first visit. Those who started antenatal clinic earlier had heavier babies.

Table 15 – Relationship between gestation at birth and quantity of antenatal care

Gestation at birth (weeks)	ANC Visit	
	1 – 3	> 4
< 38	12 (23.1)	25 (12.3)
≥ 38	4.0 (76.9)	179 (89.7)
Total	52 (100)	204 (100)

Chi – square = 3.87

P – Value = 0.05

There was a weak relationship between gestation at birth and quantity of antenatal care.

Table 16 – Relationship between gestation at birth and trimester at booking.

ANC Booking	Gestation at birth (weeks)	
	< 38	> 38
1st Trimester	-	14 (6.5)
2nd Trimester	27 (73)	129 (60)
3rd Trimester	10 (27)	76 (33.5)
Total	37 (100)	219 (100)

Chi square = 3.67

P- value = 0.16

There was no association between gestation at birth and gestation at ANC booking.

and only 6% in the third trimester (27). In this study, there was a direct relationship between gestation at antenatal clinic booking and birth weight ($x^2 = 11.49$, P- value = 0.02).

Those who started antenatal clinic earlier had heavier babies. To further emphasize the importance of early antenatal clinic booking, a study of maternal mortality at Kenyatta National Hospital by Makokha (9) found that 50% of maternal deaths occurred in clients who booked after twenty eight weeks of gestation.

Mothers who had attended clinic three times or less comprised 20.7% while 79.3% had attended four times or more. In this study the quantity of antenatal care did not have an association with the pregnancy outcome. However, the value of regular clinic visits is demonstrated by a perinatal mortality rate of 45/1000 among women who made only 1- 4 visits and 35/1000 for those who made five or more visits according to a study carried out in Cameroon (14). The overall number of antenatal visits is dictated by the individual needs and the gestation at booking.

In further assessment of the quality of antenatal care offered to antenatal clients a number of standard laboratory investigations were considered. These included haemoglobin levels, blood group, serology for syphilis and ELISA for HIV. The results were known in the following proportions:- haemoglobin – 97.7%, Blood group – 98.4%, VDRL – 98.4% and HIV – 81.7%. The results of these standard investigations were much higher than what had been reported in other studies (7,8,14,15,26). The importance of laboratory investigations in this study was outlined by the fact that HIV/AIDS and anemia were second and third commonest form of maternal morbidity respectively. The fact that remedial action can be taken in most of the conditions diagnosed by the standard investigations cannot be over-emphasized. Ngoka (11) at Pumwani Maternity Hospital found that 69% of maternal deaths had no laboratory investigations while Solomon (7) in a study at Coast Provincial General Hospital found that 50% of maternal deaths had no routine laboratory investigations. Of particular importance was the relatively poor results of HIV status determination among the antenatal mothers (81.7%). According to Kiarie (28) the acceptance of HIV testing is 99.4% among antenatal mothers. Of those tested, 5 mothers or a prevalence rate of 2.4% were HIV positive. Antiretroviral drugs were administered during pregnancy, labour and six weeks prophylaxis for the babies of such mothers.

The prevalence of HIV infection among pregnant women in Kenya is currently estimated at 13%. Mother to child transmission (MTCT) of HIV occurs during pregnancy (5-8%), labour and delivery (10 – 20%) and 10 – 15% when mothers breast feed for 18 – 24 months. Thus it is important to determine the sero-status of all antenatal mothers and plan their management aimed at prevention of mother-to-child transmission (PMCT) of HIV/AIDS (29). Preventive measures that reduce (PMCT) include elective caesarean section (50%), prophylaxis antiretroviral drugs (50% reduction in post-natal prophylaxis and no breast feeding), delayed artificial rupture of membranes during labour, avoidance of invasive procedures.

The pregnancy outcome was determined by maternal morbidity and mortality, mode of delivery and the fetal outcome. The proportion of the study population with antenatal medical or obstetric complications was 10.5%. The most prevalent was malaria (3.5 %) followed by HIV/AIDs(2.0%) and anemia (1.7%). There were no direct or indirect maternal deaths at the time of discharge. The maternal morbidity in Nairobi Birth Survey II was 20% (8).

The vast majority of mothers (94.5%) had vaginal delivery either assisted or spontaneous. The caesarean section rate was 5.5%. Neonatal mortality rate was 4/1000 and the perinatal mortality rate was 8/1000. These figures were much lower compared to those found in other studies (7,25).

