

CASE RECORDS AND COMMENTARIES

IN

OBSTETRICS AND GYNAECOLOGY

SUBMITTED BY

GEOFFREY WASHIKANDA INGARI

FOR THE EXAMINATION OF
MASTER OF MEDICINE

IN

OBSTETRICS AND GYNAECOLOGY

OF THE

UNIVERSITY OF NAIROBI

APRIL 1987

G W INGARI

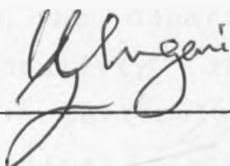
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DECLARATION

This is to certify that the case records and commentaries in this book are my own original work and have not been presented for a degree or mastership in any other University. I further certify that all the cases and commentaries presented herein were managed by me under the supervision of the Senior Members of the Department of Obstetrics and Gynaecology at Kenyatta National Hospital - Nairobi - Kenya.

Signed at Nairobi



GEOFFREY WASHIKANDA INGARI
MBCHB. MAKERERE, MSC. LONDON

15th April 1987

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My colleagues, the Senior House Officers, have been helpful, tolerant and friendly and I have enjoyed working with them.

The nursing staff that I have worked with in the various wards, theatres and clinics have given me great support. To them all I would pray that they do likewise to others that come after me.

Special mention and appreciation is to Miss Marie-Anne Makokha without whose industrious, total dedication in typing this work and cheerful face I would not have completed this work in time.

I would not forget to mention Mr John Nganyi Liboyi, a mathematician with International Computers Limited and my cousin, for the role he has played in closely attending to my aging mama and papa. His constant information about their state of Health kept me undisturbed.

Finally and not least I would like to acknowledge the patience and understanding support of my dear wife Diana and the children and family. A drink of milo was always served to me at 10 p.m. on my study table and this helped to refresh me and keep me going.

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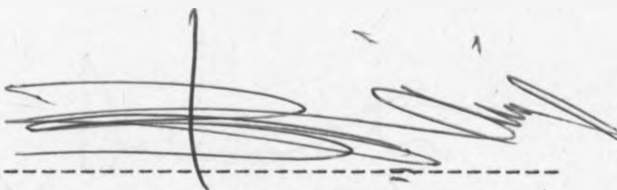
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This is to certify that Obstetric Cases No. 2 and 15, and Gynaecological Cases No. 27, 28, 29, 31 and 32 were managed by Dr. G.W. Ingari under my supervision and guidance at Kenyatta National Hospital

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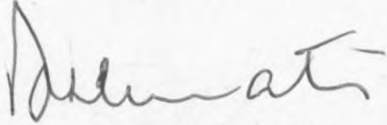


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This is to certify that Obstetric Cases No.3,
11, 13, and 15, and Gynaecological Cases No.
21, 25, 26, were managed by Dr. G.W. Ingari
under my supervision and guidance at Kenyatta
National Hospital

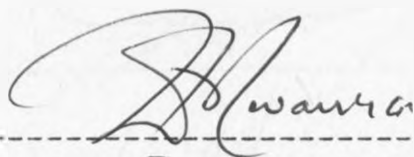
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Date 20/6/88 -----

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This is to certify that Obstetric Cases No. 4
5, 6, 7, 8, 10, 12, 14, and 16 and
Gynaecological Cases No. 18, 19, 22, 23, 26 and
30 were managed by Dr. G.W. Ingari under my
supervision and guidance at Kenyatta National
Hospital

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Date _____

25th April 1988

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KENYATTA NATIONAL HOSPITAL, NAIROBI, KENYA.

This is to certify that Obstetric Cases No. 4, 5, 6, 7, 8, 9, 10, 12, 14, and 16 and Gynaecological Cases No. 18, 19, 20, 22, 23, 26, 30 and 31 were managed by Dr. G.W. Ingari under my supervision and guidance at Kenyatta National Hospital

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Date _____

23/4/88

A.E. MAKOKHA M.D.

SENIOR LECTURER

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

This is to certify that Obstetric Cases No. 4, 5, 6, 7, 8, 9, 10, 12, 14, and 16 and Gynaecological Cases No. 18, 19, 20, 22, 23, 26, 30 and 31 were managed by Dr. G.W. Ingari under my supervision and guidance at Kenyatta National Hospital

Sign. -----



Date -----

23/4/88

A.E. MAKOKHA M.D.

SENIOR LECTURER

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

This is to certify that Obstetric Cases No. 8
9, and 15, and Gynaecological Cases No. 21, 25,
26, 27, 28, 31, 32 were managed by Dr. G.W.
Ingari under my supervision and guidance at
Kenyatta National Hospital

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Date _____

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INTRODUCTION

Kenyatta National Hospital is situated in Nairobi, the capital city of the Republic of Kenya. It is the national referral hospital for Kenya. The hospital also provides intermediate health services for the population of Nairobi and the surrounding suburbs. In addition it is the major centre for training of medical, nursing and paramedical personnels. The Department of Gynaecology is an integral part of this hospital.

OBSTETRICS SERVICE AT KENYATTA NATIONAL HOSPITAL

The Obstetric Unit consists of the Antenatal Clinic, Maternity Ward 1, 2, 3, and Labour Ward. The Maternity Wards have 32 beds each. The Labour Ward has 10 beds in first stage. There are 3 delivery rooms each having 2 delivery tables. There is one intensive care side room with 3 beds for management of obstetrics emergencies and other critically ill patients. There are 2 operating theatres one for emergency operation and for elective obstetric operations and the other for postpartum tubal ligations under local anaesthesia.

ANTENATAL CARE

Antenatal booking clinics are held on every Monday mornings. Only high risk women are selected by a qualified Obstetrician to attend the antenatal clinic. This is because it is not technically possible to offer antenatal care to all the patients that may avail themselves. The patients provide the material for teaching obstetrics in the department and therefore it is only expedient that high risk women appear prominent.

The high risk women include:-

- Those with bad obstetrics history for instance: Reccurent abortions, stillbirths, and neonatal death.
- Those with previous caesarean section.
- Those with past obstetric complications like post-partum haemorrhage, obstructed labour.
- The young and the elderly primagravidae
- Those with medical conditions complicating pregnancy like diabetes, hypertension, cardiac diseases etc.
- The grand multiparae (para 5+).

About 40-70 patients are booked each week. Those who do not qualify for our clinic are referred to the City Commission Clinics for antenatal care.

ANTENATAL BOOKING

The particulars of the history and examination of the patient are recorded in a standardized antenatal card. The history include the following information:

- The name and age of the patient are recorded so is the date of onset of her last menstural period.
- Detailed past obstetric history.
- Past medical and relevant family history and social history is taken.

- The level of education and occupation of the woman and husband are recorded.

The following measurements, examination and test are done among other:

- Height and weight.
- urinalysis for protein, sugar, and acetone
- Haemoglobin, serology blood group and rhesus factors
- General physical examination including blood pressure, presence and absence of oedema and leg oedema, conditions of breasts is noted.
- Abdominal examination to determine the fundal height, the lie, the presentation of the foetus and the presence of the foetal heart activity and
- Pelvic examination, in early pregnancy to assess the uterine size and the state of adnexiae, and in late pregnancy to assess the adequacy or otherwise of the pelvic in primigravida cardiac patient and patient with one previous scar.

SUBSEQUENT ANTENATAL VISITS

These are conducted by qualified obstetrician and senior house officers. Three clinics are held per week in the morning of Tuesday, Wednesday and Thursday.

Visits are usually at 4 weekly intervals during the first twenty eight weeks of pregnancy then two-weekly interval until the thirty sixth week, and thereafter weekly until delivery. However, in some pregnancies more frequent visits may be necessary. During each visit the weight and blood pressure are taken, urine is checked as above and abdominal examination is performed to match the fundal height with the gestation, and determine the lie and the presentation of the fetus. The presence of fetal heart is recorded. Anaemia and leg oedema are looked for in each visit.

Relevant health education is given by a mid-wife student nurses emphasizing aspect of personal hygiene, exercise, diet, cloth, minor complains during pregnancy, breast care, labour and the care of the newborn. Breast feeding is emphasized.

Patients with positive serology are treated with Benthathine penicillin. Every effort is made to treat the spouse at the same time. Patients with anaemia are investigated further and appropriate treatment given. The patients with rhesus D negative blood group are investigated further for isoimmunization and managed appropriately.

All primigravida have clinical pelvic assessment at 36 weeks.

Patients requiring hospitalization are admitted into the maternity wards.

AMNIOCENTESIS

The major indication for this procedure in the obstetric unit are two, namely assessment of fetal maturity and for bilirubin spectrophotometric measurements in cases of rhesus incompatibility.

The procedure is explained to the patient so as firstly to win her confidence and her co-operation and secondly to make her aware of some of the remote dangers that might attend the procedure without cause unwarranted alarm. She is requested to empty her bladder. She lies on her back in supine position and abdominal examination is performed to determine the fetal lie and presentation. The fetal heart is recorded. Attempts are made to see if the presenting part can easily be displaced cranially to allow

a suprapubic pool of liquor. Sterile packs for this procedure are usually available. No local anaesthesia is used. The operator cleanses his hands, puts on sterile gloves and cleanses a wide area of the suprapubic skin with cetavlon, hibitane or spirit then drapes the patient with sterile towels provided.

The operator uses both hands to displace the presenting part so as to leave a suprapubic pool of liquor, and while the left hand maintains the displaced position of the presenting part, the right hand introduces a gauge 20 needle connected to a 10 c.c. syringe at an angle into the suprapubic pool of liquor. Entry into the amniotic cavity is noticed by loss of resistance. Five to ten ml of amniotic fluids is withdrawn. Should a dry tap be obtained the procedure is repeated. If a bloody tap is obtained the procedure is discontinued at that site.

Sharp lumbar puncture needles with stylets are sometimes used and other alternative sites are the neck crease area and the area of small parts as determined by abdominal examination. After the procedure the patient lie in left lateral position while the fetal heart rate is monitored every fifteen minutes. In cases of bloody taps the fetal heart rate is monitored for at least one hour.

For determining lung maturity the shake test is done which correlates quite well with lecithin symphingomyelin ratio.

CLINICAL PELVIC ASSESSMENT

The major indications for this procedure in our obstetric unit are two namely, primegravida at thirty six weeks of gestation and patients with previous caesarean section, to determine which patients require further radiological evaluation and those that do not.

The procedure is first explained to the patient. She is requested to empty her urinary bladder. She lies on her back with the lower limb flexed at the knee and hip joint. She is requested to breath gently with her mouth open and keep her thighs apart. The examiner puts on sterile gloves and with sterile swab cleans the vulva thrice from front to back. Separating the labia with the left hand he introduces his right index and middle finger in the vagina. He gently advances the finger to try and reach the sacral promontory. Then he sweeps his fingers down along the sacral cavature. The ischial spines are then felt to determine whether there appear prominent or not. Next he places two fingers in subpubic angle. If the angle is more than ninety degrees, it should take the two fingers freely and this gives feel for adequate outlet. Patient with previous caeserean scar whose sacral promontary is tipped at 10 cm. do not need radiological examination.

HOSPITAL ADMISSIONS

Booked Patients

The booked patients are admitted through the Antenatal Clinic by the respective firm or they report at the maternity unit - Labour Ward when they are in Labour or when they have some complaints in between the visits. A junior and senior house officers at the labour ward attend to these patients.

Unbooked Patients

Any patient who has not been selected to attend Antenatal Clinic at KNH is regarded as unbooked. They are admitted through Casualty by either the Medical officer or a Senior House Officer.

Patient in Labour

The patients in labour are examined first by a houseman at the Labour Ward Admission room. He takes the relevant history and performs a complete physical examination. The past medical and obstetrics histories together with the social and family histories are taken. A summary of the antenatal care in the current pregnancy is recorded

The following information is recorded about the labour:-

- The time of onset of labour
- Drainage of liquor (duration and colour)
- Any vaginal bleeding
- The current gestational age
- The blood pressure, pulse rate and temperature
- The frequency and duration of contraction
- The fundal height, the lie and presentation of the fetus, the descent of the presenting part, and the fetal heart rate and pattern.

The urine is tested for Albumin, Sugar and Acetone.

An aseptic vaginal examination is then performed by introducing the index and middle finger of a sterile gloved right hand in the vagina and the following features are determined and recorded on partogram:-

- The effacement, consistency and dilatation of uterine cervix
- State of the membranes - whether ruptured or not, bulging with contraction or not
- The colour of liquor - clear, blood or meconium stained
- The presence or absence of umbilical cord presentation or prolapse

- The position and station of the presenting part and in case of cephalic presentation presence and extent of moulding and caput formation
- Pelvic assessment

Digital vaginal examinations are contraindicated in cases of antepartum haemorrhage and premature rupture of membrane before term. In these cases a speculum examination is performed by introducing a sterile bivalve (cusco's) speculum gently into the vagina for inspection of vagina and cervix.

The nurses routinely shave the vulvae and perineum.

Patients who are in labour are then admitted into labour ward for monitoring of the labour and delivery.

The cervical dilatation is expected to progress at least 1cm every hour. An alert line is drawn once the active phase of labour has started, usually at 3-4cm dilatation. An action line is drawn at an interval of 4 hours later and parallel to the alert line. Whenever necessary argumentation of labour is achieved by diluted oxytocin.

Artificial rupture of membranes is done aseptically in all patients in labour at 3-4 cm cervical dilatation except in patients on trial of scar and in cardiac patients, where a delay may be acceptable. To do this procedure the index and the middle fingers of the right hand are introduced into the vagina and into the uterine cavity. A closed cokers forceps is introduced with the left hand and the fingers of the right hand direct it so as to grasp the memberane and rapture them by pulling on the forceps.

MANAGEMENT OF LABOUR

The Senior House officer supervises all labour. The qualified and student midwives offer the necessary nursing care. The fetal and maternal observations progress of labour and treatment are recorded on a partogram.

FIRST STAGE

Patients in labour are monitored according to the following protocol:

The maternal observations include:-

- Blood pressure, pulse rate and temperature taken $\frac{1}{2}$ or $\frac{1}{4}$ hourly as the case may demand
- Regular urine checks for sugar, protein and acetone and,
- The state of hydration.

The fetal observation include the following:

- $\frac{1}{2}$ or $\frac{1}{4}$ hourly fetal heart rate and pattern
- The colour of the liquor
- Four hourly assessment of the degree of moulding and caput formation.

The progress of labour is observed by:-

- $\frac{1}{2}$ hourly uterine contraction assessment in terms of frequency and duration
- 4 hourly assessment of the stage of the cervical dilatation
- The descent of the presenting part in terms of fifth above the pelvic brim.

The mother is kept well hydrated by providing adequate intravenous fluid whenever necessary. Liberal use of analgesia (100-150 mg of pethedine or 15mg of morphine intramuscularly) are provided.

SECOND STAGE

Once this has been confirmed by vaginal examination, the patient is transferred to the delivery room where a normal delivery is conducted in a lithotomy position by a midwife. Sterile delivery packs are used.

The midwife wears a mask, a sterile gown and sterile gloves. The vulva and the perineum are cleansed with savlon or cetavlon solution and draping with sterile towels is done. The patient is asked to bear down with each uterine contraction. As the presenting part the left descends, hand of the midwife maintains flexion of the head (in case of cephalic presentation) while the right had supports the perineum. This allows the occiput (in case of vertex) to escape behind the pubic angle. A well timed episiotomy is performed in indicated cases once there is enough distention of the perineum. As the head is born, mucous, liquor or blood are cleared from the baby's mouth and nose with clean gauze. The midwife's fingers are slipped over the baby's head to check for the presence of cord around the neck. A tight cord is divided between two clamps. The anterior shoulder is delivered first and intramuscular ergometrine (0.5mg) is administered except for patients with hypertension, cardiac disease, or multiple pregnancy. Intravenous ergometrine is preferred in the grandmultiparous patients, patients with hydramnios and those with previous history of post-partum haemorrhage. Delivery of the baby is completed by use of gentle traction and the bearing down of the mother. The baby is received by another midwife

who performs mucous extraction of the pharynx, ascertains the apgar scores at 1 and 5 minutes and weighs the baby. A Paediatric Senior house officer is usually present to do resuscitation in those babies with poor apgar scores or in the case of meconium aspiration.

THE THIRD STAGE

After delivery of the baby a hand is kept on the uterus to ensure that it does not descend but the uterus is not disturbed. When the signs of separation of the placenta have been observed maternal effort alone is enough to deliver the placenta. If that is not possible the placenta is delivered by controlled cord traction. The placenta and its membranes are examined for completeness and abnormalities. They are all weighed. The cervix vulva and perineum are examined for any injuries which are repaired if necessary.

EPISIOTOMY

Episiotomy when performed serves two purposes. Firstly it prevents maternal perineal tears and secondly it prevents fetal injuries. The perineum is first infiltrated with 10-20 ml 2% of procaine hydrochloride. A mediolateral episiotomy is performed with episiotomy scissors.

Repair of episiotomy is immediately done after third stage is completed and the upper vagina and the cervix have been confirmed to be normal with the patient in lithotomy position, the area is cleansed once more with savlon solution and sterile gauze pads are inserted into the upper vagina to prevent blood from the upper genital tract from obscuring the area of repair. The index and middle fingers of the left hand are inserted into the vagina and spread out to expose the apex of the vaginal incision.

Using No. 1 chromic catgut mounted on non cutting needle, the vaginal wall is repaired with continuous suture. The muscles and the deeper tissues are approximated without much tension using interrupted suture of chromic catgut No. 1 on non cutting needle. The perineal skin is closed with the same interrupted sutures with buried knots. The gauze pack in the vagina are removed. The vagina, vulva and perineum are cleaned and vulval pad is then applied.

A middle episiotomy is rarely done.

VACUUM EXTRACTION

Indication for vacuum extraction include the following:-

- poor maternal effort due to exhaustion (maternal distress), eclampsia or severe pre-eclampsia
- cardiac disease, where extra maternal efforts are unwanted
- fetal distress or cord prolapse

THE PROCEDURE

The patient is placed in a lithotomy position and the vulva and perineum are prepared as in the case of normal vaginal delivery. A vaginal examination is performed to confirm that the head is engaged and the vertex is presenting and that the cervix is fully dilated or nearly so. The patient is catheterized to empty the bladder. The vacuum system is assembled. The largest cup that can easily be applied is usually used. (5cm or 6cm diameter). The cup is spread with hibitane cream and is edged into the vagina and firmly pushed towards the posterior frontanelle. Maternal tissues are excluded from the cup. An assistant handles the pump which creates a negative pressure. A small negative pressure (0.1 kg/cm²) is

created and repeat check is done to make sure that no maternal tissues are included. The negative pressure is quickly increased to a maximum of 0.8 kg/cm^2 or to 0.5 kg/cm^2 in the case of premature baby. Traction is synchronized with the uterine contraction and the mother is encouraged to bear down unless there is a contra-indication. The traction is always in the direction of the birth canal and perpendicular to the cup. The index finger and the thumb of the left hand steadies the cup against the fetal scalp. Traction is discontinued between contaction. Unless the cervix was not completely dilated when light traction is maintained to keep the head applied to the cervix. Traction is discontinued if the cup lifts or if a hiss sound is heard. An episiotomy is done if required. Each traction should produce descent of the head and the head should be delivered in no more than 3 tractions. The cup should never be applied more than twice and the extraction should not last longer than 15-20 minutes. Once the head is delivered, the vacuum is released and cup removed from the head. The baby is delivered as described earlier.

Forceps extraction is hardly performed in this obstetrics units.

ABDOMENAL DELIVERIES

These are either elective or emergency operations.

PREOPERATIVE CARE

Patient for elective caesarean section are starved for at least 6 hours before operation. The preoperative haemoglobin is checked. Two units of compatible blood are made available. The abdominal wall, vulva and parineum are shaved. Intramuscular atropine 0.6mg is administered half an hour before operation is began.

LOWER UTERINE CAESAREAN SECTION

In theatre an intravenous line is set up if not yet fixed. The bladder is aseptically catheterized, all urine drained out and catheter left in position. The colour of the urine is noted.

The abdomen is cleansed with antiseptic cetavlon or hibitane and spirit and draping done. Anaesthesia is induced with intravenous thiopentone sodium 3 - 3.5 mg/kg and suxamethonium 1.5 mg/kg. Anaesthesia is continued through an endotracheal tube with nitrous oxide, oxygen and hallothane.

The abdomen is opened in layers through an adequate midline subumbilical incision. In opening the parietal peritoneum care is taken not to injure the bladder, intestine or omentum. A doyens retractor is applied. Wet taped abdominal swabs are placed in paracolic gutters. The loose peritoneum over the lower uterine segment is picked up with non toothed dissecting forceps and incised in a U-shaped manner using curved scissors.

Both peritoneal edges and the bladder are deflected from the lower uterine segment by blunt dissection - however sharp dissection with curved scissors is used in case of adhesions. The bladder and the lower peritoneal edge are displaced downwards with doyen's retractor. The lower peritoneal edge are displaced downwards with doyen's retractor. The lower segment is incised transversely through ecliptical incised with scapel for 3 cm to expose the membranes which are not entered at this juncture. The index and middle finger of the left hand are introduced into the uterine cavity and they lift off the uterine wall from the baby as a curved scissors is used to transversely extend the uterine incision on either side curving the incision upwards on the sides.

The membranes are then ruptured. The right hand is introduced below the presenting part which is delivered out of the uterine incision as an assistant applies some little fundal pressure. On the delivery of the anterior shoulder the anaesthetist gives intravenous ergometrine 0.5 mg unless it is contraindicated. The baby is delivered and the placenta removed manually.

In the case of breech presentation or transverse lie it is easier to deliver the baby by pulling on the legs. The uterine incision should be extended upwards on either side for adequate room. Green amytage forceps are used to control bleeding from the uterine incisional edges and to show the ends of the incision. The uterine incision is closed in two layers using continuous sutures of chromic catgut No. 1. The peritoneum is closed with chromic catgut No.0. After a correct swab count the abdomen is closed in three layers i.e. peritoneum in a continuous suture of chromic No. 0, the rectus with chromic catgut No.2 in continuous stitches and the skin with interrupted sutures of non-absorbable material (e.g. silk No.0 or nylon No.0). Reversal of anaesthesia and muscle relaxation is administered with intravenous neostigmine 2.5 mg after atropinizing with 1.2 mg intravenous. Blood loss is estimated and recorded.

POST OPERATIVE CARE

Half hourly observation of blood pressure, pulse rate, temperature and respiration rate are taken with the patient in semi-prone position until full consciousness is regained. 4 hourly observations are kept thereafter. Suction of pharynx is carried out when necessary to keep the airway clear and dry. Intravenous fluids (usually normal saline and dextrose) are given in quantities amounting to at least 3000 ml in 24 hours until bowel

sounds resume. Fluids are then administered orally. Liberal analgesia with pethidine 100 mg or 150 mg are given intramuscularly every 6 hourly for 24 hours.

The haemoglobin is checked on the third post operative day. The skin stitches are removed on the seventh post operative day and the mother is discharged home. She attends postnatal clinic after 6 weeks.