Majority of the babies weighed more than 2500g (97.7%) with 2.3% having low birth weights. Of the low birth weights one was a macerated still birth at 30 weeks and the other one born at 32 weeks due to PPROM weighed 1700g and succumbed within one week in the new born unit.

Relationship between quality of antenatal care and pregnancy outcome was determined by birth weight and gestation at birth.

In total, there were 14.5% deliveries before 37 completed weeks. There was a weak relationship between birth weight and quantity of antenatal care as well as the relationship between gestation at birth and quantity of antenatal care. Of importance was the direct association between gestation at ANC booking and birth weight. Those clients who booked antenatal clinic earlier delivered heavier babies ($X^2 = 11.4$, P-value = 0.02). This further emphasized the importance of early antenatal booking.There was no association between gestation at birth and trimester at ANC booking ($X^2 = 3.67$, p-value 0.16)

CONCLUSION

1. Most mothers booked antenatal clinic late
2. Most mothers had routine laboratory investigations done but about 20% had their HIV status unknown.
3. Appropriate remedial actions were taken for identified antenatal complications.
4. Pregnancy outcome was significantly associated with trimester at antenatal clinic booking.

RECOMMENDATIONS

1. There is need to educate mothers to initiate antenatal clinic attendance early so as to improve the pregnancy outcome.
2. HIV testing in the antenatal clinic should be made routine to determine the sero-status of all pregnant mothers so that preventive measures to reduce mother – to – child transmission can be taken.

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GYNAECOLOGY SHORT CASES

GYNAECOLOGY CASE 1

UTERINE FIBROIDS –TOTAL ABDOMINAL HYSTERECTOMY

Name	:	M.N
Age	:	42 years
IP No	:	0880340
Parity	:	1 + 0
DOA	:	20/06/03
DOD	:	27/06/03

Presenting Complaints

Patient presented with progressive abdominal swelling.

History Of Presenting Illness

The patient was admitted through the gynaecologic outpatient clinic where she had presented with abdominal swelling. The growth was of insidious onset and progressive. The were no menstrual disturbances but had a sense of pelvic fullness and backache. There were no urinary symptoms.

Obstetric and Gynaecologic illness

She was a Para 1=0, last delivery 12 years prior to admission. Menarche was at 15 years; menstrual duration was 4 days and cycle length 21 days. She did not use contraceptives. Last menstrual period was on 02/06/03.

Post-Medical History

Nil Significant.

Family and Social History

She was a single lady engaged in small business. She did not take alcohol or smoke cigarettes. Family history was not contributory.

General Examination

She was middle aged, in good general condition, not pale, not jaundiced, no oedema. Vital signs were within normal. Respiratory, cardiovascular, and central nervous systems were normal.

Abdominal Examination

Abdomen was uniformly distended, moved with respiration. There was a pelvic mass corresponding to 20 weeks of gravid uterus. The mass was firm, nodular, mobile, non-tender. No ascites. There was no hepatosplenomegally.

Pelvic Examination

She had normal external genitalia. The cervix was posterior, long, firm and closed. The cervix moved with the abdominal mass. Adnexae and cul-de-sac were free.

Investigations Done

1. Pap Smear – satisfactory smear
   - Normal cytology.
2. Pelvic Scan - Multiple mixed echogenic uterine masses suggestive fibroids. Both ovaries normal.
   No peritoneal fluid

Diagnosis – Symptomatic uterine fibroids

Management

The patient consented for total abdominal hysterectomy (TAH). The following investigations were done:-

1. Haemogram - Hb 12.1g/dl
   -WBC 8.5 x $10^{a}/_{l}$
   - *Platelets – 350 x* $10^{a}/_{l}$

2. Urea and Electrolytes - Na 140 mmol/L
- K+ 4 mmol/L
- BUN 4.4 mmol/L

3. Blood for grouping and cross matching

On 23/6/03 the patient was premedicated with 1.m atropine 0.6mg start and taken to theatre. In theatre the patient was anaesthetized, vulvovaginal toilet done and vagina painted with methylene blue after bladder catheterization and pelvic examination. Laparatomy was done through a sub umbilical incision.

Multiple uterine fibroids were found but tubes and ovaries were normal. Round ligaments were double champed, cut and ligated. Broad ligaments were then opened and the ovarian ligaments double clamped, cut and ligated.

The bladder was dissected away and visceral peritoneal incision extended posteriorly. Uterine vessels were identified bilaterally, clamped and stumps ligated. The cardinal ligaments were similarly resented before the cervix was circumcised. The vaginal vault was closed with interrupted stitches and periotonisation followed. Abdomen was then done in layers after a correct instrument and swab count. Anaesthesia was successfully reversed. The uterine specimen was taken for histology.

Post-operatively the patient did well on treatment and was discharged home for follow-up in the gynaecology clinic.

The patient turned up for follow-up in the clinic after one month. She had no major complaints and the histology report confirmed uterine leiomyoma.

DISCUSSION

Fibroids are benign uterine tumours composed of smooth muscles and variable amounts of fibrous connective tissue (1,2,3.....) Fibroids are also referred to as mysomas, fibromyomas, or leiomyomas.

Fibroids are the commonest pelvic tumours being present in about 20-25% of all reproductive age women. By the fifth decade as many as 50% of black women will have fibroids. Fibroids are rare before the age of 20 years and are 3-9 times found more commonly in black women than in white women (1...). Myomas are also commoner in nulliparous and relatively infertile women. It is not clear whether sub fertility causes myomas or myomas cause sub fertility or both have a common cause (2).

At Kenyatta National Hospital, fibroids account for 1.6% of all gynaecologic admissions and 66.7% of all hysterectomies performed are due to uterine fibroids (4...) Wanjala (4...) found that 30% of patients with uterine fibroids were para3 and above but 85% of them had not delivered in six years.

The cause of uterine fibroids is not known and gluce-6- phosphate dehydrogenase studies show that each fibroids is unicellular (monoclonal) in origin (1.....). Oestrogens are implicated in the growth of fibroids. Evidence of this includes increased oestrogen receptors in myomas compared to the surrounding myometrium and increase in size with oestrogen therapy and during pregnancy but decrease in size and even disappear following menopause. (1,3 ....).
Leiomyomata growth in pregnancy is related to synergistic activity of oestradial and human placental lactogen (HPL). Other conditions associated with uterine fibroids include follicular cysts of the ovary, endometrial hyperplasia, endometrial carcinoma and endometriosis. Classification of myomas is based on anatomical location as follows:-

- Submucosal lie just beneath the endometrium and grow towards the lumen
- Intramural or interstitial –lie within the myometrium.
- Subserous or subperitoneal – lie at the serosal surface.

Submucuos fibroids may be pendunculated, subjecting them to torsion and infection, and may also herniate through the cervical os.

Sub-serous fibroids may also become pendunculated and sometime acquire extra-uterine blood supply – it is called parasitic when its pedicle atrophy and resorb. Subsereus myomas may also extend laterally between the two periotoneal layers of the broad ligament to become intraligamentary fibroids (1,2,3….).

Symptomatic fibroids are found in 30-50% of patients. The commonest symptom is abnormal bleeding found in 30% of patients. The bleeding is due to:-

a) increased endometrial surface area
b) increased uterine vascularity
c) endometrial hyperplasia
d) endometrial ulceration
e) dilation and engorgement of the venous plexus.

Memorrhagia is common while metrorrhagia is associated with a tumor with endometrial venous thrombosis and necrosis on its surface, and particularly of it is pendunculated and partially extrudes through the cervical canal. At Kenyatta National Hospital, Wanjala found menstrual disturbances in 54.69% of the patients while 38.27 % presented with an abdominal mass (4….)

The presenting complain may be inability to conceive although fibroids may be the primary cause in 2-10% of the patients. Infertility may be due to impaired implantation, impaired tubal motility or interference with sperm transport e.g. corneal blockage (1….). Spontaneous abortion increases 2-3 fold in the presence of fibroids. This could be due to increased uterine irritability and contractility, altered oxytocianase activity or alterations in endometrial stroma vasculature leading to reduced blood supply to the developing placenta thus increasing rate of fetal wastage (5…). After myomectomy, the incidence of spontaneous abortion reduces from 40% to 20% (1….)

Dysmemorrhoea is common in fibroids and may be due to circulatory seclusion, infection, torsion, myometrial contractions to expel a submucous myoma, or sarcomata's changes. Systemic manifestations of myomas include anaemia (IDA), which is secondary to menometrohagia.

Paradoxiacally polycythemia is present in some cases of uterine fibroids particularly in the broad ligament. This is due to the production of erythropoietin by the tumor or renal erythropoietin production as a result of ureteric compression.

Pressure effects may also occur on the bladder and rectum. On rare occasions, a retropentoneal myoma may cause hypoglycamia possibly through pancreatic stimulation.