POSTNATAL CARE AFTER VAGINAL DELIVERIES

Vital signs, uterine size and lochia are observed half hourly after delivery for at least one hour. If normal, the mothers are transferred to postnatal ward. Early mobilization and perineal toilet are encouraged. Those with episiotomy have warm salt water perineal bath twice a day.

Patients are discharged after 24 hours unless there are complications. Mothers with preterm babies stay in a hostel. Appointments to attend postnatal clinic are given for six weeks.

POSTNATAL CLINIC

Post natal clinic is held every Friday morning. The mother's wellbeing is noted. Vaginal discharge, resumption of menstrual period abdominal and urinary symptoms are inquired about. General physical examination, breast, abdominal and bimanual vaginal examination are done. Pap smear is taken. Family planning is discussed. Haemoglobin is taken.

BABY CARE

Resuscitation is immediately done after birth. Apgar scores at 1 and 5 minutes are assessed and recorded. Endotracheal intubation and oxygen administration are necessary if the score is below seven. The baby is weighed. pre-term babies, those with poor conditions, those born by vacuum extraction, and those babies whose weight exceed 4.2 kg are admitted into the nursery.

However the babies rejoin the mother as soon as possible. A paediatrician reviews the babies. B.C.G. is given. Babies in good conditions are discharged home to be followed up in the child welfare clinic after 2 weeks and subsequently.

Before leaving the hospital notification forms are completed for each birth.

GYNAECOLOGY SERVICE AT KENYATTA NATIONAL HOSPITAL

The gynaecology unit consists of Gynaecology Clinic, Family Planning Clinic three Gynaecological Wards (emergency or acute Ward No. 6 and Cold Wards No. 4 & 5) laboratory facilities and theatre facilities.

Ward 6 has got 34 beds but it usually accommodates 70 to 90 patients at any one time.

Ward 4 and 5 have 32 beds each and an equal number of patients at any one time. These patients are either for major gynaecological operation or they are under treatment for gynaecological cancer except for patients with advanced cervical cancer who are treated at the radiotherapy department whose attached ward is ward 39.

Both emergency and elective gynaecological operations are carried out in the main theatres.

Ismael Rahimutulla Wing has 8 beds for laparoscopy day-in-patients. A theatre for laparoscopic procedure is also available.

OUT PATIENT CARE AT GYNAECOLOGY CLINIC

The gynaecology patients are seen on Tuesdays, Wednesdays and Thursday afternoons by consultants, senior Registrars and Senior House Officers. These patients have been referred from other departments at the Kenyatta national Hospital, City Council Clinics, other hospitals in Nairobi and elsewhere in the country. The patients are seen by appointment. On Monday afternoon there is an infertility clinic run by senior registrars. On Friday morning there is a colposcopic clinic run by a senior registrar.

A detailed history is taken and a thorough physical examination is carried out after the patient has been requested to empty her bladder. Specific attention is given to breast, abdominal and pelvic examinations. A papanicolau smear is taken. All the necessary diagnostic investigations are done.

Infertility is the commonest gynaecological problem and such couples are fully investigated and appropriate treatment is given. Those patients requiring major gynaecological operations have their haemoglobin, and serum urea and electrolytes checked. Patients needing admission are booked. however, those with urgent problems like suspected malignancy are admitted straight away.

IN-PATIENT CARE

EMERGENCY ADMISSION

The main indications for emergency gynaecologic admissions are abortion pelvic inflammatory disease, ectopic pregnancy, abnormal vaginal bleeding puerperal sepsis bartholins' abscess, carcinoma of cervix and trophoblastic disease. These patients are mainly admitted through the Casualty by a Medical officer or a Senior House officer. All the patients go to the acute gynaecology ward where a house officer takes a full history and performs a full physical examination. Emergency laboratory investigations are done if required. Those who require emergency operation are prepared for such. In the case of abdominal operations compatible blood is requested for.

ELECTIVE ADMISSION

All these patients are admitted into the cold wards through the Gynaecology out-patient clinic by appointments. The greatest problem is the great number of patients requiring gynaecologic operations who the unit cannot deal with as quickly as it would like to.

PREOPERATIVE EVALUATION FOR MAJOR GYNAECOLOGIC OPERATION

Are given under the section of preoperative preparations for abdominal operation.

ABDOMINAL OPERATIONS

PRE-OPERATIVE PREPARATIONS:-

The important preoperative evaluations done include full physical examination (including the blood pressure, urinalysis, the state of the heart and the chest). Haemoglobin, serum urea and electrolytes chest X-ray and liver function test. A light diet is taken on the evening prior to operation day. No meals are taken 6 hours prior to operation time. A soap enema is given the evening prior to operation day. Sedation with 10 mg of Diazepam is also given. The abdominal, the pubic and perineum regions are shaved. Consent for operation is obtained. Compatible blood is made available. Premedication with 0.6 mg of Atropine Sulphate and 50-100 mg of pethidine (both intra- muscularly) is done half an hour before operation time. Vital signs are also observed.

General anaesthesia is induced within travenous sleep dose of thiopentone sodium (usually 3-8 mg/kg) and suxamethonium 1 to 2 mg/kg. Endotracheal intubation is done and anaesthesia is continued with nitrous oxide, halothane and oxygen. Intravenous curare (0.25 to 0.5 mg/kg) is the long acting muscle relaxant of choice. Adequate intravenous fluids are administered. Blood transfusions are given when necessary.

OPENING AND CLOSING THE ABDOMINAL WALL

The abdomen is prepared as described in obstetric introduction. The incisions that are used include the midline subumbilical, paramedian and lower transverse incision. Opening is always done in layers (the skin, subcutaneous tissue, fascia sheath and the parietal peritoneum. Closure is also done in layers as described in the obstetric cases. Anaesthesia is reversed with intravenous neostigmine 2.5 mg and atropine 1.2 mg.

POST -OPERATIVE CARE

Post operative management is more or less similar to that described for abdominal delivery. However the intravenous fluid therapy in children is given according to their weight. Small amount of pethedine is used in old patients. After discharge the patients attend gynaecology clinic six weeks later.

FOLLOW-UP CARE

The histologic reports are reviewed. The patients condition and progress are assessed. Those that are cured are discharged from the gynaecology clinic while those that need further follow-up continue to attend the clinic.

ACTUAL ABDOMINAL OPERATIONS

These are described under the appropriate cases presentations in the text.

VAGINA OPERATIONS

These are also described under the appropriate case presentations in the text.

LAPARASCOPIY

The main indications for laparoscopic procedures include infertility, primary amenorrhoea, intersex states, pelvic masses especially in early pregnancy when ectopic pregnancy has got to be exluded, chronic pelvic pain and for female sterilization. The procedure is done on the mornings of every Monday through to Friday on out-patient basis. The details of the procedure have been described under appropriate case presentation.

EVACUATION - DILATATION & CURATTAGE (D&C)

These form the most common gynaecological surgical procedures that are carried out in the unit. Once the patients are admitted these are carried out as soon as possible usually during the same day or the following day. Patients with no complications are discharged home as soon as possible usually within the day of operation or during the next day. The details of evacuation procedure are described in the appropriate case presentation. In the case of D&C the procedure is more or less the same except that prior cervical dilatation with Hager's Dilators is done before performing curattage to obtain endometrial biopsy or to remove intra uterine contraceptive device with missing threads.

CARCINOMA OF THE CERVIX

This is the commonest malignancy of the female genital tract. Patients with the disease are first admitted to the acute gynaecology ward for basic work-up including complete haemogram, serum urea and electrolyters, chest X-rays, intravenous pyelogram and examination under anaesthesia for staging and biopsy.

Those patients referred from other hospitals with staged disease and histology reports are admitted into radiotherapy department or into the gynaecology "cold ward" for appropriate therapy. The treatment of cancer of the cervix has been discussed under the appropriate case presentation.

O B S T E T R I C S

MALARIA IN MULTIPLE PREGNANCY
VAGINAL DELIVERY

Name : M.M.K.
Age : 22 years
Unit : 706839
Date of Admission: 26.8.85
Date of Discharge: 28.9.85

PRESENT COMPLAINT

She was referred from Nairobi City Commission Clinic. She complained of swelling of the feet, easily fatigued and she had increased vomiting during early part of this pregnancy. Her urine was positive for albuminuria at the clinic.

OBSTETRICAL/GYNAECOLOGICAL HISTORY

Her menarche was at 13 years. The cycles were regular coming every 28 days and lasting 4 - 5 days. She had no history of Dysmenorrhoea. Her last menstrual period was on 5th January 1985. Her expected date of delivery was therefore 9th October 1985. This gave gestation of 33 weeks. She was para 2+1. The abortion was at 4 months gestation and no evacuation was done. Her last delivery was in 1981. The two previous pregnancies were normal. She had not used any contraceptive. Quickening was at 16-18 weeks.

PAST MEDICAL HISTORY: There was nothing significant.

FAMILY HISTORY: Her mother gave birth to a set of twins.

SOCIAL HISTORY

She was a married house-wife and stays with her husband. She was educated up to standard six. She did not drink or smoke. She was brought up in Nyanza Province.

PHYSICAL EXAMINATION

Her general condition was good and she did not look anaemic. Her height was 5ft 5 inches. There was bilateral pitting oedema of the legs. She was afebrile and there was no jaundice. Her blood pressure was 100/70 mmHg. Her pulse was 80/min regular and good volume. The temperature was 36.5°C. The breasts were well developed and active. There were no masses felt. The thyroid gland was not enlarged.

ABDOMEN

There were old therapeutic marks on the left hypochondrium. There was no abdominal tenderness. The liver and the spleen were not enlarged. The fundal height was 36 weeks. The fetus was in longitudinal lie. Multiple fetal parts were felt. One was cephalic presentation which was floating. Two fetal heart rates were heard one at 136 and the other at 152 per minute.

The rest of the systems were normal.

DIAGNOSIS: Multiple Pregnancy.

INVESTIGATIONS

1. Haemoglobin - 10.1g per decilitre
2. Blood group 'O' Rhesus 'D' Positive
3. Serology - Negative

4. Urinalysis - Proteinuria - Negative, Sugar - Negative
5. Ultrasonography - Twin pregnancy with first twin in cephalic presentation and second twin in breech presentation. Both cardiac activity demonstrated. The placenta was fundus anterior and not extending in lower segment. The biparietal diameter corresponded with 32 weeks gestation.

She was discharged to attend antenatal clinic at Kenyatta National Hospital. She was seen every week and had three subsequent visits. Patient was re-admitted at 36 weeks gestation with febrile illness characterized with fever, with rigors, restlessness, joint pains and headache. Examination revealed ill looking lady, temperature 38°C , normotensive.

The rest of physical examination was normal. Urgent blood smear revealed heavy parasitaemia of *Plasmodium falciparum*.

Patient was put on bed rest, paracetamol tablets two three times a day for three days. Tablet chloroquine 4 started, then two after six hours and two tablets daily for three days. She was discharged the second day to continue treatment at home and attend ANC. She was put on prophylactic chloroquine two tablets weekly and daily folic acid 5 mg, and ferrous sulphate 200 mg three times a day through pregnancy.

LABOUR

At 38 weeks gestation she was admitted in labour. Physical examination revealed good general condition, not anaemic, she had bilateral pitting leg oedema and vital signs were normal. Abdominal examination revealed uniformly distended gravid uterus, with term fundal height. Both foetuses were lying longitudinally with one presenting cephalic.

Foetal hearts rate were 138 and 146 per minute. There were two uterine contractions every 10 minutes lasting 30 - 40 seconds. Vaginal examination revealed well effaced cervix with 5 - 6 cm dilated OS. The membranes were intact and bulging with contraction. The Position was left occiput anterior. There was no cord presentation. Artificial rupture of membrane was done, clear liquor was obtained. No cord was felt. There was no caput. Urinalysis was normal.

TWIN MOTHER IN LABOUR

Blood was taken for type and cross match and intravenous line started with 10% dextrose in water. Patient nursed in left lateral position. Anaesthetist and paediatrician were informed. Observations were kept on the partogram.

After 4 hours she started bearing down. The partogram showed normal reading of progress. The head of first twin was not palpable abdominally. Patient was transferred to second stage.

CONDUCTION OF DELIVERY

An assistant was given specific instruction that his main duty was to abdominally stabilise the 2nd twin in longitudinal position as soon as the first twin was delivered.

Patient was placed in lithotomy position with the intravenous dextrose running. The vulva and perineum were cleansed with savlon solution and draped. The head was distending the perineum and the patient was bearing down and the head crowned. Spontaneous vertex delivery was achieved. The cord was divided between two clamps and the baby handed over to the paediatrician.

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Immediate abdominal palpation revealed that the second twin was lying longitudinally and the presentation was breech. The breech was five fifth above the pelvic brim. The foetal heart rate was 148 per minute and regular. The assistant stabilized the foetus with this position. On vaginal examination the membranes of the second gestation sac were bulging. There was no cord presentation. The breech was frank breech with right sacral transverse. The cervix was fully dilated!!

The assistant stabilised the breech into the pelvic brim. perineum was infiltrated with 2% procaine hydrochloride on the left side and a medio lateral episiotomy performed. Artificial rupture of membranes was done. Clear liquor was obtained and there was no cord felt. The cervix was fully dilated. Delivery by breech extraction was instituted. The feet were brought down by Pinard maneuver. Traction was applied on breech till the axillary was seen. the anterior and posterior shoulder were delivered by Loivesert Maneuver. The head was delivered by Mauriceau, smelt, veit. Maneuver. The cord was divided between two clamps and the baby was handed over to the paediatrician. The apgar score was poor. Syntocinon 10 units was given intravenous and 10 units put in 5% Dextrose 500ml in IV line. Placenta was delivered by maternal effort. Episiotomy was repaired. Blood loss was 200ml, cervix was intact.

BABIES

First twin male infant: Apgar score 8/1, 10/5. Birth weight 2500 grams. Second twin female infant: Apgar, Score 4/1 7/5 9/10. Birth weight 2700 grams. Interval between the two deliveries was 30 minutes. Placenta was healthy looking complete with membranes and weighed 900 grams. Two chorion sac and two amnion sac were identified.

Both babies joined the mother and they received vitamin K. 0.5 mg. intramuscularly.

Patient was discharged home on the third day on tablet chloroquine two weekly for six weeks. Tablets of folic acid 5mg daily and tablet ferrous sulphate 200mg daily for six weeks.

POST NATAL

She had no complains. Her general condition was good. She was normotensive, involution was complete. Her babies were doing well at home and she had lactational amenorrhoea.

She was inserted Lippes loop on the same day at Family Welfare Centre.

COMMENT

Malaria is a very common disease in the tropics. In Kenya apart from the highlands and semi arid areas all other parts have Malaria throughout the year. The humid Coastal Region and the Lake Basin are classified as holoendemic areas. In these areas the population of mosquitoes is high and transmission occur throughout the year. Severe form of Malaria is seen in young children and immigrant to this places who have not developed immunity to malaria. The adults who have acquired immunity to Malaria may have parasitemia but only suffer mild forms of Malaria. Under this circumstances Malaria is said to be stable. in areas where Malaria is unstable the population of mosquito is very low and sporadic. Hence Malaria transmission occur in epidemics. Both the young and the old get severe form of Malaria because of lack of immunity. This patient comes from the Lake Basin area which is holoendemic area. She had developed immunity to Malaria. Immunity to Malaria is both humoral and cellular.

In pregnancy the acquired immunity to Malaria is suppressed together with the general immune suppression that tolerates the placenta. The ability to limit the parasiteamia is reduced so during the Malaria attack both the parasite rate and parasite density are high. As a result the hypnozoites in hepatocyte may be activated leading to recrudescence of Malaria attacks.(2) Furthermore women who may hardly notice the effect of their intermittent parasiteamia when not pregnant may again begin to experience febrile attacks with constitutional disturbances as they did in childhood. This febrile attacks become more frequent as pregnancy advances.(1) This patient had her attack at 36 weeks gestation. Sometimes this attacks of Malaria may be so severe leading to cerebral Malaria. Cerebral Malaria in pregnancy may mimick eclampsia since convulsions, coma, pyrexia and albuminuria may occur in both. A very high blood pressure and massive albuminuria indicates eclampsia, although eclampsia occasionally occurs at relatively low blood pressure level. This patient had heavy parasiteamia of plasmodium falciparum, although the density of the parasiteamia has no direct relationship to the severity of the disease. This p. falciparum is associated with the most lethal disease and at the same time attacks red blood cells at every stage of maturation. Since it has no hypnozoitic stage this was a reinfection. Once a pregnant woman has had an attack of Malaria the management goes in two stages. The first stage consists of combating the acute infection and involves controlling the temperature to forestall premature labour and to bring down the infection. In this patient temperature was brought down by paracetamol but in some cases tepid sponging would be most appropriate. The infection was brought down by a full course of chloroquine tablets. The second stage consists of prophylaxis because of her depressed immunity. She was put on weekly chloroquine tablets for the rest of

pregnancy and during puerperium. Malaria also causes Hemolytic Anaemia so this patient was given haematinics throughout pregnancy and puerperium. This may lead to megaloblastic anaemia because of the demand for the growing fetus and maternal haemopoietic tissue.

She had been booked because of twin pregnancy. The twins were presenting the first as cephalic and the second as breech presentation. The diagnosis was confirmed by ultrasonography at 33 weeks. The incidence of twinning in Kenyatta national Hospital was reported as 1:58.8 by Oyieke (1978)(3). In his series twin presenting as vertex and breech occurred in 26.4% cases. Like elsewhere the commonest paired presentation was both vertex which was reported in 45.9%. The diagnosis of twins still remains a problem. In Oyieke's series 38 percent of the twins were diagnosed either in labour or after the delivery of the first twin and correct diagnosis was made before term in 54.1 percent of twins. In a prospective study Hartikairn-Sorri (1984) in which every woman whose fundal height exceeded normal for gestation was examined by ultrasonography 62 percent of the twin pregnancy were confirmed before 28th weeks and still 18.1 percent were diagnosed at delivery.(4)

Twin pregnancy is associated with high perinatal morbidity and mortality. Prematurity still remains the number one complication of twin pregnancy.

The perinatal loss for first or second twin in breech presentation delivered vaginally was three times greater than when the twin was delivered vertex.(5) It is the second twin that has the highest risks. A programme that is likely to improve the pregnancy outcome for twin has to focus on reducing prematurity. Gestational age correlates well with the survival rate and after 34th week perinatal

mortality comes down to 2.5 percent from 100% at the gestation less than 29 weeks⁽³⁾. Hartikairnsorri has suggested that early diagnosis; hospitalization of patient between 28-34 weeks and offering Caeserean Section when one or both twins are in breech or transverse presentation significantly reduces the perinatal mortality. These suggestions have got their inihherent problems for developing countries like Kenya.

Delivery for this patient was at term and the importance of the assistant is demonstrated. Breech extracion was offered for the second twin. The time interval between the deliveries was 30 minutes. Two short an interval is attended with increased perinatal morbidity and mortality due to violent manipulation whereas internal of over 45 minute is also attended with increased perinatal mortality due to intra uterine hypoxia.

The babies were dizygous twins because they had one placenta but different Amniotic sacs and they were different sex. The other criteria for determining zygoty include the red cell antigen, the placenta enzymmes, the pattern of dentition and Dermatoglypics.

Both twins weighed over 2000 grammes and survived well. This is in conformity with what is known the survival rate is not affected much when the foetuses weights are above 2000 grammes.

Blood was kept for the patient because of two reasons. firstly the presentation of the second twin may alter immediately after delivery of first twin to transverse or cord accident may be encouted and immediate caeserean section will be undertaken. Secondly we were to be ready for post partum haemorrhage which attends twin delivery because of over distention of uterus and large placental area, with the attending uterine atony may precipitate it.

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ANAEMIA IN PREGNANCY

Name - B.K.
Age - 17 years
Unit - 683742
Date of Admission - 22.4.85
Date of Discharge - 27.7.85

PRESENTING COMPLAINTS

She presented with a three weeks complaints of generalised malaise, weakness of the body, joint pains, headaches and yellowness of the eyes. The onset was insidious. There was no history of passing brown urine or itching of the body or nausea and vomiting. She had had fever on and off. She was admitted through casualty.

OBSTETRICS AND GYNAECOLOGICAL HISTORY

She had her menarche at 13 years of age. Her menstrual period had been regular lasting 3 to 4 days and cycles coming every 28 days with no dysmenorrhoea. She was a primigravida. LMP was 1/10/84 and E DD was 8/7/85 giving a gestation of 28 weeks. There was no history of use of contraceptive. She had not attended any antenatal clinic.

PAST MEDICAL HISTORY

She had been admitted at Thika Hospital the previous year where she was transfused one point of blood.

FAMILY HISTORY: There was nothing significant.

SOCIAL HISTORY

She was a standard eight pupil when she got pregnant. She was unmarried and unemployed. She came from Muranga District but stayed here in Nairobi in Eastleigh with her sister. She did not drink or smoke.

PHYSICAL EXAMINATION

The patient was in poor general condition. She was markedly anaemic and jaundiced. Her pulse was 138 per minute collapsing but good volume. The blood pressure was 100/60 mmHg. There was no lymphadenopathy and no pitting leg oedema. The breasts were well developed. The temperature was 36.5° C.

CARDIOVASCULAR SYSTEM:

The jugular venous pressure was not raised. The heart sounds were normal under sinus rhythm. There was no thrill but there was a heamic systolic murmur. There was no evidence of cardiomegaly.

The respiratory system and central nervous system were examined and found essentially normal.

ABDOMENAL EXAMINATION

The abdomen was uniformly distended with marked strae gravidarium. The spleen was enlarged 4 cm below the coastal margin. The liver was palpable but not enlarged. There was no ascites. The fundal height was 24 weeks. The fetus was in transverse lie. The fetal heart rate was 144/min regular.

VAGINAL EXAMINATION

External genitalia was normal. The vagina was normal. The cervix was closed nullparous, and tubular about 2cm long and soft. The uterus was about 24 weeks and plenty of liquor amnii.

DIAGNOSIS: SEVERE ANAEMIA IN PREGNANCY

SUMMARY OF INVESTIGATIONS

Haemogram at 28 weeks (on admission)

PCV - 14 percent

RBC - Marked anisocytosis and poikilocytosis spherocytes microcytes and polychromatic cells seen in plenty. Occasional nucleated red cells seen. Moderate hypochromasia malarial parasites seen in plenty

WBC - Total - $7.5 \times 10^9/l$

- Polymorphs - 73%

- lymphocytes - 20%

- Monocytes - 2%

- Eosinophils - 4%

- Basophils - 1%

Mild shift to the left in neutrophils.

Platelet amount 300,000. per cubic centimetre.

Conclusion - Haemolytic picture of Aneamia.

Haemoglobin Electrophoresis

CAPE shows - Hb - AA.

Kahn Test Negative.

Malarial slide - showed gametocytes of Plasmodium Falciparum.

Blood group "B" Rhesus "D" Positive.

Stool - Ova of schistosoma Mansoni seen.

- Ova of Hookworm seen in plenty.

L.F.T. at 28 weeks (on admision.)