Secondary changes of fibroids include atropohy, hyalinization, calcification, cystic changes, sepsis, myxomations and red degeneration. Malignant changes are rare (0.1-0.5)

Choice of treatment depends on patient's age, parity, general health, symptoms, desire of future pregnancies, location and state of leiomyomata. Asymptomatic fibroids which are less than 12-14 weeks require no treatment or if the patient is postmenopausal without symptoms. The patient is followed up every 6 months. Medical treatment is not definitive. Gonadotrophin releasing hormone (GNRH) agonists limit the growth or reduce the tumor size to facilitate surgery. The use of GnRH against is only temporary as they create an artificial menopause (1,6....)

Orgametril a synthetic progestrogen active orally is effective in controlling menorrhagia. After treatment, 87.5% of patients are symptom free by the third treatment cycle (7....).

Surgery is indicated in symptomatic uterine fibroids such as those larger than 14 weeks, growing cervical myomas $\geq 3 - 4$cm diameter, pedunculated sub mucus and sub serous fibroids. (1,2,3)

Myomectomy is the operation of choice in patients who wish to retain menstrual and reproductive functions. However, recurrence occurs in 15-40% of patients and two thirds of these will require further surgery (1).

Hysterectomy is the preserve of patients who do not desire future fertility. Hysterectomy with removal of all tumors is curative. Hysterectomy is either abdominal or vaginal with the later being more desirable for smaller fibroids or if combined with repair of cystocoele and or rectocele (3).

GYNAECOLOGY CASE 2

CARCINOMA OF THE CERVIX STAGE II A WERTHEIM'S HYSTERECTOMY

Name	:	E.M.M
Age	:	60 years
IP No	:	0902077
Parity	:	6 + 1
DOA	:	17/07/03
DOD	:	06/08/03

Presenting Complaints

The patient had initially presented to the acute gynaecology ward complaining of lower abdominal pain and vaginal bleeding for a duration of one month.

History Of Presenting Illness

She was relatively well till one month previously when she noticed occasional light vaginal bleeding of dark blood. This was associated with lower abdominal pains but no backache. The re was no positive history of painful sexual intercourse as she had not had sex recently. It was then that she visited a private gynaecologist who did examination under anaesthesia (EUA) and biopsy. The clinical diagnosis was carcinoma of the cervix stage II a. The histology report (11/07/03) showed ulcerated sections of poorly idderentiated non-keratin zing squamous cell carcinoma of the cervix. She was then referred to Kenyatta National Hospital for further management.

Obstetric and Gynaecologic History

She was uncertain of her menarche and was more than 10 years past menopausal. She was a Para 6+1 who had all deliveries by spontaneous vertex delivery. Her last delivery was in 1974. She had used the pill in between deliveries during her reproductive years.

Past Medical History

She had long standing partial hearing impairment and mild essential hypertension since middle age although not on any medication.

Family and Social History

She was a retired nurse married to a small-scale farmer. She neither smoked cigarettes nor drunk alcohol. There was no chronic illness among family members

Physical examination

She was elderly in good general condition, febrile not pale and no oedema. Blood pressure was 160/90mmttg, pulse rate 76/min regular and of good volume. Temperature was 36.9oc and respiratory rate 18/minute. The respiratory, cardiovascular and central nervous systems were essentially normal but for the mild bilateral partial deafness.

Abdominal Examination

The abdomen was not distended, no surgical scars or therapeutic marks. There was no ascites or inguinal lymph nodes palpable.

Pelvic Examination

She had normal external genitalia with early atrophic changes. Speculum exam showed fungating cervical mass involving upper two thirds of the vaginal mucosa. The mass easily bled. The urethra felt free on palpation. Bimanually the uterus felt slightly bulky. On rectal examination, the rectal mucosa was free and the parametrium was not involved.

Impression

An impression of carcinoma of the cervix stage II was made.

Management

The patient was admitted to the gynaecology ward 1B for hysterectomy as earlier advised preoperative investigations apart from examination under anaesthesia and biopsy for histology as earlier done included:-

1. Full haemogram - WBC 6.2 x 10 a/l
   Hb 10.8 g/dl
   Plateletes 200 x 10 a/l
2. Urea + Electrolytes
   - Na + 135
   - K+ 4.0 } mmol/L
   - Urea 7.4
   - Creatinine 125 umol/l
3. ELISA for HIV – Negative
4. Pelvic ultra sound scan – bulky uterus with at least three small uterine fibroids in the fundus biggest being 23 x18 mm. Adnexae normal with some fluid in the cul-de-sac.
5. Intrakenous urograph (IVU) – no calcification or features of hydronephrosis
6. Blood grouping and cross matching three units.

The nature of the operation was explained to the patient and she gave a written informed consent. An enema was given on the morning of the operation and premedicated with intramuscular atropine 0.6mg stat ½ hour before the operation.