Total Albumin - 27 g/l

SGOT - 90 U/ml

Total bilirubin - 47 Umol/l

Direct Bilirubin - 10 Umol/l

Alkaline Phospatase - 13.5 KA. units.

Urinalysis normal finding.

Pelvic ultrasonography - done at 30 weeks gestation showed BPD = 30 weeks gestation. Placenta fundo posterior not encroaching in the lower segment.

Surfactant test at 42 weeks gestation

1:1 Postive

1:2 Postive

TREATMENT INSTITUTED

She was admitted in the laying in ward for bed rest. She was given tablets of chloroquine 4 start and two tables after 6 hours and then 2 tabets daily for three days. She was transfused a total of 5 pints over a period of three weeks. Intravenous frusamide 80 mg was given with each pint. She was given two tablets of chloroquine every week for prophylaxis against malaria. Alcopar 5 gram was given once. She was also put on folic acid 5mg daily and daily ferrous sulphate 200mg.

FOLLOW UP INVESTIGATIONS

(1) Haemogram at 33 weeks.

Haemoglobin - 9.0 grammes per decilitre
WBC - Total 6.0×10^9 per litre
Polymorphs - 66%
Lymphocytes - 32%
Monocytes - 0
Eosinophyls - 2%
Basophyl - 0
WBC - show toxic granulation
RBC - No malarial parasites seen.
- Normocytic normochromic
Platelets - 300,000/cc

(2) Haemogram at 39 weeks

Haemoglobin - 11 gram/dl
PCV - 33%
WBC - total $60 \times 10^9/l$
Differential - Polymorphs - 66%
lymphocytes - 37%
Eosinophils - 3%
Monocytes - 0
Basophils - 0
RBC - Anisocytosis normochromasia. Moderate
polychromasia. No malarial parasites seen.
Platelets - 300,000
Light toxic granulation in neutrophils seen.

(3) Liver function test at 33 weeks

Albumin - 37g/l
SGOT - 13 K-U/l
Total bilirubin - 3 $\mu\text{mol/l}$
Direct bilirubin - 0
Alkaline phosphatase - 10.4 KA units.

FURTHER PROGRESS

The physician saw the patient in regard to management of the schistosomiasis. He advised that since treatment involves drugs that are dangerous to the fetus she should be put on them after delivery. The patient was allowed to go home on haematinic and chloroquine prophylaxis and followed up in the antenatal clinic. Follow up haemogram and liver function test showed marked improvement. The jaundice subsided spontaneously. The patient maintained average weight gain and remained normotensive. Urinalysis remained normal.

At 37 weeks pelvic assessment revealed adequate pelvis.

The pregnancy progressed well to 42 weeks gestation at which stage surfactant test was positive. Bishop's score was 9. The patient was admitted for induction.

INDUCTION OF LABOUR:

The patient was explained the procedure to be performed on her. She was made aware that should induction of labour fail to deliver her, then she will be delivered by caesarean section. She gave written consent for caesarean section and compatible blood was booked.

The patient was given soap enema and a warm shower in the morning of the induction and then taken to labour ward. She emptied her bladder and was put in lithotomy position. Vulvo vaginal toilet was done and sterile drapes were applied. Using gloved hands and aseptic technique a vaginal examination was performed which ascertained that the fetus was cephalic in presentation; that there was no cord presentation and; that the pelvis was adequate. The cervical OS admitted two fingers and along those fingers a

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The patient was explained the procedure to be performed on her. She was made aware that should induction of labour fail to deliver her, then she will be delivered by caesarean section. She gave written consent for caesarean section and compatible blood was booked.

The patient was given soap enema and a warm shower in the morning of the induction and then taken to labour ward. She emptied her bladder and was put in lithotomy position. Vulvo vaginal toilet was done and sterile drapes were applied. Using gloved hands and aseptic technique a vaginal examination was performed which ascertained that the fetus was cephalic in presentation; that there was no cord presentation and; that the pelvis was adequate. The cervical OS admitted two fingers and along those fingers a

closed Korckers forceps was introduced into the uterine cavity and the forewaters were tweaked- Liquor amnii gushed out and the flow as controlled by adjusting the fetal head between one hand on the abdomen and the fingers in the cervical OS. The liquor amnii was clear and mature. The lower uterine segment was swept with one finger.

Diluted solution of 5 units syntocinon in 5% dextrose in water. 500ml was started intravenously at 10 drop per minute. This was escalated by 10 drop/minute every 15 minutes Observations made every thirty minutes were kepted on the partogram. Labour started at 30 drops per minute and was well established at 50 drops/minute. There were three contractions every 10 minutes lasting 30 to 40 seconds. At this stage she was given pathelophan 100mg intramuscularly. She progressed well following the left side of the alert line. By the time cervical dilatation was 9 cm the fetal developed marked bradycardia of 108 beats per minute accompanied with late deceleration. The syntocinon drip was clipped and arrangement made for vacuum extraction immediately.

DELIVERY - VACUUM EXTRACTION

This was effected by vacuum extraction and a generous episiotomy. A male baby weighing 2800 gram who scored well was delivered. The pharynx was sucked after the birth of the head to avoid menonium aspiration. The liquor amnii was meconium stained. The placenta was membranes were complete and weighed 540 grams. Syntometrine one vail was given intramuscularly. Blood loss estimated to be 300ml.

The baby was seen by the paediatrician who recommended that it joins the mother since it was not in any apparent danger.

The mother was discharged home the following day on folic acid 5mg daily, ferrous sulphate 200mg three times a day and chloroquine two tablets weekly all for six weeks.

FOLLOW UP

Patient was seen again in postnatal clinic and was in good general condition. Repeat haemoglobin was 10.0 grams. The stool had ova of Schistosoma Mansoni and no hookworm ova. The appointment for medical clinic had not reached.

COMMENT

This patient presented with severe anaemia in pregnancy. She illustrates the multiplicity of causes of anaemia in pregnancy among the population(3). Expectant mother is considered to be anaemic if her haemoglobin level falls below 10 grammes per decilitre.(6) This patient had a haematocrit of 14 percent which is equivalent to 4.7 grammes per decilitre. She presented at the gestation of 28 weeks. Around this period in pregnancy anaemia of pregnancy is most likely to be severe because it is the period when physiological haemodilution of pregnancy is maximum. She entered pregnancy (probably unplanned) while she was already having problems with anaemia. She had been transfused the previous year. The anaemia was associated with hookworm infestation, schistosomiasis and malaria due to plasmodium Falciparum. The type of the anaemia was described as haemolytic anaemia. Fomulu (1981) reported a prevalence rate of anaemia in pregnancy at Kenyatta National Hospital as 5.4 percent. Sinei (1984) reported prevalence of anaemia in pregnancy to be

7.4 percent in rural populations in Kenya. He also observed that there was a positive correlation between the prevalence of anaemia and the age of the patients. However this patient was only seventeen years old.

Hookworm infestation is very common in this country like other tropical countries. In one study Pamba (1980) reported hookworm infestation to have a prevalent rate of 14.2 percent in a rural population. Ngwathe (1985) reported a prevalent rate of 43 per cent hookworm infestation at Muhimbili Medical Centre. Hookworms reside in the duodenum where iron absorption is optimal. They interfere with absorption of iron by virtue of their attachment to the duodenal mucosa. They also lead to chronic blood loss. An adult worm sucks from the patient about 0.05 to 0.1ml of blood per day(1). The end result is iron deficiency anaemia. But Mati (1971) and Ngwathe (1975) did not find hookworm infestation an important aetiological factor in iron deficiency anaemia of pregnancy.

Schistosomiasis itself does not appear to affect the course of pregnancy but it may be associated with anaemia malnutrition or hepatic insufficiency (1). Anaemia may be due to chronic ill health and by chronic blood loss as a result of the ova penetrating the mucosa of the colon.

Anti-Schistosomal drugs are protoplasmic poisons. The common ones used are two groups: Trivalent Antimonials and Thioxanthenes. Antimony Sodium Tartrate belong to the former group.

Malaria is an important cause of anaemia in this country. Kasili (1980) reported that in one study malaria accounted for haemoglobin values below 5 grammes per decilitre. Mati (1971) reported that megaloblastic anaemia was the commonest type of anaemia among the series of patient.

Nearly half of these patients with megaloblastic anaemia were associated with malaria with a strong evidence of haemolysis. Ngwathe (1985) observed that the prevalence and density of malaria parasiteamia was high in mid-timester and tended to decline with advancing gestation. He also observed that the severity of anaemia strongly correlated with the degree of parasiteamia and it was macrocytic in picture. The red blood cells are destroyed when mature erythrocytic schizonts discharge merozoites in the blood. But haemolysis continues even after malaria has been successfully treated. The cause of this continued haemolysis is thought to be immunological. The malaria parasite especially plasmodium falciparum produce antigenic substance which coat parasitized and unparasitized cells. The host then produces anti malarial antibodies and when these meet with antigen on the red blood cells the cells are lysed and phagocytosed. The iron is retained for future use but the activated haemopoietic tissue increase the demand on folic acid for the manufacture of more red blood cells. In these cases the anaemia is primarily haemolytic anaemia with secondary megaloblastic changes due to the folic acid depletion. However the immunological complex may also suppress bone marrow activity.

One other cause of haemolytic anaemia among our patients that was excluded in this patient was sickle cell disease. This patient's haemoglobin electrophoresis revealed haemoglobin AA. In patients with sickle cell anaemia haemoglobin AS or SS is present.

Pregnancy imposes extra demands on the haematinic factors. This is because during pregnancy red cell mass increases by 18-30 percent over the non-pregnant state. At the same time the demand of the growing fetus have to be met. Therefore a patient who has boarderline haemoglobin at the beginning of pregnancy will become anaemic as pregnancy progresses.

Treatment of anaemia in pregnancy involves supply of haematinics or blood transfusion or both. The choice depend on degree of anaemia and the gestational age at the time of diagnosis. However in iron deficient anaemia supply of iron will raise the haemoglobin 1 gram per decilitre per week regardless of the route of administration. Blood transfusion on the other hand raise the haemoglobin by 1.5 gram per decilitre per unit of blood (1 pint). This patient was managed appropriately with blood transfusion and haematinics in the form of iron and folic acid. In case of emergency such as severe anaemia at term or in cases of sicle cell anaemia exchange transfusion has been advocated .(1) Once the anaemia was corrected heamatinics in the form of oral iron tablets and folic acid were supplied throughout pregnancy and puerperium. Prophylactic antimalarial chloroquine 300 mg base was supply weekly throughout pregnancy and puerperium. The patient was dewormed by 5 grammes of bephenium hydroxynaphthoate.

Pregnancy progressed post dates and patient was induced at 42 weeks. She was delived by vacuum extraction due to fetal distress at end of first stage. But the baby did not show any sign of postmaturity.

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RHESUS ISO IMMUNIZATION IN A PATIENT WITH
CERVICAL INCOMPETENCE AND CONTRACTED PELVIS
- ELECTIVE CAESAREAN SECTION -

Name - M.W.K.
Age - 29 years
Unit No. - 670311
Date of Admission - 26/6/85
Date of Discharge - 3/8/85

HISTORY OF PRESENT PREGNANCY

The patient was booked in Antenatal Clinic at Kenyatta National Hospital because she was had bad obtetric history. She was booked at 9 weeks gestation, and she had no other complain. Physical examinaiton revealed good general condition; she was not anemic her weight was 55Kg. and she was normotensive. Vaginal examination revealed long closed cervix with uterine size of 10 weeks and normal findings in pouch of Douglas and Adnexia. She was allowed home but instructed to return to the clinic in one month time for assessment of the cervix. At thirteen weeks gestation vaginal examination revealed a cervix 1½cm long, patulous and internal OS admit tip of finger, but membranes were not felt. The uterine size was 14 weeks. Patient was admitted to the ward where Mcdonald cerclage procedure was performed at 14 weeks gestation and patient was discharged back to the antenatal clinic. While attending antenatal clinic quickening occured at 16 weeks gestation. At 18 weeks gestation blood was taken for haemoglobin, Kahn test type and group. But the report was not available until the 29th week, when it revealed blood group O, Rhesus negative and indirect coombs test was postive with a titre of 1:4,. The Kahn test was negative, otherwise she was having a normal antenatal progress. When indirect coomb test was repeated at 29th and 32nd weeks gestation the titre was found 1:8 on both occasion. She was therefore admitted for bilirubin spectrophotometry.

OBTETRICS AND GYNAECOLOGICAL HISTORY

Her menarche was at 14 years and her periods have been regular coming every 26 days and lasting three to four days. There was no history of dysmenorrhoea. Onset of last menstrual period was 3/11/84 and therefore expected date of delivery was 10/8/85 giving gestational age of 34 weeks.

Her parity was 2+3. In 1978, 1979 and 1981 she had abortions at 3 months, 4½ months, and 4 months gestation respectively. Evacuation was done to complete these abortions at Nyeri General Hospital. In 1982 she had a full term normal delivery to a female baby who weighed 4.2Kg. It was alive and well. In 1984 she had caesarean section due to prolonged labour at term at Kenyatta National Hospital and a male baby weighing 3220 grames was delivered. It was also alive and well. In both these term deliveries Mcdonald cerclage procedure was performed. There was no history of blood transfusion and patient had known her blood group as group "O" and Rhesus Positive. There was no history of contraceptive use.

PAST MEDICAL HISTORY There was nothing significant.

FAMILY HISTORY

She was herself a twin. There was no history of hypertension, diabetes and pulmonary tuberculosis among family members.

SOCIAL HISTORY

She was educated to form four and worked as a clerk. She was married to an engineer. She does not drink alcohol or smoke.

PHYSICAL EXAMINATION

Her general condition was good. She was afebrile; not anemic, and she had leg pitting oedema. Her weight was 66½Kg and her height was 5 feet 1 inch. The blood pressure was 110/60mmHg with pulse of 88 per minute which had a good volume. The breasts were well developed and no masses were felt.

ABDOMINAL EXAMINATION

There was sub umbilical scar. The fundal height was 34 weeks and corresponding with the dates. The fetus was in longitudinal lie and cephaloid presentation. The head was floating. The fetal heart rate was 140 per minutes regular. There were no morbid fetal heart rate.

All other systems were essentially normal.

- DIAGNOSIS: (1) Rhesus Negative Mother with ISO Immunization
(2) Cervical Incompetence

Investigation

- (1) Urine - Protein Nil
 Sugar Nil
- (2) Haemoglobin - 10.5gl dl
- (3) PCV 33 per cent
- (4) Blood group O Rhesus "D" Negative
- (5) Kahn test - Negative
- (6) Indirect Coombs test

	Gestation	Titre
	18	1:4
	29	1:8
	32	1:8
	33	1:16
	35	1:32
6 weeks post delivery		1:64

(7) Bilirubin by Spectrophotometry

<u>Gestation</u>	<u>Report</u>
32 weeks -	Optical density difference 0.03 According to lileys curve this falls under 3. Not anaemic. Delivery at term.
37 weeks -	The Curve has no peak. No Optical density difference. - Normal.

(8) Ultrasonography.

This was done at 34 weeks gestation:

- (a) Single fetus with biparietal Diameter of 8.0 cm corresponding to 34 weeks gestation.
- (b) Placenta Anterior not extending to lower segment.
- (c) The cardiac activity was demonstrated.

(9) Erect Lateral Pelvimetry

Cephalic presentation

True Congugate - 10.0 cm
Mid Cavity - 10.8 cm
Outlet - 11.8 cm

(10) Surfactant Test

At 35 weeks gestation - 1:1 negative $1/4$
- 1:2 Negative
At 37 weeks gestation- 1:1 Postive
1:2 Negative $\frac{1}{2}$.

PROGRESS ON WARD

Amniocentesis was done as discribed in the introduction at 35 weeks gestation to determine Bilirubin by spectrophotometry and surfactant tests. This was repeated for the same tests at 37 weeks. The placenta had been localised on Anterior but not extending in the lower segment. On each occasion 300 mg of Anti D. human immunoglobulin were given intramuscularly. Cervical stitch was removed at 36 weeks.

Since the indirect coombs test titre was raising it was decided that the patient be delivered. This was achieved by Elective caesarean section at 38 weeks gestation because her pelvis was also found contracted. At delivery cord blood was taken for haemoglobin, direct coombs test and serum bilirubin.

OUTCOME

Female term baby who weighed 3150 grams and scored well was delivered. The liquor amnii was clear. Placenta complete with membranes weighed 500 grams. Blood loss was 700 ml. The baby was admitted to nursery.

BABY

Baby while in Nursery developed jaundice. This was treated by phototherapy. The baby was also put on crystopen 50,000 units tds intramuscular and gentamycin 10 mg bd intramuscularly for 10 days. She was also given 0.5 mg of vitamin K on admission. Baby was discharged from Nursery after 10 days. - Unit No. 700621.

Investigation done on baby

Blood group - O Rhesus "D" Positive
Haemoglobin - 14.5 g/dl
Serum Bilirubin - Report not available

POST OPERATIVE

This period was uneventful. Haemoglobin estimation on third day was 11.0 grammes. She was discharged on 10th day.

POSTNATAL CLINIC

She reported to the postnatal clinic six weeks after delivery. Her general condition was good. She had lactational amenorrhoea. The blood pressure was 110/70 mmHg. Sub umbilical surgical scar had healed by first intention. Vaginal Examination reveals the pelvic organ normal size. Urinalysis was normal findings. Blood taken for indirect coombs test reported titre of 1:64. The Haemoglobin was 13.4g/dl with a pcv of 40.0%.

COMMENT

A patient who had cervical incompetence a previous caesarean section scar with contracted pelvis which were complicated with rhesus isoimmunisation is presented. She was not known to have rhesus negative blood before this pregnancy. That she reported for antenatal clinic in first trimester is quite remarkable. This might be because she expected to have McDonald cerclage procedure performed for the third time. It is equally remarked that she had had several contacts with the health service system before and yet her blood group had not been determined correctly.

Her main problem when she presented was cervical incompetence this was managed appropriately as described elsewhere in this book. The stitch was consequently removed at 36 weeks gestation. As soon as she was discovered to have Rhesus "D" negative blood type it became the major problem.

The Rhesus antigen was first discovered in 1940 by Landsteiner and Wiener. In 1944 Fisher's CDE classification settled the confusion (Donald 1979). The Rhesus factor genes are held on the short arm of chromosome number one, and in fertilization each parent hands on the first or second half of his/her full genotype, so that for example a case of group CD e/cde hands on either CDe or cde to the offspring. Rhesus factor D is the most common and most serious of them all. It is a mendelian dominant gene so that it expresses itself in both homozygous and heterozygous state. Whenever it therefore so expresses itself the individual is Rhesus positive. On the other hand when it is in homozygous recessive state and does not express itself the individual is Rhesus negative. Rhesus Antigen has been demonstrated in the embryo as early as six weeks gestation. Unlike ABO blood antigens the Rhesus Antigens do not have naturally occurring antibodies. Rhesus antibodies are all acquired in a Rhesus negative person when he or she is immunized with Rhesus antigen. Once so immunized the antibodies remain long if not for life. This is what is referred to as Iso-Immunization and is defined as the process whereby immune antibodies are produced in one individual in response to the injection of antigen from another individual of the same species this last individual possessing antigens which the first lacks (1).

The importance of the Rhesus antigen lies in the observation that when an unsensitized rhesus negative mother carries a rhesus positive fetus with whom she is ABO compatible, fetal blood may pass into the maternal circulation most commonly during delivery of the placenta and immunize the mother. The mother once immunized the antibodies will cross the placenta during subsequent pregnancy with rhesus positive fetus and hemolyse the fetal blood leading to clinical condition of hydrops fetalis; icterus gravis neonatorum of which kernicterus is often a sequel; and lastly congenital haemolytic anaemia depending on the degree the fetus is affected.

There are three ways through which a rhesus negative woman may be immunized. First is through transfusion with rhesus positive blood. This is nowadays very rare because most blood for transfusion blood is cross matched. Second is through fetal maternal transfusion during previous pregnancy of rhesus positive fetus. This is made most likely if there is fetal maternal ABO compatibility. Situations where the following procedures have been undertaken increase the likelihood of fetal maternal transfusion: Delivery by caesarean section as was done in this patient. External or internal version of the fetus; Amniocentesis; Manual removal of placenta; assisted vaginal delivery; and pregnancy terminating in abortion and ectopic pregnancy. The hydatidiform mole does not confirm immunisation because there are no blood group and rhesus antigen. Thirdly a rhesus negative offspring may be immunized by her rhesus positive mother at the time a rhesus positive mother delivers a rhesus negative offspring. This is reported in some series to be very low (1.9%)(4).

The prevalence of Rhesus negative factor among antenatal patient at Kenyatta National Hospital has been reported to be 4.1% (2). In the series 69% were not immunized yet 31% had been already immunized. In Tanzania mainland NHonoli (1979) reported a prevalence rate of 3.5% among patient attending antenatal clinic. Elsewhere Donald has reported very low incidence in China but in England high prevalence of 16.8 per cent (1).

The patient was already immunized before this pregnancy since the indirect coombs test at 18 weeks was positive with a titre of 1:4. The titre rose up to 1:16 at 33 weeks gestation. It was necessary to do amniocentesis and determine the level of bilirubin and bilirubin-like pigments by spectrophotometry. In this test the optic density is plotted logarithmically on the y-axis and the actual wavelength on the x-axis. The absorption curve of normal liquor will be more or less a straight line within the wave length of 365 to 600 μ . But when there is a concentration of bilirubin or bilirubin-like pigments there is a deviation from this straight line at approximately 450 μ . This deviation bulge is then measured at 450 μ in terms of the difference of optical density and thus gives the quantity of pigment present. In normal pregnancy pigmentation of liquor amnii diminishes with increasing maturity this therefore has the effect of accentuating the significance of the deviation bulge in later weeks. At any given period of gestation the height of the spectrophotometric bulge at 450 μ will be compared with the Liley Zones. These are read as follows:

- (1) Zone I - which is the lowest the baby is unaffected or only mildly so and can probably safely be allowed to go to term.
- (2) Zone II - the intermediate one is unreliable zone.

(3) Zone III - the highest zone. The baby is very severely affected and intrauterine death is either imminent or hydrops fetalis already likely. If the Spectrophotometric bulge at 450 mu falls in zone three after the 34th week of gestation immediate delivery should be undertaken; if before 34 weeks then the degree of prematurity would wreck any chances of survival. Only intrauterine transfusion may be able to stave off disaster and may especially if repeated allow a little time for further developemnt in utero in order to achieve a degree of viability sometimes after 34 weeks. In this patient the spectrophotometry bulge fall in Zone 1 on repeated amniocentesis and therefore the pregnancy was allowed to proceed to term and delivered then. In rhesus isoimmunization post maturely is never allowed.

Repeated ammocentesis is emphasized by Liley himself because this zonal prognostication may be in error due to estimating the wrong pigment especially contamination with blood, serun, and meconium or wrong fluid such as urine or undiagonised ovarian cyst fluid.

Surfactant test was positive to establish the lung maturity. Because of the previuos caesarean section scar erect lateral pelvimetry was done at 36 weeks gestation. This revealed a contracted pelvis. Hence patient had to be delivered by elective caesarean section.