Procedure

In theatre the patient was put under general anaesthesia. In lithotomy position, vulvovaginal toilet was done and an indwelling catheter inserted. EUA confirmed earlier findings. In supine position, the abdomen was cleaned and draped. The abdomen was opened in layers through a midline subumblical incision. On inspection the uterus was slightly bulky with small subserous fibroids, tubes and ovaries were grossly normal. The bladder, intestines, liver and spleen were grossly normal. There was no ascites. The paracolic gutters were packed and the bladder retracted.

The round ligaments were doubly clamped and ligated with chromic catgut n°2. The infundibulopelvic ligaments were similarly divided and the distal stumps transfixed. The brood ligaments were opened and dissected medially to open the utero-vessical fold. The balder was bluntly reflected away from the uterus and dissection carried downward to the virginal vault. Posteriorly the Para rectal space was dissected to separate the rectum and vagina. The ureters were identified and tagged marselline tape. Lymph nodes were removed together fatty tissue along the common iliac vessels up to the bifurcation of the aorta. The nodes were then dissected out from the obturator space by medial deflection of the external iliac vessels.
The uterine vessels were then double clamped, divided and ligated. The ovarian pedicles and fallopian tubes were clamped and removed. The utero-sacral and cardinal ligaments were divided between clamps and ligated. The cervix and upper 2/3 vagina were then circumcised. The virginal vault was closed with interrupted sutures. Reperitonization was done and uterus released after thorough check. Abdomen was closed after correct instrument and swab count. Estimated blood loss was 600ml and patient was transfused one unit of blood intra-operatively. Vulvovaginal toilet was done, catheter removed and anaesthesia reversed successfully.

Specimens of the cervix, uterus, tubes and ovaries were taken for histology. Post operatively the patient remained stable with vital signs being monitored ½ hrly till fully awake then 4 hrly. She was put on intravenous fluids up to the following day when she was started on oral feeds after establishment of bowel sounds. Prhylactic antibiotics included intravenous crystalline penicillin 2mm 6hrly and gentamycin 80mg 8 hrly for 48 hrs then Amoxycillin 500mg TID for 5 days. Analygesics included intramuscular pethidine 100mg 8hrly for 48 hrs then ponstan 500mg TID for one week. A check PCV on the third day was 29%.

On the 7th post operative day all stitches were removed and patient discharged through gynaecological out patient clinic.
On review in the clinic the patient was well. Histology report was similar t the previous one i.e. poorly differentiated non-keratinizing squamous cell carcinoma. Histology of the nodes, endometrium, myometrium, fallopian tubes and ovaries was reported as normal. She was scheduled for further follow up.

DISCUSSION

The patient presented was a 60yr who presented with carcinoma of the cervix stage II a. She had wertheims hysterectomy and did well post operatively.

Carcinoma of the cervix is the most common gynaecological cancer in Kenya although its true incidence is unknown (4). The mean age at diagnosis is 42 years with peaks in incidence at 25,30 and 35 years. In developed countries the average age at diagnosis is 45 years with peaks in incidence at 35 years and 50-55 years. (2,3,4,5,)

The cause of cervical cancer is not known but certain predisposing factors are recognized. These include coitus at a relatively early age, multiple sexual partners, probably human smegma in uncircumcised males, viral infections like herpes simplex type II and human papilloma virus subtypes 16 and 18. The human immunodeficiency virus (HIV) could also be a causative factor (1,3)

Apart from the high parity of the patient there were no obvious associated risk factors. Essentials of diagnosis are history of uterine bleeding and vaginal discharge with or without referred pain; sign of cervical lesion as a tumor or ulceration; and cervical cytology confirmed by biopsy (1,2,3,4). In early stages the disease is asymptomatic and cervical cytology by way of Papanicolou smears offers great hope for early diagnosis and treatment (2).

Histologically carcinoma of the cervix is commonly of squamous cell type, 90% with the rest being adenocarcinoma, adenosquamous carcinoma with an occasional sarcoma (1). The cell type can be well-differentiated moderately differentiated or poorly differentiated with keratinising or non-keratinising. The large cell non-keratinizing variety is reputed to carry the best prognosis while the small cell non-keratinizing has the lowest 5-year survival rate (20% (1,2)

Treatment of carcinoma of the cervix includes general measures, surgical measures and radiation therapy. General measures include treatment of pelvic infections, correction of anaemia and improvement of nutritional status. Pain is controlled by analgesics. Surgical treatment as in radiation therapy depends on the type, stage and