The procedure was full communicated to the patient and she gave written consent. Four pints of compatible group O rhesus negative blood were booked. The peadiatrician was informed and was around at time of delivery.

The baby was mild affected. It only developed jaundice on the second day. The haemoglobin was 16.5g per decilitre. The placenta was normal weight in relation to the baby. The direct coombs tests done on cord blood was positive. Patient only required treatment by phototherapy. It should be noted that those who are severely affected develop jaundice on the same day of delivery; the placenta is very large and blood smear immature cells, haemoglobin will be very low. Most of them require exchange transfusion to stop haemolysis and to prevent kernicterus. It should be noted that blood smear and bilirubin levels were not determined in this patient. It is the role of the obstetrician to take specimen for this tests from cord blood.

We have recommended that the patient accepts sterilization but in case she chooses to have another child then it would be necessary to determine the Rhesus genotype of the husband. If he is rhesus homozygous the future is very bleak. There is a general tendency of the disease to be more severe in each successive pregnancy. In case he is heterozygous then chances of fathering a rhesus negative child who will not be affected do exist.

Rhesus Iso immunisation is a preventable disease. This is done by scrutinizing all patients attending antenatal clinic during the first visit for rhesus factor. Those patients who are rhesus negative become the subject of vigilant attention. Indirect coombs test is done to all of them. Indirect coombs test is repeated at 24, 32 and 34 weeks. Those that have titres over 1:16 are considered immunized and steps are taken to determine bilirubin level by spectrophotometry and using zonal prognostication decision are made when to deliver the patient. Those patients whose indirect coombs test is negative are given anti D. Human immunoglobulin between 32-34 weeks and at 36 weeks gestation. Anti D immunoglobins are also given within 72 hours after

delivery, abortion or ectopic pregnancy. It is also necessary to give anti D Immunoglobins after procedures such as amniocentesis, internal or external version and manual removal of placenta in all rhesus negative mother who are not sensitised. Finally as Freda (1973) emphasized that when in doubt whether or not to give anti D Immunoglobulin, the rule of thumb should be to give it.(4)

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CARDIAC DISEASE GRADE III
COMPLICATING PREGNANCY
- ELECTIVE VACUUM EXTRACTION -

Name - T.W.
Age - 20 years
Unit - 478932
Date of Admission - 7/8/85
Date of Discharge - 3/12/85

PRESENTING COMPLAINT

She was admitted through the antenatal booking clinic where she had presented with complains of shortness of breath on mild exertion such as sweeping the floor. There was no history of cough, chest pain, paraxismal nocturnal dyspnea, nor swelling of the feet. She complained of headache but no blurring of vision. This complains had started three weeks prior to admission.

PAST MEDICAL HISTORY

She had been attending cardiac clinic for cardiomyopathy with aortic incompetence for two years prior to admission. The lesion had been discovered during her last pregnancy at a peripheral hospital and she was referred to KNH. She was managed throughout that pregnancy as cardiac disease grade II. ECG and Echocardiography were done then. She was subsequently followed in cardiac clinic for a year and discharged from the clinic because she was asymptomatic, but the Soft Systolic murmur persisted.

GYNAECOLOGICAL AND OBSTETRIC HISTORY

She had her menarche at 16 years of age. Her cycles had been regular every 26 days and lasting for 5 to 6 days. There was no history of dysmenorrhoea. She was para 1+0. LMP was on 18th January 1985 and the EDD was on 25th October 1985. She was then 28 weeks gestation.

She was managed as Cardiac grade II in her previous pregnancy. She was admitted at 38 weeks gestation for closer monitoring. She went into spontaneous labour at 43 weeks. The labour was inco-ordinate and hence was augmented with syntocinon and subsequently delivered by elective vacuum extraction of a baby boy who score well. The birth weight was 3430 grammes. There was no evidence of postmaturity. The blood loss was 500ml. The puerperium was uneventful. She was offered IUCD at the postnatal clinic but had to be removed one year later due to heavy periods.

FAMILY HISTORY: There was nothing significant.

SOCIAL HISTORY: She was educated up to Standard Seven. She was married and her husband worked in a butcher. She did not drink or smoke.

PHYSICAL EXAMINATION

She was in good general condition and a height of 5ft 1½ inches. There was no pallor, no leg pitting oedema, no dyspnea and no cyanosis and no clubbing of the fingers. The breasts were normal and active.

RESPIRATORY SYSTEM

The respiratory movements were equal with a central trachea. The breath sound were good and there were no basal crepitation.

CARDIOVASCULAR SYSTEM

The pulse was 90 per minute, regular, good volume and collapsing. The blood pressure was 130/70 mmHg. Jugular venous pressure was not elevated. The precordium was hyperactive and there was a thrill. The heart sound were normal. The apex beat was displaced to the anterior axillary line and in the 6th intercoastal space. There

was a loud systolic murmur heard at the Aortic area but poorly radiated to the left carotid arteries. The murmur was also heard along the left sternal boarder where it was associated with a short early diastolic murmur.

ABDOMINAL EXAMINATION

The fundal height was 28 weeks which corresponded well with the dates. The foetus was lying longitudinally with cephalic presentation and fetal head was free. The baseline fetal heart rate was 144 per minutes. Pelvic examination was deferred because it was not necessary at this stage.

Examination of the central nervous system, and ear, nose and throat was done and found normal.

DIAGNOSIS

CARDIOMYOPATHY WITH AORTIC INCOMPETENCE and POSSIBLY AORTIC STENOSIS: CARDIAC DISEASE GRADE III

INVESTIGATIONS DONE

1. Blood group "O" Rhesus "D" positive
2. Kahn test - negative
3. Urinalysis - normal findings
4. Haemoglobin - 8.8 gl/dl, per 28.4 per cent
5. ECG - Sinus rhythm
6. Stool - normal findings
7. Blood urea and Electrolytes - Normal findings

PROGRESS IN THE WARD

She was reviewed constantly by the cardiologist while on the ward. They confirm the early findings. She was put on digoxin 0.25mg and Frusemide 40mg daily as well as Folic acid 5mg and ferrous sulphate 200mg daily. She

gained weight from 57Kg at 28 weeks gestation to 63 Kg at 42 weeks. The rest of the vital signs remained within normal limits throughout pregnancy.

Haemoglobin was repeated at 37 weeks gestation was 11.7 g/dl with a PCV of 37.1 percent. Subsequent urinalysis, haemoglobin, urea and electrolytes done weekly were normal.

The urine for culture revealed no growth.

LABOUR

At 42 weeks gestation she went into spontaneous labour. Physical examination revealed that her cardiac status was stable. She was having good contractions 2 in ten minutes lasting 40-50 seconds the fetus lie was longitudinal with cephalic presentation and the head was four fifth above the brim. The fetal heart rate was normal.

Vaginal Examination revealed a fully effaced cervix with a 2-3 cm dilated OS. The pelvis was adequate.

She was given oxygen by mask. She was nursed in left lateral position while probed up. She was given morphine sulphate 15mg intramuscularly which was repeated after 4 hours. She was also given Frusamide 80mg. Ampicillin 500mg intramuscularly six hourly was also started. She was placed under vigilant observation and all findings recorded on the partogram.

After 6 hours fetal head had descended to two fifth above the pelvic brim and the cervix was 8cm dilated. Artificial rupture of membranes was done and menonium stained liquor amnii was obtained. The position of the head was left occiput transverse and there was no molding and no cord was felt. She was given 10% dextrose in drip.

Two hours later she reported feeling like bearing down. She was found to be fully dilated.

DELIVERY: ELECTIVE VACUUM EXTRACTION

She was not placed in lithotomy position but lie on the delivery table with her back supported with pillows to assume a semi-sitting position. The vulva and perineum were cleansed with savlon solution. Sterile drapes were applied and the bladder was aseptically catheterized. Patient continued with oxygen by mask. Five millilitres of 2% procaine hydrochloride was infiltrated to the left margin of the vaginal orifice and a left mediolateral episiotomy was made.

The vantouse cup size 6 was fitted on to the foetal head at vertex. Negative pressure was created up 0.6Kg/cm. The time was noted. The traction was applied first downwards until the head started crowing then upward there after and delivered the head by extension. Vantouse cup was released and the rest of the delivery was assisted using surgeons hands. The placenta was delivered by controlled cord traction. Intravenous frusamide 40mg was given and the episiotomy repaired. The cervical inspection was done and revealed no laceration.

OUTCOME

Female baby weighing 3700 grams was deliveed who scored well. The placenta complete with membranes weighed 670 grammes. there was meconium staining of the liqour amnii. The baby joined the mother.

POST DELIVERY

The total blood loss was about 1000ml. The Blood pressure was found to be 100/50mmHg with a pulse of 110 per minute and thready. Examination revealed that she was bleeding from the uterus which was not well contracted. She was

given oxytocin 10 unit in 500ml of Normal saline, assisted by regular external massage of the uterus. The bleeding stopped. The general condition remained stable. The patient was transfused with two units of blood under the cover of frusamide 80mg intravenously over 10 hours. She was given a course of antimalarial after the transfusion. She was transferred to the lying in ward after 24 hours when she was out of danger.

POST PARTUM

She was kept under observation for 14 days. Repeat haemoglobin on the 3rd post delivery day was 10.6g per decilitre and PCV was 33 percent. She was done bilateral tubal ligation on the third post delivery day as she had consented to the advice. Antibiotics which had been started during labour were continued for 10 days.

POST NATAL CLINIC

She attended the post natal clinic after 6 weeks. Her general condition was good. She was breast feeding without any difficulty. Vital signs were normal. The minilaparascopy scar had healed well. Her periods had not resumed. The baby was alright at home. She had been reviewed two weeks previously in the cardiac clinic. She was asymptomatic with only aortic incompetent murmur still persistent. She was encouraged to keep her appointment with the cardiac clinic.

COMMENT

The incidence of cardiac disease among pregnant patients referred to Kenyatta National Hospital has been reported by various investigations. Sequera and Ojiambo (1969) found an incidence of 0.5 percent. (1) Similar incidences were reported by Ngotho (1981) and Bhatt (1978) (2). Elsewhere Surge (1969) reported an incidence of 0.5 percent in Dublin Ireland. (3)

This patient had cardiomyopathy complicating pregnancy. This is a rare cause of cardiac disease in pregnancy. Ngogho (1981) found only 0.7 percent of patients with cardiac disease in pregnancy had cardiomyopathy at Kenyatta National Hospital. But Batambuze (1976) reported 7.1 percent in Mulago Hospital (4). The commonest cardiac disease in pregnancy is Rheumatic heart disease accounting for over 90 percent of the patients.(1)(2) It is followed by congenital heart disease which together have been reported in 6.8%. The most common lesion in rheumatic heart disease is mitral valvular Diseases. This is responsible for 73.6 percent. The patient had Aortic valvular disease which is also rare even among patients with rheumatic heart disease.

The diagnosis of cardiac disease in pregnancy may be problematic because the hyperdynamic circulation of normal pregnancy cause alteration in the cardiovascular system which mimic heart disease. Dyspnea on exertion occur in 50 percent of all pregnant women. Pain mimicking myocardial perfusion deficiency and localised to the left mammary area is a common complain in pregnancy. Pitting oedema is also common in pregnancy. A bounding pulse is invariably present in normal pregnancy(1). In this patient diagnosis was not problematic since she was already a known patient with cardiac disease. Burnell and Metcalfe (1958) listed the following criteria any one of which confirms the diagnosis of heart disease in pregnancy(5):

- (1) Diastolic, presystolic or continuous heart murmur
- (2) Unequivocal cardiac enlargement
- (3) A loud harsh systolic murmur especially one associated with a thrill
- (4) Severe arrhythmia

This patient was in cardiac grade three according to the New York Heart Association Classification (6). She was consequently admitted when she reported to the antenatal clinic for close observation, as is done for those patients with cardiac disease grade four, throughout pregnancy. Those patients with grade one and two are followed up closely in the antenatal Clinic. Close checks for anaemia, upper respiratory tract infection, urinary tract infection and pre-eclampsia are reviewed every visit. However sudden unpredictable changes occur in this classification and this need to be detected early. As Sequera (1969) observed it was not the severely disabled patient who were in greatest danger but those of grade I and two who need very careful supervision. De'Sweit (1976) observed that the risk of dying in pregnancy increases as gestation continues after the 36th week (7). hence patients with lower grades are usually admitted in hospital at 32-34 week for the rest of pregnancy.

The principle of medical management of pregnancy complicated with Cardiac disease is to ensure that heart failure does not occur. The predisposing factor to heart failure in this patient was the anaemia, this was corrected by haematinics. Other predisposing factors to heart failure that may occur in other patients include Hypertension, Obesity, Multiple pregnancy, Thyroid disease and arrhythmia. In each case vigilant surveillance for early signs of congestive cardiac failure (i.e. pulmonary congestion and maternal tachycardia) are kept. In this patient clinical observation and laboratory findings were normal. She was managed simultaneously, with the cardiologist who kept her on low dose of digoxin and lasix.

Labour started spontaneous and at term. Pelvic assessment which should have been done at 38 weeks was done while in labour. Induction of labour is hardly practised in cardiac because it carries high risk for infection and it patients might fail. Usually patients with heart disease

have very short labours. In this particular patient labour lasted eight hours. Vigilance was observed throughout the labour. Morphine was given to allay anxiety and reduce pulmonary resistance. It also provide relief from pain. She was kept in fowlers position. Prophylaxis antibiotics was started with the onset of labour. This was to reduce the incidence of subacute bacterial endocarditis in peurperium. Antibiotics were given for 10 days.

Assisted Vaginal delivery as was practised, in this patient aims at reducing the duration of second stage and to elliminate as far as possible the maternal effort. She was kept in Fowler position and on oxygen. Frusamide was given intravenous to stimulate diuressis, relax the capacitance system and hence reduce venious return to the heart and lower intrapulmonary and left atrial blood pressure.

The patient developed post partun haemorrhage. This was appropriately managed with syntocinon and blood transfusion. De-Sweit (1976) recommended that ergometrine may be given in the face of severe post partum haemorrhage but should be accompanied with frusemide which forces diuress or valium which is known to decrease the effect of egometrine in raising the central venous pressure.

Surgical contraceptive offered to the patient was appropriate. Her cardiac condition was getting worse comparing this pregnancy and the previous one. Each successive pregnancy in a cardiac patient reduces the life span of the patient.

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CORD PROLAPSE IN PATIENT WITH
PREMATURE RAPTURE OF MEMBRANES

- LIVE BABY -

Name - J.W.R.
Age - 25 years
Unit - 646028
Date of Admission - 19/3/86
Date of Discharge - 9/4/86

PRESENT COMPLAINT

She complained of draining liquor amnii for two hours prior to admission.

HISTORY OF PRESENT ILLNESS

She was well until two hours prior to admission when she suddenly started draining liquor amnii. This happened spontaneously while she was doing her household work and there was no history of trauma. She did not notice any vaginal bleeding and she was not in labour. There was no history of discharge per vaginam prior to the draining of liquor.

OBSTETRICAL AND GYNEACOLOGICAL HISTORY

Menarche was at 14 years and her periods have been regular coming every 28 days and lasting three to four days. There was no dysmenorrhoea. Her last menstrual period was on 1st August 1985 and the expected date of delivery was on 12th May 1986, giving a gestation of 33 weeks. She had not used any contraceptive method.

Her parity was 2+5. Her first pregnancy was in 1975 which culminated into preterm delivery at seven month at home and baby died on way to hospital. The second pregnancy was in 1977 which similarly ended as preterm delivery at seven month at health centre to a baby boy who weighed 1500 gram. The puerperium was normal and baby was kept in nursery for two weeks. He was alive and well.

The third pregnancy was in 1978 and ended up as an abortion at 5 months. Evacuation was done at kenyatta National Hospital. The 4th, 5th, 6th and 7th pregnancy were in 1979, 1980, 1982, 1984 respectively. They were all aborted at the 6th month and evacuation was done for each one of them at Kenyatta National Hospital. All were spontaneous and began by sudden draining of liquor amnii followed by labour pain.

During this pregnancy she was booked at KNH antenatal clinic because of the bad obstetric history. The gestation at the time of booking was twenty four weeks. Macdonald Cerclage procedure was done at 25 weeks gestation and she was discharged on ventolin and phenobarbitone. She had three subsequent visits to the clinic.

PAST MEDICAL HISTORY - There was nothing significant.

FAMILY HISTORY - There was nothing significant.

SOCIAL HISTORY - She was a married housewife and her husband worked as a businessman. She did not take any alcohol nor smoke.

PHYSICAL EXAMINATION

Her general condition was good. She was Afebrile, not anemic and no cyanosis. There was no pitting leg oedema. Her height was five foot and her weight was 51 Kg. The blood pressure was 100/60 mmHg and the pulse was 88/min regular, and had good volume. Breasts were well developed and there was no lumps in them.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended with a fundal height of 30 - 32 weeks. The fetus was in longitudinal lie with cephalic presentation. The head was floating on the pelvic brim. No contractions were detected. The baseline fetal heart rate was 156 regular with no morbid foetal heart rates.

PELVIC EXAMINATION

This was not done but instead speculum examination was done.

SPECULUM EXAMINATION

Patient was instructed to empty her bladder. She was placed on delivery table in lithotomy position. The vulvoperineum were cleansed with savlon. Drapes were applied, using sterile gloved hands. The external genitalia were noted to be normal. Sterile Cusco bivalve speculum was gently introduced into the vagina. The cervix was about 1½cm long thick and closed. A little clear liquor was oozing through the OS. and cough impulse evoked more pooling of the liquor on speculum. The McDonald stitch was removed easily but the removal provoked little bleeding from the cervical wall. There was no discharge noted.

The respiratory system, the cardiovascular system and central nervous system were examined and found normal.

Diagnosis: BAD OBSTETRIC HISTORY WITH PREMATURE RUPTURE OF MEMBRANES

MANAGEMENT

Conservative management was preferred and included; Bed rest in the ward, analgesia and sedation in the form of pethidine 100mg and tablets of phenobarbitone 60 mg every 8 hourly. Antibiotic cover prophylaxis in the form of ampicillin 500mg 6 hourly. Patient was given a sanitary pad which was changed regularly and or when soaked in order to assess the amount of drainage of liquor amnii. White blood cells count was done twice weekly. No digital vaginal examination was to be done unless labour started. 4 hourly observation of temperature, maternal pulse, foetal heart rate, and any evidence of contraction were recorded.

INVESTIGATION DONE:

- (1) Blood group - O Rhesus "D" Positive
- (2) Kahn test - Negative
- (3) Haemoglobin - 10.1 g/dl and per 29%
- (4) Urinalysis - Normal findings
- (5) Endocervical swab- No growth
- (6) Urine culture - No growth
- (7) WBC - 3.0 x 10⁹ per litre

PROGRESS ON THE WARD

She continued draining little liquor amnii. A repeat white blood count and other vital signs remained normal.

On the twelfth day while on the ward, the patient, while she was in the toilet noticed something prolapsing through the vagina. She reported to the nurse who saw it was an umbilical cord. She was appropriately put in the knee elbow position on her bed and taken to the labour ward at once.

Examination in the labour ward revealed a young lady in good general condition at 34 weeks gestation. She was not in labour. The fundal height was 32 weeks. The fetus was in longitudinal lie and cephalic presentation with the head

floating. The foetal heart rate was 140 per minute, regular with no morbid foetal heart rate. Vaginal examination revealed a pulsating umbilical cord at the introitus and fetal right hand in vagina. The cervix was fifty per cent effaced and 2-3 cm dilated. Clear liquor amnii was draining. A diagnosis of compound presentation with cord prolapse was made.

MANAGEMENT

The patient was explained the nature of her problem and that she needed to be delivered at once by caesarean section because her unborn baby who was pre-term but of reasonable size was in danger of dying in the uterus should labour begin or should the umbilical vessels go into spasm. She gave a written consent and three pints of blood was cross - matched. She was prepared for surgery. Premedication of 0.6 mg atropine was given and she was taken to theatre while in knee Elbow position.

An emergency caesarean section was performed as described in the introduction. At the operation no abnormality of the uterine cavity was discovered. She was transfused 2 units of blood.

THE BABY

A male pre - term infant with a birth weight of 1350 grammes was delivered. It scored 5 at 1 minute and 10 at 10 minutes. The liquor amnii was clear and not foul smelling. The placenta and all the membranes were complete and normal and weighed 400 grammes.

The baby was admitted into the nursery. Where it was put on vit k. 10mg, and prophylactic gentamycin and crystalline penicillin. The baby was discharged from the nursery after three weeks when it was gaining weight.

POST OPERATIVE PERIOD

Routine post operative care was provided to the mother as described in the introduction. The second day the patient was weaned off intravenous fluid. She was given antibiotic - Amyplillin and Dalacin - C - sulfate for one week. Haemoglobin on the third post operating day was 11.5 grammes per decilite. On the 14th post operative day patient was discharged to the mothers' hostel since the baby was still in nursery.

POST NATAL

She did not come for postnatal clinic as requested.

COMMENT

This patient had three major obstetric problems namely: Cervical incompetence, premature rupture of membranes and cord prolapse. In her first pregnancy she was an adolescent mother aged fifteen years. Among adolescent mothers prematurity and pre-term delivery occur more frequently.(1) Pre-term labour tends to reoccur in subsequent pregnancies. She had had five consecutive abortions occurring in the late second and early third trimester. By definition, she should be regarded as a habitual abortion which is defined as when three or more consecutive pregnancy wastage of less than 20 week gestation have occurred with fetus weighing less than 500 grammes (2). But this definition by Decherney (1984) excludes pregnancy wastage due to incompetent cervix which our patient had. Incompetence of the cervix as illustrated by this patient is characterized by painless dilatation of the cervix in the second trimester or early in the third trimester of the pregnancy. With prolapse of the membranes through the cervix, and ballooning of the membranes into the vagina, followed by spontaneous rupture of the membranes and subsequent expulsion of the fetus that is so immature that it is likely to succumb.(3) Other causes of midtrimester

abortions are uterine fibroid, and mullerian fusion anomalies. In the latter successive pregnancies tend to be carried longer.(4)

Macdonald cerclage procedure was performed late at 25 weeks gestation. Usually the stitch is inserted between 12 and 14 weeks gestation. Charles (1981) has observed that there is a high incidence of complications attending cerclage procedure when it is performed after twenty weeks. These include premature rupture of membranes, chorioamnionitis and intrauterine infection. These complications are much less when the procedure is performed by 18 weeks gestation. The pregnancy reached 33 weeks and the membranes ruptured, the stitch was then removed. Usually the stitch is removed after 37 completed weeks. It is also recommended that once the membranes rupture with the stitch in place it should be removed at once. (3) It was not appropriate that a conservative approach be preferred in the management of this patient since the baby by gestation would be approximately 2Kg. However conservative management was instituted because this patient reported in the antenatal clinic late hence the accuracy of her menstrual history was questionable and because of her past obstetric history it was thought everything possible should be done to preserve the pregnancy for a week or so. Signs of infection were monitored closely, this include fetal and maternal tachycardia, raised white blood cell count and elevated maternal temperature. Delay in delivery in prom has been shown to accelerate pulmonary maturation. (3) But other reports have indicated that pulmonary maturation does not occur when all liquor amnii has been drained.

The baby delivered was small for gestational age. The baby had suffered intrauterine growth retardation. Hence little would have been gained by keeping the fetus any longer in the uterus. At Kenyatta national Hospital fetuses born with weight of 1500 grammes have a salvage rate of about 50 percent. This would conform with gestation age of 30 completed weeks. With good sized fetus prom at 33 weeks

gestation should be delivered giving only 24 hours for accelerated pulmonary maturation.

Prolapse of the Cord is the feared complication of premature rupture of membranes. This is because in the absence of labour contractions the presenting part will not fit snugly on the lower uterine segment. Compound presentation compounded the likelihood of prolapse of the cord. Management of cord prolapse is in two stages. The first stage is the emergency one which aims to prevent cord compression and vasospasm of the umbilical vessels. It covers the time taken to arrange for emergency delivery. The overall aim is to reduce the diagnosis delivery time.

In this patient a pad was applied in the vagina to keep the cord inside and the patient was placed into the knee chest position as soon as the cord prolapse was noticed. This postural arrangement enables the patient to be transferred to the labour ward without the cord being compressed. Alternatively she could have been transferred with the nurse or assistant's hand in the vagina keeping the presenting part high and off the cord, in which case the patient placed in exaggerated Sims position or moderate trendelenburg position. Vago (1970) has described another method which depend on the principle that a full bladder inhibits uterine contractions. It involves inserting a number 16 Foleys Catheter with 5ml balloon in the urinary bladder and introducing rapidly 500ml to 750ml of normal saline by means of an infusion set after which the balloon is inflated and the Catheter clamped. The patient being kept in moderate trendelenburg position. The distended bladder keeps the presenting part high and relieves pressure on the cord without the necessity for the finger of the assistant to remain in the vagina for lengthy periods and uterine contractions are inhibited or temporary disappear altogether.(6)

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Definitive treatment in this patient was by emergency caesarean section. Daly (1968) in his series concluded that in event of cord prolapse caesarean section is definitely the method of choice for delivery of an infant who by weight is potentially salvageable and still alive.(7) He further observed that when fetal heart tones are present although depressed a caesarean section may be justified. He also recommend that immediately after diagnosis of cord prolapse regardless of the presentation and cervical ditalation preparation should be made for caesarean section. It is also possible to deliver the patient with vantouse extraction or forceps delivery if the dilation is 8cm. or more.

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PLACENTA PRAEVIA TYPE III

- LIVE BABY -

Name : F.M.
Age : 28 years
Unit : 701282
Date of Admission - 30/7/85
Date of Discharge - 15/9/85

HISTORY OF PRESENTING COMPLAINTS

The patient was admitted through casualty complaining of bleeding per vaginum for nine hours prior to admission. She had passed four clots and had changed vaginal pads four times. The bleeding was not accompanied with abdominal pains and had been spontaneous in onset.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had her menarche at 12½ years. Her periods have been regular coming every 28 days and lasting 4-5 days with no pains. She had not used any contraceptives.

She was para 2+1. Her first delivery was in 1977 at a hospital. It was a spontaneous vertex delivery following a normal term pregnancy. The labour had lasted twelve hours and a live baby weighing 2500 grammes was delivered. The puerperium was normal. The second pregnancy and delivery were similarly normal. The labour lasted six hours and the baby weighed 3000 grammes.

The puerperium was normal. Her third pregnancy was aborted at three months gestation in 1979. Evacuation was done.

Her last menstrual period started on 10/1/85 and her expected date of delivery was 17/10/85 giving a gestation of 28 weeks. She had attended clinic once at City Commission Clinic. No abnormality had been reported.

PAST MEDICAL HISTORY: There was nothing significant.

FAMILY HISTORY: It was unrewarding.

SOCIAL HISTORY

She was educated to form four. She was married and worked as a typist with a private company. She used to take alcohol occasionally but she did not smoke.

PHYSICAL EXAMINATION

The patient was in good general condition. There was no pallor and no leg pitting oedema. She was five feet three inches tall. Her blood pressure was 110/70 mmHg. Pulse was 90 beats per minute and the body temperature was 36.5°C.

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

ABDOMINAL EXAMINATION

There was no tenderness over the uterus and in the abdomen. The fundal height was 28 weeks. The fetus was in longitudinal lie with cephalic presentation. The presenting part was floating. The fetal heart rate was 140 beats per minute, regular, with no fetal heart rate abnormalities.

VAGINAL SPECULUM EXAMINATION

The external genitalia were normal. There was no bleeding point on the vulva, vagina or cervix. The cervix was healthy looking slight bleeding was coming from the cervical OS.

DIAGNOSIS: ANTERPARTUM HEAMORRHAGE? PLACENTA PRAEVIA

MANAGEMENT

The patient was given morphine sulphate 15mg intramuscular. Intravenous fluid with normal saline was started while compatible blood was awaited. She was put on $\frac{1}{2}$ hourly observation of the vital signs. The bleeding stopped after 12 hours and the vital signs remained stable. The patient was transferred from the labour ward to the laying in wards after 48 hours.

INVESTIGATION DONE

1. Blood group "A" Rhesus "D" positive.
2. Haemoglobin 9.8 g/dl
Haematocit 30%
3. Urinalysis - Protein - Negative, Sugar - Negative,
PH - 6.0, Cells - less than 5 per high
power field.
4. Kahn test - USR negative.
5. Pelvic Ultrasonograph at 30 weeks

Single fetus in cephalic presentation. Cardiac activity demonstrated and biparietal diameter gave maturity of 30 weeks. The placenta was anterior low lying and in the lower segment.

The findings of ultrasonography were strongly suggestive of placenta praevia. This was communicated to the patient. She was explained the implication of placenta praevia and consequently she was to stay in hospital under constant medical observation till the pregnancy was 38 weeks. At this time she would be done examination under anaesthesia and the mode of delivery would be decided then. In the meantime she was to report any bleeding; not to lock herself in the toilet and to remain in bed most of the time.

PROGRESS WHILE ON THE WARD

At 31 weeks gestation the patient had about of bleeding per vaginum for three hours. She was readmitted to the labour ward where she was sedated with morphine Sulphate 15mg intramuscularly. Half hourly observation were instituted, intravenous fluids in the form of normal saline and 5% dextrose in water were given. The bleeding was slight and the vital signs were stable. The patient was transfused two pints of whole blood. She was transferred to the lying in ward after 24 hours.

At 35 weeks gestation she began to bleed again this time profusely. She also complained of reduced fetal movement. There was no abdominal pains. The patient was transferred to labour ward. The fetal heart rate was stable at 144 beats per minute despite profuse bleeding. Intravenous fluid and a quarter hourly observation were started while awaiting theatre to be ready for emergency examination under anaesthesia. Arrangements for compatible blood was made urgently. The patient was explained that the bleeding had taken an aggressive turn and together with the complain of reduced fetal movement fetal demise was imminent. She was explained about the planned emergency examination under anaesthesia to confirm or rule out major degree of placenta prevea. If a major degree of placenta prevea was confirmed she would be delivered by caesarean section, but if a major degree of placenta prevea was ruled out and if the bleeding was minimal and the cervical dilatation and condition was favourable for rapid vaginal delivery then she might be induced with syntocinon. However the caeserean section might still be preferred in view of the reduced fetal movement. She gave a written consent for caesarean section. The pediatrician was alerted to prepare to receive the baby.

EXAMINATION UNDER ANAESTHESIA

With four pints of compatible blood available, the patient was premedicated with 0.6mg atropine sulphate intramuscularly and taken to theatre.

The surgeon and his assistant, and the scrub nurse were scrubbed, dressed in sterile gowns and gloves in readiness for caesarean section. The nurse had two trays ready: one for examination under anaesthesia and the other for caesarian section.

Under general anaesthesia, the patient was placed in the lithotomy position. The lower abdomen and vulva perineal areas were cleaned with hibitane solution and draped. The bladder was emptied of urine and the catheter left in place.

The external genitalia was normal and using sims speculum the vagina and cervix were examined and found normal. But several large clots were removed from the vagina. The cervical OS was 2-3 cm open and there was active and fresh bleeding from the OS. A bag of membranes and what appeared to be edge of the placenta was noted. The speculum was removed. The right index and middle fingers were moistened with hibitane solution and gently introduced into the vagina. A soft boggy mass was felt in the anterior and lateral fornices. The edge of the boggy mass was felt extending about 2cm across the OS from the left anterior lateral aspect. Slightly more fresh bleeding ensued. The diagnosis of the major degree placenta prevea was made and the assistant with the help of the scrub nurse proceeded with the caesarean section while the surgeon changed the gown and the gloves.

LOWER UTERINE SEGMENT CEASARIAN SECTION

The patient was placed in supine position and the abdomen was cleansed with hibitane solution and methylated spirit solution. Sterile drapes were applied. The abdomen was opened through midline subumbilical incision. The lower uterine segment was found to be unusually vascular with large tortuous and congested veins. Having displaced the bladder down the uterus was opened through an eccliptical transverse incision. Attempts to displace the placenta to one side or the other were futile and provoked much bleeding. It was necessary to cut through the placenta to deliver the baby with care and speed. A male infant was delivered by vertex. He scored poorly but improved. The liquor amnii was blood stained. The anaesthetist gave one vial of syntometrine intravenous and the placenta was delivered manually. The uterine incision was closed in two layers with no. 1 catgut and peritonization done. Inspection of the pelvic organs revealed normal finding. Haemostasis was achieved. The abdominal incision was closed in layers. The urine from the bladder was clear. The total blood loss was 1300ml.

THE POST OPERATIVE MANAGEMENT

The patient recovered well from the anaesthesia. Her blood pressure was 110/80 mmHg and the pulse 92/min regular and good volume. She was transfused with two pints of blood over the next 24 hours. Routine post operative care was provided for as described in the introduction. Haemoglobin on the 3rd day was 11 grams per decilitre. The patient was discharged from the ward on the seventh day on folic sulphate tablets 200mg three times a day and Folic acid tablet 5mg daily for 6 weeks.

LOWER UTERINE SEGMENT CEASARIAN SECTION

The patient was placed in supine position and the abdomen was cleansed with hibitane solution and methylated spirit solution. Sterile drapes were applied. The abdomen was opened through midline subumbilical incision. The lower uterine segment was found to be unusually vascular with large tortuous and congested veins. Having displaced the bladder down the uterus was opened through an eccliptical transverse incision. Attempts to displace the placenta to one side or the other were futile and provoked much bleeding. It was necessary to cut through the placenta to deliver the baby with care and speed. A male infant was delivered by vertex. He scored poorly but improved. The liquor amnii was blood stained. The anaesthetist gave one vial of syntometrine intravenous and the placenta was delivered manually. The uterine incision was closed in two layers with no. 1 catgut and peritonization done. Inspection of the pelvic organs revealed normal finding. Haemostasis was achieved. The abdominal incision was closed in layers. The urine from the bladder was clear. The total blood loss was 1300ml.

THE POST OPERATIVE MANAGEMENT

The patient recovered well from the anaesthesia. Her blood pressure was 110/80 mmHg and the pulse 92/min regular and good volume. She was transfused with two pints of blood over the next 24 hours. Routine post operative care was provided for as described in the introduction. Haemoglobin on the 3rd day was 11 grams per decilitre. The patient was discharged from the ward on the seventh day on folic sulphate tablets 200mg three times a day and Folic acid tablet 5mg daily for 6 weeks.

THE BABY

The baby weighed 2500 grams. The apgar score was 5 at 1 minute and 8 at 5 minutes. The paediatrician sucked the oropharynx and gave oxygen to the baby. His impression was that the baby was normal. It was given vit K. 0.5mg intramuscularly and admitted to nursery. It was fed on 20ml of lactogen 3 hourly and then expressed breast milk. The haemoglobin was 14.1 gram/dl and the haematocrit 45%. He joined the mother after three days.

POST NATAL CLINIC

This was at six weeks post delivery. The mother had no problem and she reported that the baby was doing well. He had attended child welfare clinic once. Lactation had been well established. Her period had not yet resumed. Clinically she was not pale. The abdomen was soft and the surgical wound had healed by first intention. The uterine size was normal and the cervix healthy. She declined any form of contraception. The mother was discharged from the clinic.

COMMENT

In a three year retrospective study Ojwang (1974) reported that conservative management ensured the best outcome for the fetus in patient with placenta prevea treated at Kenyatta National Hospital. Perinatal mortality in his series was three times higher than that reported in developed countries. This patient was managed along similar lines and the outcome was a live fetus. However pedrowitz et al (1965) reported that conservative management was only applicable to one third of the patients with placenta prevea. This depended on the time of onset of the initial episode of haemorrhage and on the degree of the placenta enchroachment upon the internal OS. The patients who were 32 weeks of gestation or more at the initial haemorrhage

did better, so did those who had partial placenta praevia. Hence this patient who had placenta praevia type three had more chances of success on conservative management. The aim of conservative management as was proposed by Macfee (1945) was to minimize the high infant mortality rate due to premature. Hence prolonged intrauterine stay for the fetus is encouraged to achieve an adequate fetal size of 2500 grams. On the other hand immediate termination of pregnancy is undertaken if the patient is at term; in the presence of uncontrollable haemorrhage; in case the patient is in labour; or in the event of intrauterine fetal death at whatever gestation.(2) In this patient conservative management was abandoned at 35 weeks gestation because of the heavy haemorrhage and because of the ominous complain of reduced fetal movements.

Definitive diagnosis of placenta praevia is made during examination under anesthesia by demonstrating placental tissue in the clinical lower uterine segment.(4) This can only be undertaken in an emergency when delivery is urgent or electively when the gestation is 38 weeks.(5) Early placental localization is necessary in order to separate patient whose antepartum haemorrhage is due to placenta praevia and would need prolonged hospitalization from those whose antepartum haemorrhage is due to other causes with normally located placenta and will not need prolonged hospitalization. In this patient pelvic ultrasonography was used to locate the placenta at 30 weeks gestation. Other methods used to localize the placenta include soft tissue placentography; Arteriography; radioisotopic localization; and infra-red Thermography. All these methods have an inherent error and therefore all patients who have had antepartum haemorrhage and the pregnancy continues will be subject of examination under anaesthesia or its modification of examination without anaesthesia at 38 weeks.

In this patient speculum examination was done on admission because the bleeding was assessed as minimal. In some patients with much bleeding this examination may be withheld till much later because it may as well provoke further bleeding while concerted effort are mobilized to visualize the cervix.⁽⁵⁾ The aim of speculum examination is to exclude local cause of antepartum haemorrhage such as carcinoma of cervix, cervical erosion, cervical polyps and vericosities at the introitus and lower end of vagina.

The mode of delivery undertaken in this patient was emergency lower uterine caesarean section. This has several advantages over the classical caesarean section: It has no increased fetal or maternal risk. It makes the placental site accessible to direct visualization and hence easy to control haemorrhage by suturing. Any abnormal and morbid adherent placenta will be noticed at once.⁽⁶⁾ It also obviates the danger of cervical laceration. The placenta in this patient was in the anterior and it was cut through to deliver the baby. This may cause dangerous fetal haemorrhage especially so if the cord is inserted in close proximity to the incision. It may even be cut.⁽³⁾ Ojwang reported a caesarean section rate of 82 percent at Kenyatta National Hospital which compared well with studies elsewhere.

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FOOTLING BREECH IN LABOUR
EMERGENCY CEASAREAN SECTION

Name : S.W.
Age : 23 years
Unit : 717020
Date of Admission - 19.10.85
Date of Discharge - 26.10.85

PRESENTING COMPLAINTS

She was admitted through casualty complaining of labour pains for three hours prior to the admission. She was not draining liquor and she was not bleeding per vaginum.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She had her menarche at 16 years of age. Her period had been regular coming every 28 days and lasting 3-4 days. There was no history of dysmenorrhoea and no history of use of contraceptive. In 1981 she had a term breech delivery at home and the baby died soon afterwards. But the pregnancy had been normal. There was no history of abortion. Her LMP was 15.1.85 and EDD 22.10.85. Therefore the gestation was at 40 weeks.

HISTORY OF PRESENT PREGNANCY

She was attending antenatal clinic at a peripheral health centre where she had booked at 32 weeks. Her general condition had been good. She was normotensive and urinalysis revealed normal findings throughout the pregnancy. The fundal height corresponded with the gestation age and weight gain was within expectation. During all the six clinic attendence the presentation was breech.

PAST MEDICAL HISTORY : There was nothing significant.

FAMILY HISTORY: There was nothing significant

SOCIAL HISTORY

She was educated up to form four and she was a housewife. She did not drink alcohol and she did not smoke.

PHYSICAL EXAMINATION

Her general condition was good. There was no pallor and no pitting leg oedema. She was a febrile well hydrated. The breasts were normal. The blood pressure was 110/70mmHg. The pulse was 80 per minute regular and good volume.

ABDOMENAL EXAMINATION

The patient was having one contraction in ten minutes lasting 20 to 40 seconds. The fundal height was term. The lie was longitudinal and the breech presentation was five fifth above the pelvic brim. The fetal heart was 140 per minute regular. There was no fetal heart rate anomalies.

Cardiovascular system, respiratory system and central nervous system revealed normal findings.

VAGINAL EXAMINATION

The external genitalia and the vagina were normal. The cervix was 75 per cent effaced and the cervical OS was three cm dilated. The membranes were bulging but ruptured during the vaginal examination, upon which clear liquor was obtained. The fetal right foot prolapsed through the cervical OS. There was no cord felt. The pelvis was adequate.

DIAGNOSIS: Footling Breech Presentation in Labour

MANAGEMENT

The patient was explained the findings of the examination. She was made aware that under those circumstances the mode of delivery that would offer her unborn baby the best chance of survival at delivery was by caesarean section. She cooperated and gave written consent.

Her blood group was "O" Rhesus "D" positive. Compatible blood was obtained while plans were underway preparing the theatre for emergency caesarean section. Premedication was given in the form of Atropine Sulphate 0.6mg intramuscularly half an hour before theatre. Intravenous fluids 5 percent dextrose in water 500ml was started. Patient was prepared as described in the introduction. Lower uterine segment caesarean section was performed through a midline subumbilical incision. Breech extraction of a baby girl was performed. The baby scored 6 at one minute, 7 at five minutes and 9 at ten minutes and she weighed 3100 grammes. The amniotic fluid was clear. The uterus was normal.

Syntometrine one vial was given intravenously after the birth of the baby. The placenta was fundal posterior, and was delivered by controlled cord traction. The placenta together with the membranes were complete and weighed 580 grammes. The total blood loss was 300ml. The baby was admitted in nursery but rejoined the mother the following day.

POST OPERATIVE CARE:

Routine post operative care was provided as explained in the introduction. In addition the patient received intramuscular ampicillin 1 gram every six hours for 24 hours and then by capsules 1 gram six hourly for 6 days. She also received dalacin C Sulphate 300mg 8 hourly intramuscularly for 24 hours, and then by capsules 300mg

three times daily for six days. The patient was weaned off intravenous fluids after 24 hours. On the third day her Haemoglobin was 9.8 gram per decilitre. She was started on Folic acid 5mg daily and Fesolates 200mg three times daily. The post operative period was essentially uneventful.

FOLLOW UP

When she was seen at postnatal clinic after six weeks, she was in good health and was having latational amenorrhoea. The subumbilical scar had healed by first intention. The pelvic organs were well involuted. The breasts were normal. The baby who did not accompany her was reported to be in good health and gaining weight.

She was inserted the Lippis loop and discharged from the clinic to be followed up in family planning clinic.

COMMENT

This patient was unbooked and presented already in established labour with breech presentation. Immediate delivery was done. Investigation pertaining to breech presentation could not be undertaken. This include determine the gestation of the fetus by ultrasound since prematurity is asociated with higher incidence of breech presentation. At the same time ruling out multiple pregnancy and congenital anamolies. In normal singleton fetuses external version could be undertaken between 32-34 weeks of gestation.(2)This patient missed this antenatal care although she was in touch with health delivery system!

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She too had had a neonatal death following spontaneous breech delivery at home during her previous delivery. It is not uncommon for breech presentation to repeat itself. (1) At operation no recurrent aetiological factor such as uterine anomalies, pelvic tumor or fibroid could be demonstrated.

Caesarean Section is the preferred mode of delivery for footling breech.(3) This is because footling breech is attended with high perinatal mortality and morbidity if delivered vaginally. The footling breech does not provide good enough wedge to dilate the cervix leading to abnormal labour with early rupture of membranes. During this labour chances of fetal manipulation and traction are increased. Footling breech does not fit snugly to the cervix hence cord accidents are common. They are difficult to predict. Never-the-less abdominal delivery of the breech may be associated with fetal damage and trauma. The major benefit of caesarean section is marked reduction in perinatal mortality which was reported in one series to have dropped from 58 to 29 percent.(4) But long term follow up studies which compared early outcome parameters with behavioural and health criteria at two and half to eight and a half years have reported that breech presented children were similar whether they are delivered vaginally or by caesarean section without being in labour. It should be appreciated that breech delivery whether vaginally or abdominally goes through the same and similar movements.

The child delivered was normally formed. However congenital abnormalities are more frequent in breech compared to non breech deliveries.(4) The malformation include Anencephaly, Hydrocephaly and trisomy, 21,13 and 18. It is therefore most important that before abnormal delivery is contemplated serious malformation be excluded as far as possible.

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FAILED TRIAL OF CEASAREAN SECTION SCAR

Name - M.H.N.
Age - 22 years
Unit - 546585
Date of Admission - 21.8.85
Date of Discharge - 28.8.85

PRESENTING COMPLAINT

She was admitted through casualty with complains of labour pain for four hours prior to admission. The labour pains were mild. There was no history of draining liquor or bleeding per vaginam. She had attended antenatal Clinic in Kakamega and the pregnancy had been normal.

OBSTETRIC AND GYNEACOLOGICAL HISTORY

Her menarche was at 14 years and her cycles had been regular coming every 28 days and lasting 4-5 days. Her parity was 1+1. Her first pregnancy was normal but was delivered by ceasarean section at term due to meconium stained liquor in early labour. The puerperium was normal and the baby was alive and well. The second pregnancy was aborted at 4 months. No evacuation and curattage was done. The last menstrual period started on 22.11.84. The expected date of delivery was 29.8.85. Therefore the gestation was 39 weeks. She had not used any form of contraceptive.

FAMILY HISTORY: There was nothing significant.

PAST MEDICAL HISTORY: There was nothing significant.

SOCIAL HISTORY

She was a married housewife. She was educated up to form four. The husband worked with Crown Paints as laboratory assistant. She did not take alcohol and did not smoke. She was up country for most of the pregnancy but travelled to Nairobi the previous week.

PHYSICAL EXAMINATION

Her general condition was good. She was a febrile and not dehydrated. There was no pallor no Jaundice and no pitting leg oedema. Her blood pressure was 110/70 mmHg. The pulse was 90 per minute regular and good volume. The Thyroid gland and the breasts were normal. Her height was 5ft 4 inches.

ABDOMEN

The contractions were palpable less than one in ten minutes lasting 20 to 30 seconds. The fundal height was term. There was subumbilical midline surgical scar. The lie was longitudinal with cephalic presentation. The head was five fifth above the pelvic brim. The fetal heart rate was 140 per minute regular with no abnormal rhythms.

The Respiratory System, The Cardiovascular System and the Central nervous Systems were essentially normal.

VAGINAL EXAMINATION

The external genitalia and the vaginal were normal. The cervix was 1cm long soft and anterior. The cervical OS was about 3-4 cm dilated. The membranes were intact and not bulging. There was no cord presentation. The sacral promontory could not be tipped. The Ischial spine were not prominent and the pubic angle could take two fingers freely. The Ischial tuberosity were more than four knuckles apart.

PREVIOUS SCAR IN EARLY LABOUR

SUMMARY OF INVESTIGATION

- (1) Urinalysis - PH - 5.0
 - Protein - Negative
 - Sugar Negative
- (2) Blood group "O" Rhesus "D" Positive
- (3) Urgent Intrapartum Erect Lateral Pelvimetry
 - True conjugate - 10.9cm
 - Mid cavity - 13.2 cm
 - Out let - 12 cm

MANAGEMENT

After the intrapartum ELP had demonstrated an adequate pelvis. Labour was allowed to proceed on for trial of the scar. She was explained the implication of Trial of Scar. She gave consent for caesarean section just in case the trial failed. Artificial rupture of the membrane was done, and clear liquor amnii obtained.

Compatible blood was made available, 2 pints. Intravenous drip was set up with 10% dextrose in water, half hourly observation of maternal pulse, blood pressure and temperature were made and charted on the partogram. The fetal heart rate, uterine contraction and colour of the liquor amnii was recorded similarly. The cervical dilatation and descent were recorded. The alert line and the action line were drawn. She was expected to deliver in 6 hours from the time ARM was done if she progressed well.

She was encouraged to empty her bladder every one hour and similarly the lower uterine segment was palpated for tenderness regularly. Urine was tested every hourly for acetone and ketone bodies.

After 4 hours the contractions were 3 in ten minutes lasting 20 to 40 seconds. The fetal heart was regular. The maternal pulse was 90 per minute. The blood pressure was 130/80 mmHg. The liquor amnii was clear. The cervical dilatation was 6cm and cervix was well effaced. The head was three fifth above the pelvic Brim. There was no caput and no molding. Similar findings obtained 2 hours later.

It was decided that the patient was having poor progress of labour despite good uterine contraction.

Trial of scar was therefore abandoned. She was explained that she would have caesarean section and premedication atropine sulphate 0.6mg intramuscularly was given.

Lower uterine caesarean section was performed as explained in the introduction at operation the fetus was found deflected to the right and had a caput formed. The blood loss was 500ml.

THE BABY

A male baby weighing 3100 grams was delivered. The apgar score was 10 at one minute and 10 at five minute. Ergometrine 0.5mg iv was given and placenta delivered manually. It weighed 650 grams. The amniotic fluid was clear. The baby joined the mother.

POSTPARTUM

Routine postoperative care was provided. Patient was weaned off the Intravenous fluid by the second day. Check Heamoglobin on the 4th day was 9.8 d/11 and the PCV was 30 percent. All the stitches were removed on the eighth day and the patient discharged home.

POST NATAL CLINIC

This was visited after six weeks. Her blood pressure was 90/60 mmHg. She was breast feeding and had not resumed her periods. Her general condition was good. The abdominal wound had healed by first intention. She accepted to be inserted Intrauterine contraceptive devices. Lippes Loop was inserted.

The baby who did not accompany the mother to the clinic was reported to be doing well.

COMMENT

This patient was unbooked. She had attended antenatal clinic at a Provincial Hospital only once. She reported here in labour. This emphasizes the opinion expressed by Lawson that in developing countries the risk of rupture of the scar on future delivery be considered when contemplating performing a caesarean section(1). This risk of rupture of previous caesarean section has been reported as 3.14 percent among patients who delivered with a uterine scar(4). This patient may also illustrate a case where an opportunity to impress on her the need for expert antenatal care and hospital delivery for her subsequent pregnancy was missed.

Contraction at the pelvic brim is the main cause of cephalopelvic disproportion(3). Hence selection of patient for trial of scar hinges almost entirely on the anteroposterior diameters of the pelvic brim. Pelvic assessment of this patient revealed an adequate pelvis. This clinical assessment may pick up patient with marked degree of cephalopelvic disproportion (CPD). It is also essential to select patient for definitive radiological pelvimetry. Donald recommends that in some patient this examination may be performed under sedation for more accurate assessment.(3)

This is not practised here. It is usually performed in the antenatal clinic after 36 weeks of gestation. Patients whose sacral promontory are easily tipped are thought to have contracted pelvic brim and no further investigation need to be undertaken. Those whose sacral promontory are not tipped are subjected to radiological pelvimetry for want of definitive diameters.⁽²⁾ Walton (1978) reported that Erect lateral pelvimetry was the most important investigation in the consideration of the patient for Trial of Scar. He further reported that patients whose true (obstetric) conjugate diameter was 10.5cm or more when offered trial of scar 73.9% delivered vaginally. Furthermore success of patients for trial of scar may be predicated by considering the indication for the previous caesarean section. Megarry (1969) reported that if the indication for previous caesarean section was mechanical one the vaginal delivery may succeed in 60% of patient but if the indication for previous caesarean section was non-mechanical one then vaginal delivery will succeed in 80% of patients.

The aim of trial of scar is to reduce rate of rupture of the previous scar at the same time avoid undesirable caesarean section. All patient with a uterine scar are offered vigilant supervision while in labour. Labour is monitored closely for progress. The two criteria used to assess progress are: progressive descent of the presenting part and the progressive dilatation of the cervical OS ⁽²⁾ Criteria for impending rupture of the scar include maternal tachycardia, bleeding per vagina, arrest of labour, signs of fetal distress and tenderness over the scar. Walton (1978) reported that maternal tachycardia of pulse over 100 per minute was the earliest sign of rupture which may be present up to ten hours before the fetus and the placenta are expelled into the peritoneal cavity. ⁽⁴⁾ Bleeding per vaginam and tenderness over the scar were rather unreliable signs. No progress in labour and foetal distress in a patient with previous scar are regarded as a

failed trial of scar and immediate caesarean section is undertaken. This forestalls the rupture of the Scar and fetal demise. In this patient failure was due to poor progress of labour.

Future delivery of this patient will be undertaken by caesarean section. Not because two previous caesarean section scars is an absolute indication for repeat caesarean section, but rather because it seems reasonable that patients who have had two previous sections should not be submitted to the anxieties attendant on attempts at vaginal delivery especially since the attempt may be unsuccessful because of inefficient uterine action or fetal distress even if scar rupture does not occur. (5) Failed trial of scar remove most of the hopes of any future vaginal delivery.

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POST PARTUM HAEMORRHAGE

EXAMINATION UNDER ANAESTHESIA

Name - M.K.
Age - 19 years
Unit - 715061
Date of Admission: 13/10/85
Date of Discharge: 16/10/85

PRESENTING COMPLAINTS

She was admitted through casualty with complaints of intermittent lower abdominal pain and backache for the previous 12 hours to admission. There was no history of bleeding per vagina nor draining liquor amnii. There was no history of dysuria.

PAST MEDICAL HISTORY

There was no history of bleeding tendencies. She had not been admitted in hospital before.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had her menarche at 14 years and she has subsequently had her periods regularly every 28 days and lasting three to four days. She had not used any contraceptive. She was a primigravida. Her last menstrual period was on 26/12/84 and the expected date of delivery was on 2nd October 1985. Therefore, the gestation was 41+ weeks. She had attended her antenatal clinic at Maua Mission Hospital and it had been uneventful.

FAMILY HISTORY: There was nothing significant.

SOCIAL HISTORY: She was a married housewife, a Catholic by religion and educated up to form two. She did not take alcohol and did not smoke.

PHYSICAL EXAMINATION:

Her general condition was good. She was afebrile and not dehydrated. There was no pallor, no jaundice, and no pitting leg oedema. Her blood pressure was 100/70 mmHg, the pulse was 82/min and respiration was 20 per minute. The temperature was 36.8°C.

ABDOMINAL EXAMINATION

The contractions were palpable two in 10 minutes lasting 20-40 seconds. The fundal height was term. The lie was longitudinal with cephalic presentation. The head was two fifth above the pelvic brim. The fetal heart rate was 140 per minute regular with no abnormal rhythms. There was no abdominal tenderness and no abdominal masses.

The respiratory system, the cardiovascular system and the central nervous systems were examined and found essentially normal.

VAGINAL EXAMINATION

The external genitalia and the vagina were normal. The cervix was fully effaced. The cervical OS was 5 cm dilated. The membranes were intact and not bulging with contraction. The umbilical cord was not felt through the membrane. Artificial rupture of membranes was done and liquor amnii lightly stained with old meconium was obtained. The position of the head was right occipital anterior. The

sacral promontory could not be tipped. The ischial spine were not prominent and the pubic angle could take two fingers freely. The ischial tuberosity were more than four knuckles apart. Hence the pelvis was adequate.

DIAGNOSIS Primigravida in Established Labour with meconium stained liquor amnii.

MANAGEMENT OF THE PATIENT

She was admitted for partogram and put on oxygen by mask, 10% dextrose 500ml intravenous infusion and nursed in the left lateral position. The fetal heart rate was observed quarter hourly. Two pints of compatible blood was booked in anticipation for fetal distress.

She made reasonable progress in labour and was in second stage before action line was reached. She was delivered of a female infant who weighed 3600 grams and an apgar score of ten at one minute and ten at five minutes. The placenta and the membranes were examined after delivery, thought to be complete and weighed 750 grams. Intramuscular syntometrine was given to the patient with the birth of the infant's anterior shoulder.

The patient continued to bleed after this measure. Examination revealed a moderately firm uterus. A uterine contraction was stimulated by massaging the uterus. 20 units of syntocinon in 500 ml 5% dextrose was started. However, the patient continued to bleed despite this measures and she was therefore prepared for examination under anaesthesia in theatre.

EXAMINATION UNDER ANAESTHESIA

With compatible blood running general anaesthesia was induced as described in the introduction. The patient was placed in lithotomy position. The vulva, perineum and vagina were cleansed and the patient draped. The bladder was catheterized. Examination of the vulva, and the vagina revealed no injury. The left medio lateral episiotomy had not been repaired but there was no bleeding from it. There was a 1.5m cervical tear on the left side from which little bleeding was occurring.

Exploration of the uterine Cavity revealed no rupture but there was a small amount of retained placental tissue in the fundus posteriorly and left laterally. The placental tissue were removed digitally and the cervical tear repaired with interrupted chronic catgut No. 0 from just above its apex to its end on the cervical margin. Bleeding from the uterus still continued despite these procedures and 20 Unit oxytocin intravenous drip which had been kept running all the time. Repeated palpation of the uterus revealed poor contraction.

The vagina was packed with abdominal packs well soaked in warm normal saline. This was left in for ten minutes. When removed the bleeding had dramatically decreased and the uterus was found to be well contracted.

The episiotomy was repaired. She was started on Ampicillin 500mg six hourly and metronidazole, 400 mg eight hourly. Anaesthesia was discontinued and she was sent to the acute room, for further observation. Oxytocin drip was continued. The vital signs observed every half an hour, for vaginal bleeding and any distension of the uterus. Foleys Catheter was kept in place for 24 hours to keep bladder empty. The total blood loss was estimated to be 1200 ml.

PROGRESS

She did not bleed again. She was given three units of blood while in labour ward and then transferred to the lying in wards after 24 hours. The oxytocin drip was replaced by oral ergometrine 0.5 mg eight hourly for the subsequent five days.

A check PCV before discharge was 29%. She was discharged to attend postnatal clinic after six weeks. During the intervening period, she was put on Fersous Sulphate 200mg 3 times a day and Folic acid 5mg daily.

POST NATAL CLINIC

She attended post natal clinic six weeks after discharge. She had established lactation but had not resumed her periods. Her general condition was good. She was not anemic. She was inserted lippes loop for contraception.

COMMENT

Post partum hemorrhage is the most common cause of serious blood loss in obstetrics. Makokha (1980) reported that postpartum hemorrhage was responsible for 14% of maternal mortality in his series at Kenyatta National Hospital.(1) In Dar-es-Salaam, Tanzania Mtimavalye (1980) reported that post partum hemorrhage was responsible for 9.3% of maternal death.(2) The definition of postpartum haemorrhage is arbitrary and it has most often been defined as blood loss of over 500ml from the birth canal after the delivery of the infant.(3) When post partum haemorrhage occurs within the first 24 hours it is called primary post partum haemorrhage. After this time it is secondary post partum haemorrhage. Netwon (1966) demonstrated that blood loss resulting from vaginal delivery within 24 hours was on average at least 546ml.(4) Hence an estimation of blood loss in excess of 500ml in many institutions therefore may call attention to the mothers who are bleeding excessively and warn the obstetrician that dangerous haemorrhage is imminent. Lawson emphasizes that in the tropics an estimated blood loss of more than 250ml should be taken as a constituting post partum haemorrhage and urgent treatment given.(5)

Immediate causes of post partum haemorrhage include Trauma to the genital tract, Hypotonic myometrium and retention of placental tissue. Trauma to genital tract include, Large episiotomy, Laceration of the perineum, vagina or cervix and rupture of the uterus. Conduction anaesthesia, over distended uterus, (Large fetus, multiple fetuses, hydranmios), prolonged labour high parity and uterine infection predispose to Hypotonic myometrium.

This patient was a primigravida and labour had not been prolonged. The baby was above average and may have contributed to uterine hypotonicity due to over distention of the uterus. Few placental tissues were removed from the uterus at examination under the anaesthesia, but this does not explain the cause of the hypotonicity of the uterus. The general anaesthesia may have contributed to the uterine atony but bleeding in this patient antedated the general anaesthesia.

The usual measure taken to combat post partum haemorrhage include massaging the uterus and intravenous oxytocics. This failed to arrest the bleeding in this patient. This was unusual in the absence of uterine rupture, bleeding cervical laceration. It was when the vagina was packed with warm saline pack that the bleeding subsided. When properly done the normal saline should be instilled into the uterus at a temperature of 45.5°C and 48°C. Moir and Mayerscough feel that the need for this treatment had been eliminated by intravenous oxytocics which were ineffective in this patient.(6)

If bleeding continued surgical treatment would have been considered. These include bilateral ligation of the Hypogastric arteries. This would have been appropriate for this patient because it has been reported not to affect future reproductive function (7). Transcatheter arterial embolization had been proposed by Byrant et al. as an alternative to hysterectomy.(8) However it involves X-Ray facilities. Abdominal hysterectomy would have been too drastic for this young patient hence it should be considered as last resort.

Other methods that would have been attempted in this patient were: Bimanual compression of the uterus and massage with abdominal hand usually will effectively control hemorrhage from the uterine atomy.⁽⁹⁾ This unfortunately was not attempted in this patient. Prostaglandin F2 alpha and intramuscular and intramyometrium have been used in patients with very severe intractable post partum haemorrhage with very impressive results.

The best treatment for post partum haemorrhage is anticipation and prevention. In patients who are at risk treatment should start in antenatal period to build up the patient blood levels. In the patient's future pregnancy labour will be contacted with an intravenous line running. Active management of third stage will be instituted. This involves booking for blood at the onset of labour and giving oxytocin intravenous at the birth of the anterior shoulder. More oxytocin is infused after the placenta is delivered untill the uterus is well contracted. It is now mandatory that this patient's future deliveries have to be in hospital.

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PROLONGED LABOUR
EMERGENCY CEASAREAN SECTION
USE OF ACTION LINE

Name : G.M.
Age : 19 years
Unit : 706310
Date of Admission - 23.8.85
Date of Discharge - 1.9.85

PRESENTING COMPLAINT

She had been referred from an up country Health Centre because she had been in labour for 2 days but the head was still free. She was not draining liquor and there was no history of bleeding per vaginam. She had attended antenatal clinic at the same health centre and the pregnancy had been normal. There was no history of Dysuria, urgency or frequency of micturition.

OBSTETRIC AND GYNEACOLOGY HISTORY

Her menarche was at 13 years and her cycles had been regular coming every 28 days and lasting 4 - 5 days. She was a primigravida. Her LMP was on 10/12/84 and her EDD on 17/9/85. hence she was at 37 weeks gestation. She had not used any form of contraceptive.

FAMILY HISTORY: There was nothing significant

PAST MEDICAL HISTORY: There was nothing significant

SOCIAL HISTORY:

She was a married housewife and stayed with the husband at Ongata Rongai. She did not smoke nor did she take alcohol.

PHYSICAL EXAMINATION

Her general condition was good. She was afebrile and not dehydrated. There was no Pallor, no Jaundice and no pitting leg oedema. The blood pressure was 110/70mmHg, pulse was 90 per minute regular and good volume. The breast were normal and the Thyroid gland was not enlarged. The body temperature was 36.5°C.

ABDOMENAL EXAMINATION

The contractions were palpated one in ten minutes lasting 20 to 30 seconds. The fundal height was term. The lie was longitudinal with cephalic presentation. The head was five fifths above the pelvic brim. The fetal heart rate was 140 per minute regular with no abnormal rhythms. There was plenty of liquor amnii.

The respiratory system, the cardiovascular systems and the central nervous systems were normal.

VAGINAL EXAMINATION

The external genitalia and the vagina were normal. The cervix was long (about 1½cm) soft and anterior. The cervical OS was about 1 - 1½ cm dilated. The membranes not were bulging and there was no draining of liquor amnii. The sacral promontory was tipped at 11cm. The ischial spine were not prominent. The pubic angle was wide and could accomodate two fingers breadth freely. The pelvis was boardline.

DIAGNOSIS : 1. Prolonged Latent Phase of Labour
2. False Labour
3. Urinary Tract Infection ?

INVESTIGATIONS

- (1) Blood group 'O' Rhesus 'D' Positive
- (2) Kahn test - Negative
- (3) Haemoglobin - 12.9 g/dl
- (4) Haematocrit - 38 percent
- (5) Urine - PH - 5
 - Sugar - Negative
 - Protein - Negative
 - Ketones - Negativecells <5 per high power microscopic field

MANAGEMENT AND PROGRESS

Patient was admitted for observation to confirm whether this labour would progress or would abate Spontaneously. She was given pethidine 100mg intramuscularly and ampicillin 500 mg start intramuscularly then six hourly. Intravenous fluid with 10% dextrose 500ml was started and given every 4 hours. She was nursed in left lateral position. Routine observation were made on the partogram ½ hourly.

During the first four hours on the ward the patient picked up the contraction two every 10 minutes lasting 20 - 40 seconds. The head was 4/5 above the pelvic brim. The cervix was well effaced and the cervical OS was 3cm dilated. Membranes were still intact and there was no cord presentation. Fetal observation were normal. Artificial rupture of membranes (ARM) was done and clear liquor obtained. There was no cord presentation and caput formation. The position was left occiput anterior. At this time the alert line and the action line were drawn on the partogram. The patient was expected to deliver in seven hours time.

According to the partogram, the contractions did not improve after ARM. For four hours the contractions remained the same. The cervix was fully effaced and the OS was 4 cm dilated. There was no caput and no molding. The fetal head was four fifth above the pelvic brim. the other observation on the partogram were normal.

DIAGNOSIS: Inco-ordinate uterine action.

PLAN: AUGMENTATION OF LABOUR

She was given pathidine 100 mg intramuscularly. Blood was taken to obtain compatible blood in case this patient may later go to theatre. Syntocinon drip 5 units in 500ml of 5% dextrose was started at 10 drops per minute then escalated every 30 minutes by 10 drops per minute. At 30 drop per minute the contractions were 3 in ten minutes lasting 20 to 40 seconds and the drip was maintained at that rate.

After four hours of augmentation of labour (i.e. 12 hours since admission and 8 hours since ARM was done). The cervical dilatation was 6 cm. and the fetal head was four fifth above the pelvic brim despite good contraction. the action line was now approached. Furthermore, the vaginal examination revealed second degree molding of the head. Other observation remained normal.

DIAGNOSIS: PROLONGED LABOUR DUE TO CEPHALOPELVIC DISPROPORTION

PLAN: Emergency caesarian section.

Patient was given explanation as to why she had not been delivered and that it was necessary to deliver her by caesarean section. She gave written consent. She was prepared for theatre.

An emergency lower uterine caesarean section was performed as described in the introduction. The operation was without any complication and pelvic organs were normal.

THE BABY

A male infant was delivered whose apgar score was 8 at one minute, and 10 at 5 minutes. The birth weight was 3260 gram. There was moderate molding of the head. The amniotic fluid was clear. The placenta and membranes were complete and weighed 600 gram. The total blood loss was 600ml.

The baby was admitted in the nursery due to the molding of the head. It joined the mother on the third day.

POST OPERATION

Routine post operative care was provided. She was weaned off intravenous fluid on the second day. The course of ampicillin and Dalacin C Sulphate was continued for five days. Haemoglobin was 10.5g/dl on the fourth day. Patient was discharged on the seventh day with the baby.

POST NATAL CLINIC

This patient did not attend post natal clinic at Kenyatta National Hospital.

COMMENT

This patient illustrated the difficulties that has attended the definition of onset of labour. She was primigravida who had been referred from an up country maternity home where she had been in labour for two days. According to O'Driscoll and Meagher (1986) she was not in labour, since they define labour as painful uterine contractions accompanied by a show, spontaneous rupture of membrane or dilatation of the cervix(1). However, by the

time she arrived KNH, she was in labour. Although the onset of labour may be sudden in some women in others the onset of labour is gradual with intermittent and indefinite warning which may or may not be significant(2). In this later group of patients it is not easy to know when exactly labour started. this inherent problems of defining onset of labour explains why O'Driscoll defines onset of labour as the time the patient is admitted in labour ward.(1) The reasons given for this definition are:

- (1) The time of admission is decided by the woman herself
- (2) The professional responsibility begins when a woman elects to place herself under care
- (3) The duration of labour can be recorded accurately for purpose of comparison and
- (4) The mothers themselves tend to recall the duration of labour in this manner.

For this patient then the onset of labour would be taken as the time she came in contact with the health services at the up country maternity home.

The definition of prolonged labour has changed over the years. Before 1961 Jeffcoate defined prolonged labour as labour extending over 48 hours.(2)After which time 2.5% of the parous women would be undelivered while 10% of the primigravida would still be undelivered. In 1963 prolonged labour was thought to last for more than 36 hours. This was reduced to 24 hours in 1968 and in 1972 duration of labour has been confined to 12 hours (1) Donald (1979) stated that the optimum duration of labour to be between 6 hours and 12 hours(3) Primigravida taking a few hours longer than multigravida.. However Ayangade (1983) has reported well supervised labour of 20 hours among primigravida and 14.6 hours among multigravida and spontaneous delivery of the labour with an average duration of 15.5 hours.(4) These two observations come from a community with different socio economical status. This may affect the absolute figures.

The causes of prolonged labour in primigravida include inefficient uterine action, persistent occiput posterior and cephalo-pelvic disproportion. Whereas in the parous woman prolonged labour or slow progress of labour is caused by obstruction caused by fetal complication such as malpresentation and malformation. This patient had cephalo-pelvic disproportion and since this diagnosis cannot be made in the absence of good efficient uterine contraction it was necessary to augment the contraction with syntocinon. Dublin technique was used.(5) This ensures good uterine contraction and when these contraction failed to effect progress cephalo pelvic disproportion was confirmed.

The complication of prolonged labour include maternal ketoacidosis and dehydration;; chorioamnionitis and fetal distress and lastly fetal demise. Puerperal sepsis may add on the picture.

The aim of management of labour is to predict early enough those labours that are likely to be prolonged and deliver them by caesarean section. According to Donald (1979) and O'Driscoll(1986) any parturient not delivered by twelve hours or nearly so by twelve hours should be delivered by caesarean section. Philpott (1972) developed the alert line and the action as a means of monitoring the labour. Alert line is a modification of the mean cervicographic progress of the slowest 10% of normal primigravida patient admitted in active phase of labour - this is the cervix at least 3 cm dilated and 100% effaced. It is a straight line drawn on the cervicograph beginning at 1cm dilation at zero time and progressing at nine hours from admission. This line compares with Friedmans statistical limit for cervicographic progress in primigravida patient in the active phase of labour have a cervical dilatation of 1.2cm/ hour and therefore her universal application.

Action line is an arbitrary line parallel and four hours to the right of the alert line. These two lines were used in this patient and assisted us to intervene at the appropriate time. Most labours should be on the left of the alert line. The action line offers us the farthest time that we can safely observe abnormal labour.

The patient was kept well hydrated and prophylactic antibiotic were given during labour and puerperium.

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RUPTURED PREVIOUS SCAR
SUBTOTAL HYSTERECTOMY - LIVE BABY

Name : H.W.
Age : 23 years
Unit No : 531912
Date of Admission : 24/10/85
Date of Discharge : 4/11/85

PRESENTING COMPLAINTS

The patient was alright until 8 hours prior to admission when she started labour pain. The onset was insidious and the pain was weak. There was no history of bleeding per vaginam nor draining of liquor.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had her menarche at 14 years. She was para 1+0. her last menstrual period was on 20.1.85 and the expected date of delivery was 27.10.85. The gestation was thirty nine weeks. Her previous pregnancy was normal and reached term. She was delivered in 1982 by emergency caesarean section due to meconium stained liquor amnii in early labour. The puerperium was normal and the wound healed by first intention. There was no history of peruperal sepsis. The baby was alive and well. She did not use any form of contraceptive.

HISTORY OF PRESENT PREGNANCY

She was booked in the antenatal clinic at Kenyatta National Hospital at 29 weeks of gestation. She was normotensive throughout the pregnancy. urinalysis revealed normal findings on all occasions. She gained weight normally. Pelvic assessment was done at 36 weeks and the scral promontory could not be tipped. At 38 weeks of gestation an Erect Lateral Pelvimetry was done which

revealed; true conjugate of 10.8 cm; mid-cavity diameter of 11.4°C and outlet of 10.9cm. She was therefore planned for Trial of scar. The total number of clinic visit were seven.

PAST MEDICAL HISTORY: There was nothing significant.

FAMILY HISTORY: There was no history of pulmonary tuberculosis, Diabetic mellitus and hypertension or twins.

SOCIAL HISTORY

She was a married housewife. She was educated to form four. Her husband was similarly educated to form four and was a civil servant. She neither took alcohol nor smoked.

PHYSICAL EXAMINATION

Her general condition was good. The height was four feet and five inches. The blood pressure was 110/70 mmHg. The pulse was 80/per minute. The temperature was 35.6°C. There was no anaemia and she was not dehydrated. The breasts were normal and active.

THE RESPIRATORY SYSTEM, CARDIOVASCULAR SYSTEM AND CENTRAL NERVOUS SYSTEM were examined and revealed normal findings.

ABDOMINAL EXAMINATION

There was a midline subumbilical scar from the previous caesarean section. There was no tenderness over the scar. There was palpable uterine contraction one in ten minutes lasting 20 to 40 seconds. The fundal height was term longitudinal lie cephalic presentation and the head was five fifth above the pelvis brim. The fetal heart rate was 144 per minute. There was no foetal heart rate abnormality.

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VAGINAL EXAMINATION

The external genitalia was normal. The vagina was moist and the cervix was fully effaced and the OS was 4 cm dilated. The membranes were bulging with contraction. The position was left occiput anterior. The cord was not felt. There was no caput or molding. The pelvis felt adequate clinically.

DIAGNOSIS: ACTIVE STAGE OF LABOUR WITH PREVIOUS CEASAREAN SCAR

SUMMARY OF INVESTIGATION

- (1) Urinalysis - Normal finding
- (2) Blood group "B" Rhesus "D" Positive
- (3) Serology for syphilis - Negative
- (4) Haemoglobin 12.0 g/dl
- (5) Haematocrit - 37.0 percent
- (6) Erect lateral pelvimetry
 - True conjugate - 10.8 cm
 - Mid cavity diameter - 11.4 cm
 - Outlet Diameter - 10.9 cm

MANAGEMENT: TRIAL OF SCAR

Routine observation was instituted for the patient in first stage of labour as described in the introduction and the partogram was kept. In addition an intravenous infusion was set up with 10% dextrose in water 500 ml. The blood was taken for type and cross match and compatible blood obtained in readiness for any eventuality. Particular attention was focussed on the maternal pulse the descent of the head and the cervical dilatation. The scar was refrequent palpated for tenderness.

Artificial Rapture of memberanes was performed at the onset of management and clear liquor amnii was obtained. The patient was given pethidine 100mg intramuscularly.

PROGRESS OF TRIAL OF SCAR

The patient was reviewed after four hours. The contractions were strong, three in ten minutes and lasting 30 - 40 seconds. The fetal heart rate was 144 per minute regular and no morbid fetal heart rate. The maternal pulse was 130 per minute and regular. The head was four fifths up. The blood pressure was 110/70 mmHg. There was no scar tenderness. Vaginal examination reveals caput formation. The liquor was then meconium stained and the dilatation was 6cm. An impression of failure of trial of scar and impending rapture of the scar was entertained. The patient was explained that she had to be delivered by caesarean section. She gave written consent.

SUBTOTAL HYSTERECTOMY

Patient was prepared as described in the introduction and taken to theatre. Examination under anaesthesia confirmed the previous findings.

Abdominal wall was opened through a subumbilical incision by excising the old scar. There was blood stained fluid in the peritonium and oedema of the peritonium of the vesico-uterine pouch. There was a retroperitoneal haematoma around the old scar. On opening the peritonium through the transverse incision over the haematoma ruptured scar was noticed and baby boy was delivered carefully but with speed through the ruptured scar which did not need extension. The placenta was delivered naturally. Bleeders were clamped with uterine clamps. Examination of the ruptured uterus revealed that it was almost circumferential the two parts being held by a posterior piece about 3 cm wide. Both uterine arteries had been severed. The round ligaments were double clamped and divided between the clamps and ligated. The broad ligaments were double clamped and divided between clamps. The lateral point was transfixed. The uterine arteries

were similarly transfixed. The posterior peritoneal flap was prepared. haemostasis was achieved and peritonization performed. Instrument count and swabs were reported correct and the abdomen wall closed in layers. The blood loss was 1000ml. The catheter was removed with clear urine.

THE BABY

A mature male baby weighing 3000 grams was delivered. It scored 6 at one minute and 8 at five minutes. It had aspirated meconium stained liquor and hence it was admitted to nursery. It was put on gentamycin and crystopen intramuscularly. It improved and joined the mother on the fourth day.

THE PLACENTA

The placenta was normally situated. It weighed 520 gram. The membranes were complete. The liquor was heavily meconium stained.

POST OPERATIVE PERIOD

Post operative care was provided for as described in the introduction. In addition three pints of compatible blood was transfused and a full course of antimalarial given, i.e. choloquine tablets 4 at once 2 after 6 hours and 2 daily for 3 days. Check haemoglobin was 12.7 grammes per decilitre on the fourth post operative day. Patient was discharged well on eleven post operative day.

POST NATAL CLINIC

Patient appear for post natal check up on eighth post operative week.

Her general condition was well. The blood pressure was 110/70 mmHg., urinalysis revealed normal findings. She was not anemic, her weight was 56 Kg. She was having lactational amenorrhoea. The surgical wound had healed with first intention.

COMMENT

As long as a woman with a previous uterine scar is allowed to labour, there will always be the risk of the scar rupturing. This patient confirms the reality of this risk. She was a patient who was apparently selected well at the antenatal clinic. There was no history of post operative sepsis to suggest deficiency in the healing of the previous caesarean scar. The pelvic assessment was done both clinically and radiologically and true conjugate exceeded 10.5cm. Vigilant supervision of the labour was exercised as stressed by McGarry 1969.(1) But the patient still had scar ruptured leading to loss of her uterus. Patients on trial of scar should be reviewed earlier than the usual 4 hours as was done in this patient. This might have contributed to the uterine rupture. It is because of the risk of rupture of the old scar that for a long time conservatism reigned in the obstetrics under the dictum that once a caesarean section always a caesarean section. In the recent past this conservatism has given way to trial of scar in specially selected patients. Several institutions have given guideline for the procedure of trial of scar. A good example is the American college of obstetricians and gynecologist which have set the following guideline.(4)

"(1) The previous type of caesarean section must be documented as a low transverse cervical procedure.(2) A fully privileged obstetrician must attend the delivery.(3). A large-bore intravenous catheter must be in place throughout the procedure.(4)Two units of blood must be available, (5) the delivery room staff, anaesthesiologist and nursery

staff must be advised of the procedure.(6) Continuous fetal monitoring must be done (7) The patient must be adequately informed of the trial of labour process and give her consent.(8) The attending physician and hospital personnel must be prepared to accomplish an emergency operative delivery within 15 minutes and (9). The uterine scar must be evaluated after delivery."

These guidelines were observed during the labour for this patient. However no written consent was obtained for the procedure and since the uterine scar did rupture, evaluation of the scar after delivery was obviated.

The selection of patients with previous caesarean scar rests heavily on the adequacy of the pelvic brim as determined by clinical assessment and radiological pelvimetry. The cut off-true conjugate is 10.5cm.(3) The baby must present in vertex and the patients goes in spontaneous labour. As illustrated in this patient the knowledge of the pelvic diameters do not altogether remove the risk of scar rupture. However the greater majority of failed trials and rupture of the scar (64.9%) occur in those patient in whom X-Ray assessment was not performed. The history must also include the indication of the previous caesarean section. Trial of scar may not be undertaken if the indication for the previous section is recurrent e.g. contracted pelvis at the brim. It has also been reported that fetal distress appear to reccur in subsquent labours.(4)

Walton 1978 reported that the incidence of uterine rupture was 0.42 percent at Kenyatta National Hospital, but the incidence of scar rupture rate was 3.14%. The caesarean section rate at Kenyatta National Hospital in 1975 was 20%. This was reported as very high when compared to 3.5% reported for England and Wells.(3) The implication of this high rate is that patients with previous caesarean section scar will increase year after year. More and more

patients will be selected for trial of scar. To avoid scar rupture early sign of impending rupture will be watched for vigilantly. Walton (1979) reported that the early signs of impending rupture of the uterus were maternal tachycardia and arrest of cervical dilatation. In this patient maternal pulse was raised over 100/min (130/minute). But the dilatation of the cervix was not known to be arrested. However impending rupture was diagnosed early enough to deliver a live baby .

Subtotal hysterectomy was performed in this patient because the extent of the rupture scar. According to Lawson (1967) the decision to repair the uterus showed not be influenced by a desire to conserve child bearing function or menstruation, nor should hysterectomy be performed just because it removes a damaged and infected organ but rather the correct procedure in each individual case is the one which is shortest and produces the least shock and this gets the patient off the Operating table in the best condition.(5) Walton reported that in most of the patients with rupture of scar at KNH hysterectomy was the best choice.

Rupture of the previous caesarean scar can be prevented in several ways: Firstly by keeping the caesarean section rate as low as possible. High rate of caesarean section does not appear to improve perinatal mortality. This has been reported by O'Driscolls at the national maternity Hospital Dublin, Ireland who demonstrated a drop in perinatal mortality from 42 to 19 per 1000 live birth during the past 15 years while a stable rate of caesarean section of less than 5 percent was maintained.(6) Secondly a proper selection of patients for trial of scar. And thirdly strict adherence to established guidelines during the vigilant supervision of labour during the trial of scar. All those patients not selected for Trial of scar should be delivered electively by repeat caesarean section.

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SEVERE PRE-ECLAMPIC TOXEAMIA - TERMINATION OF PREGNANCY -
CLASSICAL CAESAREAN SECTION

NAME - M.N.
Age - 30 years
Unit - 736869
Date of Admission - 18/3/86
Date of Discharge - 14/4/86

PRESENTING COMPLAINTS

She was admitted from the Antenatal Clinic complaining of swelling of the feet and feeling blown up for the previous 3 days. There was no history of blurring of vision and tightening of her wedding ring. She did not complain of epigastric pains and headaches.

She was para 3+0. Her menarche was at 14 years and cycles were regular coming every 30 days and lasting 3-4 days. Her first pregnancy was delivered SVD at term following uneventful pregnancy in 1974. The baby's weight was 4000 grams and was alive and well. She had normal puerperium. In 1980 she was delivered of her second pregnancy by caesarean section at term due to elevated blood pressure. The baby weighed 3500 grammes. He is alive and well and the puerperium was normal. In 1982 she was delivered of her third pregnancy due to chronic fetal distress discovered at amniocentesis at 38 weeks gestation. The baby weighed 3000 grammes and was alive and well. She had had elevated blood pressure during that pregnancy.

She used IUCD from 1980-1982.

PAST MEDICAL HISTORY

She had not been admitted for any other illness. However, during her previous two pregnancies she developed elevated blood pressure which subsided after delivery and remained normotensive during the intervening period. She was transfused once during the second caesarean section.

FAMILY HISTORY:

Her mother had a set of twins so had her brother and sister. No family history of Hypertension, Diabetes and Tuberculosis.

SOCIAL HISTORY:

She was educated up to form four and she worked as a typist. Her husband was a Sales representative. She did not drink nor smoke.

HISTORY OF PRESENT PREGNANCY

She was booked in Antenatal clinic at 12 weeks gestation because of two previous caesarean section and she had elevated blood pressure during the previous pregnancies. She was followed in the clinic throughout the pregnancy.

At 24 weeks gestation she developed elevated blood pressure of 140/100 mm hg and trace albuminuria. She was admitted and blood pressure settled on bed rest and sedation. She was discharged the following day.

Also at 26 weeks gestation she was admitted with complains of headaches swelling of the feet and she was found to have an elevated blood pressure of 140/90 mm hg a trace of albuminuria and mild pitting oedema. The blood pressure settle down on bed rest and sedation. She was discharged to attend clinic after four days.

PHYSICAL EXAMINATION:

Her general condition was fair, her height was 5ft 2in. The weight was 83Kg. There was no pallor, no jaundice, slight bilateral pitting oedema. Blood pressure was 190/110 mmHg and pulse was 82/ min Regular and good volume. The body temperature was 36.5°C. The breasts were well developed, active and had no masses. The thyroid gland was not enlarged.

The respiratory system, the cardiovascular system and the central nervous systems were examined and found essentially normal.

ABDOMINAL EXAMINATION

The fundal height was thirty weeks gestation. The fetus was in longitudinal lie and was presenting at the pelvis by cephalic. The head was still 5 fifth above the pelvic brim. The fetal heart rate was 142 per minutes and there was no morbid fetal heart rhythms.

VAGINAL EXAMINATION was not indicated at this stage.

DIAGNOSIS: SEVERE PET AT 32 WEEKS

INVESTIGATION DONE: Summary

- (1) Blood group - O Rhesus "D" Positive.
- (2) Serology - Negative.
- (3) Haemoglobin - 10.0 grams per decilitre
- (4) Blood smear for Malaria - No parasites seen on three occasions
- (5) BUN - 3.4 mm MOL per litre
Na - 137 " " " "
K - 3.0 " " " "
- (6) Creatinine 84mm MOL per litre (62-106)
- (7) Uric acid 505 mmol per litre (normal = 120-420)
- (8) Urinalysis - Proteinuria ++, Sugar - Negative

TREATMENT

She was given bolus of diluted hydrallazine 20mg intravenous and more 40mg hydrallazine was put in drip to be titrated against the blood pressure so as to keep blood pressure between 90 - 100mm Hg diastolic. Tablets of aldomet 500mg three times per day and tablet hydrallazine 50mg three times daily were also started. She was given valium 10mg intramuscularly.

She was admitted in acute room and put on half-hourly observation of blood pressure, respiratory rate and pulse. The input and output chart was kept. Protenuria was tested for in every specimen of urine voided and Esbatch test was set daily.

PROGRESS DURING TREATMENT

DAY NO	INPUT	OUTPUT	K+	BUN	PROTEINURIA	ESBATCH
2	1100 ml	600	3.0	4.4	++	1.0 gram
3	1700 "	800	4.8	4.4	+++	1.5 gram
4	2500 "	1900	4.0	6.5	++++	2.5 gram
5	3100 "	400	5.5	8.0	+++	3.0 gram
6	200 "	800	5.5	10.7	+++	3.0 gram

Despite Intrevenous Hydrallazine 80mg and aldomet, the blood pressure remained between 210/120 and 190/110 mmHg. As seen from the table above, the renal function were detororiating. This was characterized by Oliguria, Raising K⁺ level and BUN, persistant massive proteinuria.

Therefore on the sixth day it was decided that the patient be delivered.

She was informed about the plan to deliver her before term. Since she had had two previous caesarean sections and the baby was premature, she was to be delivered by caesarean section again. She gave written consent and she was prepared for theatre. Premedication was given as Atropine sulphate 0.6 mg half an hour before taking the patient to theatre.

DELIVERY

While on the operating table patient was aseptically catheterized 200ml of concentrated urine was obtained and the catheter was left behind. Abdominal was cleaned with savlon and methylated spirit sterile drapes were applied.

General anaesthesia was induced with 250mg Thiopentane sodium intravenously. Under suxomethonium 100 mg an oro-Tracheal airway 8.5 portex was introduced. The anaesthesia was maintained by nitrous oxide 5 litres per minute and oxygen 5 litre per minute too. Halothane was given in doses of 0.5%. Pavalon 4mg intramuscularly was given as muscle relaxant.

The anterior abdominal wall was opened through a lower midline subumbilical incision as explained in the introduction. The old scar was excised.

On opening the abdominal wall the lower uterine segment was found involved in heavy adhesion. This involved the small intestine, the large intestine and the anterior abdominal wall. The uterus was posterior to the greater omentum which was stuck on the anterior abdominal wall. Attempt at releasing the adhesion to identify the lower uterine segment provoked heavy bleeding and proved likely to injure the bowel and or the bladder. An incision was made through the omentum to expose the uterine fundus and a classical caesarean section was performed though the midline incision in the upper uterine

segment. As soon as the uterine cavity was entered the incision was extended up and down with the scissors. The membranes were ruptured and delivered baby girl by breech who scored poorly but improved later. The placenta was delivered manually.

Frusamide 80mg i.v. was given with the delivery of the baby and syntocinon 5 iu added to the 500ml of normal saline in drip. The uterine incision was repaired in two layers of continuous catgut number 2 and persistent bleeders were controlled by interrupted stitches of figure of eight along the incision.

The right tube and ovary could not be found probably involved in the adhesion. Haemostasis was achieved. The instrument and swabs count was correct. Abdominal wall was closed in layers as described in introduction. The blood clots were cleared off the vagina. Blood loss was estimated as 700 ml.

During the operation the blood pressure dropped from 200/130 at the beginning to 110/90 soon after induction of anaesthesia.

POST OPERATIVE TREATMENT

Routine post operative care was provided as described in the introduction. But in addition patient was nursed in the acute room. Hydrallazine 40mg was put in the drip and titrated with blood pressure to keep diastolic pressure between 110-90 mmHg. Daily esbatch was set and input and output chart kept. Patient was transfused with three pints of blood. Antibiotics were started. Blood pressure remained elevated throughout the first post operative day raising to 240/130 mmHg. She was therefore put on the following drugs in addition:

- (1) Inderal 1mg 8 hourly intramuscularly.
- (2) Catapres 0.15 mg 8 hourly.
- (3) Tablets of Aldomet 500mg three times a day.
- (4) Tablets Chloroquine.4 start then 2 after 6 hours.
Then 2 daily for 3 days.
- (5) Valium tablet 10mg three times a day.

By the fourth day the blood pressure was down to 160/100mm Hg urine output was ranging between two and 3 litres per day. BUN dropped to 3.3 mmol per litre. Proteinuria became Trace and Esbatch precipitated no protein. She was therefore thought to be getting out of danger and transferred to lying in ward.

On the fifth post operative day she became restless, complained of coughing and chest pain and spiked a temperature of 38.4°C, then blood pressure remained 180/100mmHg. Examination of the chest revealed bilateral crepitation at the bases and chest XRay showed infiltration of the lung parenchyma at lower lung field. She had developed post operative bronchopneumonia. She was put on crystalline penicillin and cough sedative and physiotherapy. She improved well.

The stitches were removed on 8th post operation day.

THE BABY

Female premature baby was delivered and the apgar score was 1/1 3/5, 8/10. The Amniotic fluids was clear. The birth weight was 1700 grams.

The placenta was complete with membrane and it weighed 290 grammes.

The baby was admitted to nursery because of prematurity. She lost weight down to 1543 grams during the first week and then started to gain weight again. At discharge the weight was 1740 grams. She did not develop any respiratory distress syndrome but developed physiological jaundice.

DISCHARGE

She was discharged home together with the child on 21st post operative day. The blood pressure was 140/90 and patient was advised to attend medical out patient clinic.

POSTNATAL CLINIC

She was in good health. Her blood pressure was 140/90mmHg. The urinalysis was normal. The abdominal scar had healed well with first intention. Pelvic organs had involuted well. She was inserted the intrauterine contraceptive device. She was instructed to be followed up in medical clinic.

The baby was breast feeding and had gained weight but did not accompany the mother to the clinic.

COMMENT

This patient was a known case of chronic hypertension, which had complicated two of the previous pregnancies. During her previous two pregnancies pre-eclampsia was superimposed on the chronic hypertension.

She was booked in Antenatal clinic at 12 weeks gestation and her blood pressure was noticed to raise from 120/80 at booking to 140/90 mm Hg at 18 weeks. The danger of chronic hypertension is that it is one of the major predisposing factor to pre-eclampsia. It has been reported that if a blood pressure of 140/90 in the first half of

pregnancy is evidence of chronic hypertension then the affected woman has an approximately five fold increased risk of later pre-eclampsia as compared to normotensive individual. (1)(6) The patient had been admitted twice during this pregnancy with elevated blood pressure which responded well on bed rest.

Pre-eclampsia suprainposed on the chronic hypertension at 32 weeks gestation. This was several weeks earlier than it had done on previous pregnancies. In this patient severe pre-eclampsia was characterized with sudden weight gain of three kilogrammes in one week; bilateral pitting leg edema hypertension of 190/110 mmHg; proteinuria of 2+; moderate hyperuriceamia; and oliguria. The presence of proteinuria, though a late sign has proven prognosis for both the mother and the baby. On average it appears about 3 weeks before intrauterine death or mandatory delivery. It is on the whole the easy test to perform. But the early sign of pre-eclampsia is reduced uric acid clearance reflecting altered tubular function and causing a reciprocal rise of plasma urate. (1) The fetus at 32 weeks gestation was premature but would be salvaged, since there was no element of intrauterine growth retardation.

From the Brennes and Hendricks growth curves (3) tenth centile weight at 32 weeks is 1300 grams. Below this weight the baby would be small for gestational age. Therefore the pre-eclampsia had not adversely affected the growth of the baby. Since its birth weight was 1700 grams well above the tenth centile. The baby did not develop respiratory distress syndrome because the stress of long-standing pregnancy-induced hypertension predisposes to accelerate maturation of the surfactant production sufficient to protect against the development of respiratory distress syndrome. (3)(4)

The treatment for severe pre-eclampsia is delivery and the delay in delivering this patient was to time the delivery well. (2)(6) With close observation in the ward it was found that the rate at which the disease was progressing was fast hence delivery was to be immediate. If on the other hand the rate was slow then it would have justified longer waiting. She was offered caesarean section because she had had 2 previous sections and therefore she could not be induced. At the same time the fetus was premature to withstand safely the forces of labour. The classical caesarean section was performed because of the technical problem encountered at the operation. During the healing of the previous surgeries she had developed several adhesions in the lower uterine segment.

The patient developed post operative bronchopneumonia. She was a likely candidate for this complication because she had been bedridden prior to surgery. She was also retaining fluids due to the impaired renal function leading to oliguria.

This patient having had pregnancies complicated with recurrent pre-eclampsia she would be ill advised to undertake any further pregnancies. She has been inserted IUCD but she was strongly advised to have sterilization. The classical caesarean section has cast a big shadow over her future obstetric career.

Classical caesarean sections are known to undergo silent rapture during late pregnancy remote from term. It has also been reported that in patients who have recurrent pre-eclampsia in several pregnancies or those whose blood pressures remain elevated during the puerperium have a higher incidence of later cardiovascular disorder and a reduced life expectancy compatible with the diagnosis that the initial episode of pre-eclampsia was superimposed on pre-existing hypertension. (1)(4)(5) Our patient falls in this group therefore she has been advised to attend the medical outpatient clinic.

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SEVERE ABRUPTIO PLACENTA

Name : S.A.
Age : 30 years
Unit : 707104
Date of Admission - 7.10.85
Date of Discharge - 17.10.85

HISTORY OF PRESENT ILLNESS

The patient was in shock when she presented and she was unable to give a coherent history but she was questioned later. The accompanying relatives stated that she had complained of severe generalised abdominal pain six hours prior to admission. After a while she complained of bleeding per vaginum but the bleeding was quite minimal. There was no history of labour pains or of draining of liquor amnii.

OBSTETRICAL & GYNAECOLOGICAL HISTORY

Her menarche was at 15 years of age. She had had her period regularly every 28 days lasting 3 - 4 days. There was no history of dysmenorrhoea. LMP 30.2.85 EDD 7.11.85. Giving gestation of 33 weeks. She was para 5+2. All the children were alive and well. The pregnancies and the subsequent puerperium were all normal. Her deliveries were as follows:

<u>No</u>	<u>Year</u>	<u>Place</u>	<u>Duration of Labour</u>	<u>Delivery</u>	<u>Weight</u>
1	1975	Pumwani	24 hours	C/S	9 lbs
2	1978	Kisumu	12 hours	SVD	7 lbs
3	1979	Kisumu	12 hours	VE	7 lbs
4	1981	Kisumu	14 hours	SVD	7 lbs
5	1982	Kisumu	6 hours	C/S	-
6	1984	Abortion at 4 months		D&C done	
7	1984	" "	3 months	D&C done	

She used IUCD for 4 months before this pregnancy.

The first caesarean section was due to prolonged labour while the one for her fifth born was due to antepartum haemorrhage, abruptio placenta.

HISTORY OF PRESENT PREGNANCY

She was booked at the Antenatal Clinic at 21 weeks gestation. The reasons for booking were that she had had two previous caesarean sections and she had requested for sterilization after this pregnancy. Her antenatal findings were normal. She was normotensive and gained weight steadily with the fundal height matching the gestational age. Her urinalysis did not show any proteinuria. The serology for syphilis was negative and she was group 'O' Rhesus 'D' positive. Her husband and herself had been counselled about sterilization and both had given consent.

FAMILY HISTORY : There was nothing significant.

PAST MEDICAL HISTORY: There was nothing significant.

SOCIAL HISTORY

She was educated up to standard seven. She did not drink or smoke. She was a housewife.

PHYSICAL EXAMINATION

She was in poor general condition. She was cold and sweating. There was slight pallor. There was no cyanosis and no pitting leg oedema. The blood pressure was 50/20 mmHg., The pulse was 124/min regular and thready.

The breasts were well developed and there was no goitre.

The respiratory rate was 16 per minute and temperature was 35.5°C.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended with fundal height about term. There was tenderness over the fundus. The uterus was woody hard and it was difficult to feel the fetal parts. The fetal heart was heard at 160 beats per minutes but it was faint. The presentation and the lie could not be determined. There was an old subumbilical midline scar. No free fluid in abdominal could be demonstrated.

The respiratory system, cardiovascular system and central nervous system was essentially normal.

SPECULUM EXAMINATION

The External genitalia was normal. The vagina had few clots of blood and minimal bright red blood oozing from the cervical OS. The cervix was about 1cm long and patulous. There was no local bleeding points. There was no draining of liquor amnii. The membranes were not visible.

DIAGNOSIS: HYPOVOLEMIC SHOCK DUE TO

- i) Abruptio Placentae
- ii) Ruptured Uterus.

MANAGEMENT

Prompt resuscitatory measure were undertaken which included intravenous fluids of normal saline and hartman solution one litre of each while awaiting compatible blood which was started in theatre. Hydrocortisone 2 grammes was given intravenously. She was nursed in left lateral position with the foot of the bed raised on stools.

Bedside clotting time was seven minutes. Because of the desperate condition, the patient needed prompt delivery which was achieved by emergency lower uterine caesarean section. Theatre was ready within one hour and a fresh stillbirth in cephalic position was delivered. The fetus was well formed and weight 2200 grammes. There was no straining of liquor amnii with meconium. The placenta which was severely detached had a large retroplacental clot weighing 900 grams. It was however complete with the membranes and weighed 450 grams. The uterus was intact but distended and hypotonic. There was few areas of ecchymoses. However it responded well to 10 units of syntocinon I.V given immediately after delivering the placenta and the retroplacental clot. A separate drip was maintained with 10 units of syntocinon in 500ml 5% dextrose in water. Pomeroy procedure for tubal sterilization was performed. The total blood loss was estimated to be 1300ml.

ANAESTHESIA

She was induced with Ketamine and intubated under suxamethonium 100mg. I.V. The anaesthesia was maintained on Nitrous oxide, oxygen and intermittent Katamine until uterus was evacuated. She was there after paralysis with curare and maintained on nitrous oxide and trilene and oxygen. The blood pressure which was low at the induction improved after 2 pints of blood had been transfused during

operation. Patient was reversed with neostigmine and atropine and left theatre with blood pressure of 90/60 mmHg., pulse 100 per minute and respiratory rate of 18 per minute.

POST OPERATIVE CARE

The routine post operative care was provided for as described in the introduction but in addition she was nursed in acute room for 24 hours. She was covered with 500 mg. Ampiclox 6 hourly and Flagyl infusion 500 mg. 8 hourly. Patient received a total of 7 pints of whole blood. Chloroquine table 4 start and two after 6 hours then two tablets daily was given starting on 2nd post operative day. Urine output and urea and electrolyte were normal.

On the third and fourth post operative day the patient developed engorgement of the breasts. These was managed with cold compresses and frusamide tables 40 mg. daily. Check haemoglobin done on 4th day was normal. She was discharged on 10th post operative day on haematinics.

SUMMARY OF INVESTIGATION

1. Blood group "O" Rhesus "D" positive
2. Bed side clotting time 7 minutes
3. Kahn Test negative
4. Urea and Electrolyte

- 3rd post operative day

Na⁺ - 140 mmol/l

K⁺ - 4.3 " "

Bun - 9.0 " "

- 7th post operative day

Na⁺ - 140 mmol/l

K⁺ - 3.6 " "

Bun - 3.3 " "

5. Haemoglobin 9.3 g/dl
Haematocrit 29.0 WBC - 19000/cc.
Normochromic and slight Hypochromia
Differential - Polymorph 91%
 Lymph 9%
 Absolute neutropinea
6. Haemoglobin on 4th post operation day 11.4 g/dl.
Haemetocrit - 36%
7. Coagulation screening - Blood taken on the first
post-operative day. No report obtained.

POSTNATAL CLINIC

The patient was in good general condition. She was not anaemic. The blood pressure was 100/70 mmHg. Her weight was 48 Kg. Pulse was 80 mmHg. The abdominal wound had healed well with first intention. The pelvic organs were normal findings. Haemoglobin was 11.2 gram per decilitre. Pap smear was not taken because there were no reagent at that time.

COMMENT

This patient presented in a desparate condition. She was in hypovoleamic shock and all efforts were well directed to combat the shock and deliver the baby who was believed to be reasonably mature and alive. The diagnosis of abruptio placenta was suspected from the history and clinical examination and confirmed at caeserean section.

Examination under Anaesthesia (EUA) was ommittd because firstly it would cause unnecessary delay in effecting prompt delivery and secondly the findings so obtained at EUA were not likely to change the line of management adapted.

She had had abruptio placentae in her previous term pregnancy. She was likewise delivered by caeserean section and the baby was alive and well. Recurrency rate of one in 18 pregnancies has been reported making subsequent pregnancy high risk. The management of subsequent pregnancy is therefore made more difficult by the fact that the placental separation may occur suddenly at any time remote from term 2. In this patient placental separation occurred at 33 weeks gestation.

Apart from a previous history of abruptio placenta this patient did not have any of the etiologiocal conditions usually associated with high incidence of abruptio placenta. Donald (1979) reported that chronic nephritis, hypertension, pre-eclamptic, toxemia and folic acid deficiency are associated with increased incidence of abruptio placenta. Other etiologiocal factors include direct trauma such as may be caused during delivery and during rapid draining of poly hydrominous. Decompression of the uterus during twin delivery vaginally may cause abruptio placenta affecting the second twin(2).

The incidence of abruptio placenta at KNH is not exactly known. However a frequency of placenta abruptio of one in 89 deliveries with a perinatal mortality of 36.5 percent for infants who weigh 1000 grams or more has been reported(2).

The shock in this patient was characteristic in that it was out of proportion to the amount of vaginal bleeding. This was because the maternal blood loss was mostly concealed in the retroplacental clot. However in many series vaginal bleeding was found present in 78% of cases and uterine tenderness and back pain was present in 66 percent. Fetal distress was found present in 60 percent of patients.

Apart from the fetal demise the other complication that may attend abruptio placenta include: shock, consumptive coagulopathy, renal failure and ischaemia of the anterior pituitary gland. Shock in this patient was managed actively by prompt plasma expanders and blood transfusion. The anaesthesia was chosen so that not to worsen the shock. Ketamine causes peripheral vaso-constriction and raises blood pressure. Induction with the usual thiopentane sodium would have made the shock even worse. Hydrocortisone was also given to protect the individual cells from the effect of shock. In anteceding post partum haemorrhage, which is usually more dangerous in this weakened patient, oxytocin in high doses were provided and continued in drip. Acute renal failure may be brought about by the seriously impaired renal perfusion from both reduced cardiac output and intrarenal vasospasm as the consequence of massive haemorrhage and at times coexisting acute or chronic hypertensive disorder. Hence reversing the shock promptly as was done in this patient prevented the acute renal tubular necrosis. Electrolytes and blood urea nitrogen done post operative period returned to normal. Urine output was sufficient immediately following delivery.

The rapid release of thromboplastin from the decidua and the placenta enter the maternal circulation at the site of placental separation and incite disseminated intravascular coagulation. This in turn activated Fibrinolysis⁽³⁾. We cannot be sure whether DIC had set into action since the specimen sent for Fibrinogen Degredation Products (FDP) was not received back. Never-the-less bedside clotting time had been normal. This finding was important because the patient was to undergo surgery and with a prolonged bleeding time it would be difficult to control bleeding points without fresh blood.

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Patients who suffer from shock due to obstetrics haemorrhage may develop Sheehans syndrome. This is due to necrosis of the anterior pituitary gland. Sheehans syndrome is characterized with amenorrhoea, genital atrophy, intolerance to cold, listlessness and premature senility. Our patient seems not to have been so affected since her breasts engorged on the third day, the anterior pituitary gland was therefore secreting adequate amount of prolactin. It is possible that she might have suffered temporary or be it subclinical effect on pituitary. We can only be sure if dynamic studies of the pituitary glands had been done on the patient.

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CERVICAL INCOMPETENCE

- MCDONALD CERCLAGE PROCEDURE -

Name : E.W
Age : 28 years
Unit : 648744
Date of Admission - 1.10.84
Date of Discharge - 7.10.84

PRESENTING HISTORY

She was admitted from the antenatal clinic. She had been booked because of bad obstetric history. She had no other complains.

GYNAECOLOGICAL AND OBSTETRICAL HISTORY

Her menarche was at the age of 13 years. The periods were regular, painless and lasting 3 to 4 days every 4 weeks. Her last menstrual period was 18.6.84 and her expected date of delivery was 25.3.85. She was pregnant at gestation of 15 weeks. The parity was 3+2.

In 1974 she had normal pregnancy but the labour was prolonged ending up in vacuum extraction. The baby was alive and well. The puerperium was normal. She was inserted intra uterine contraceptive devise (IUCD) after six weeks which she was removed in 1976 and conceived her second pregnancy. The pregnancy and labour were normal. She had spontaneous vertex delivery (SVD) and developed postpartum haemorrhage (PPH). This was managed without blood transfusion. The baby was alive and well. She was inserted IUCD during her postnatal visit. In 1980 she conceived her third pregnancy despite the coil but the pregnancy progressed normally. The labour was prolonged and she was delivered by vacuum extraction. The baby was alive and well. The puerperium was normal. She used IUCD until 1982. In 1982 and 1983 she had abortions at 4

months and 5 months respectively. Both abortions started with draining of liquor followed by lower abdominal pains and then expulsion of products of conception. Evacuation was done in each incident.

PAST MEDICAL HISTORY: There was nothing significant.

FAMILY HISTORY

Her mother suffers from hypertension and her aunt has a set of twins. There was no history of diabetes nor tuberculosis.

SOCIAL HISTORY

She was educated up to form four. She runs a business in partnership with her husband. She drank occasionally but she did not smoke.

PHYSICAL EXAMINATION

Her general condition was good. She was not anemic; she had no pitting leg oedema and she had no lymphadenopathy. The breasts were normal and thyroid gland was not enlarged. The height was 5ft 0 inch. The blood pressure was 120/80 mmHg. The pulse was 80/min regular and good volume and her weight was 69 Kg.

ABDOMINAL EXAMINATION

The fundal height was 14 weeks. The spleen and liver were normal. The respiratory system, the cardiovascular system and the central nervous system were examined and revealed normal findings.

VAGINAL EXAMINATION AND SPECULUM EXAMINATION

External genitalia was normal. The vagina was normal. The cervix was short about 1.5cm long. It had an old laceration scar on the posterior. External OS was patulous and the internal OS admitted one finger. The uterus was enlarged about 14 weeks. The adnexia and pouch of Douglas had normal findings.

DIAGNOSIS - CERVICAL INCOMPETENCE

SUMMARY OF INVESTIGATIONS

1. Haemoglobin - 13.1 g/dl
2. Haematocrit - 39.2%
3. Blood Group "O" Rhesus "D" Positive.
4. Kahn test - Negative
5. Urinalysis - Nothing abnormal detected.

MCDONALD CERCLAGE PROCEDURE

The patient was explained about the above procedure. Written consent was obtained from the patient. Premedication was given with atropine sulphate 0.6 mg intramuscularly half hour before theatre. The vulva and perineum were shaved.

Under general anesthesia and in lithotomy position, vulvo vaginal toilet was done using savlon solution. Sterile drapes were applied and patient was catheterized. Examination under anesthesia confirmed earlier findings.

An Ovard Speculum was introduced in the vagina. Sponge holding forceps were then used to grasp the anterior and posterior lips of the cervix. Using silk number two on a round body needle, the stitch was applied in and out of the cervical substance as high up as possible in the portio vaginalis. The procedure was stated at 6 O'clock and ended at the same place avoiding the lateral sides. After the insertion of the stitch the internal OS could

Post operatively she was on half hourly observation until she was fully awake, then 4 hourly observation for 24 hours. She was put on salbutamol tablets 4mg 8 hourly.

She was discharged on the 4th post operative day. The discharge advice was that she continues bedrest at home; refrains from sexual intercourse and that she should report to the hospital immediately should labour pains or draining liquor begin. She was discharged on salbutamol tablets 4mg 8 hourly for two weeks.

SUBSEQUENT ANTENATAL CARE

She was seen at antenatal clinic after two weeks. this and subsequent visits revealed normal progress of pregnancy except at 32 weeks gestation when the fundal height was thought to be ahead of the gestation age. This was disapproved by ultra sonography which showed biparietal diameter corresponding with gestational age of 32 weeks. The placenta was reported to be in fundus and cardiac activity of a single fetus in cephalic presentation was reported.

At 37 weeks gestation she was admitted with false labour. The Mcdonald stitch was removed and pelvic examination revealed a soft cervix dilated 2cm and admitting one finger. The pelvis was also assessed to be adequate for vaginal delivery. The labour stopped on bed rest and pethedine 100 mg intramuscularly. Patient was observed in the ward for 24 hours but labour did not start again so she was allowed home to await spontaneous onset of labour.

LABOUR AND DELIVERY

She was admitted at 39 weeks in established labour with draining of clear liquor for four hours prior to admission. The examination revealed that vital parameters were normal. The blood pressure was 110/60mm Hg., with a pulse of 80/min. She was not anemic, had no leg pitting oedema and was afebrile. The uterine size was term and the contractions were two in 10 minutes lasting 30-40 seconds. The baby's lie was longitudinal with cephalic presentation. The fetal heart rate was baseline at 144/min with no abnormal fetal heart rate. The head was three fifth above the pelvic brim.

Vaginal examination revealed a cervix which was effaced with a dilatation of 4cm. The membranes were ruptured draining clear liquor. No cord was felt and the position was left occiput anterior with adequate pelvis.

Compatible blood was booked and instructions given for oxytocin drugs to be given with the birth of the head. Subsequent observation on the partogram indicated good progress of labour and after 6½ hours she had spontaneous vertex delivery. Syntometrine one vial was given with the birth of the head. The baby weighing 3014.0g was born, who scored 10 at one minute and 10 at 5 minutes. The placenta complete with membranes was delivered by controlled cord traction. The blood loss was 200ml. The weight of the placenta was 670 grams. She was observed for 24 hours and discharged the following day.

FOLLOW UP

She was seen again after 6 weeks in postnatal clinic. The baby was alright at home. She was in good general condition and had lactational amenorrhoea. The breasts were normal. The blood pressure was 110/70 mmHg., not anemic. The pelvic organs had involuted well. Herself and her husband requested for tubal sterilization but since this could not be done immediately she was advised to be inserted IUCD which she declined but agreed to use condoms. She was booked at Rahmtulla Ward as a day case.

At five and half months while the patient was still amenorrhoeic due to lactation, Pomeroy Tubal ligation was performed through a minilap at Rahimtulla Ward as a day case. She was seen again after seven days and the wound had healed well.

COMMENT

This patient was managed as cervical incompetence. The diagnosis was made on the strength of history of abortion and physical examination of the cervix. Mann (1961) described the syndrome of cervical incompetence as being characterized by painless passive dilatation of the cervix culminating in prolapse of the intact membranes, in the absence of surgical intervention secondary uterine contractions then occur and a normal fetus is expelled which soon thereafter dies of immaturity. This usually occurs in the midtrimesters. He also described the earliest symptoms of cervical incompetence to include watery discharge associated with pelvic heaviness, show and backache may follow after prolapse of the membranes.

Hunter in 1961 classified cervical incompetence into three types on aetiological factors: The structural type is usually traumatic in origin and results from loss of tissue as a result of lacerations extending to the internal OS at delivery or too vigorous dilatation as a result of placenta praevia and defect caused by cervical fibroid or new growth. This is the commonest type of cervical incompetence. The second type is the congenital type. This is usually caused by developmental anomalies at the internal OS. It is associated with primary habitual abortion. The third type is physiological or dysfunctional incompetence whereby the cervix shows no demonstrable incompetence by the normal investigative methods but it is demonstrated on repeat cervicohysterosalpingogram after cervical canal has been irrigated with bromelain enzyme which causes marked relaxation of the uterine isthmus sphincter in the positive cases.

It is possible that this patient had structural type of cervical incompetence. She had been delivered by vacuum extraction twice and had scarring of the cervix.

The diagnosis of cervical incompetence may be made in suspected non pregnant woman by cervicogram, biond catheter

and passage of Haggars dilator number 8 freely through the internal OS. But accurate history alone is sufficient to select patients for cervical cerclage procedure. When Bacchus (1970) found equal success rate in patients selected for Shirodiker's stitches and those in whom it was arbitrary put he concluded that the suture should be put in all cases of habitual abortion after 12 weeks of pregnancy whether or not their history is typical of cervical incompetence. The success rate then was 80-90 percent.

The McDonald cervical cerclage procedure is a modification of the original Shirodkars stitch. Its advantages include its simplicity to perform and may be performed during pregnancy. The stitch is usually removed after 36 completed weeks and allow the patient to proceed to spontaneous labour. Our patient went to term with no complications. The complication that may occur include failure, premature rupture of membranes. Chorioamnionitis intrauterine infection and cervical laceration if labour were to start with the stitch in situ remote from medical facilities. Although our patient was put on tocolytic drugs there is no evidence that this medication and progestational agent used earlier on do in fact improve the success rate(3).

Active management of the third stage of labour was instituted in this patient. This included booking for compatible blood at onset of labour giving oxtocic drug at delivery of the head. There was very minimal blood loss.

The patient unwillingness to use IUCD may have been prompted by the previous failure she had with it. She felt that she had completed her family and wanted a sterilization. Patient who conceive with IUCD in situ have 50 percent chances that the pregnancy may reach term. Complications that may follow pregnancy with IUCVD include abortion infection, premature delivery and premature rapture of membrane. If the string can still be felt the IUCD should be removed. This will reduce the chances of abortion from 54°percent to 25.3 percent and that of prematurity from 20.3 percent to 4.7 percent.(3)

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Interval tubal sterilization was offered for this patient thought min lap. Pomeroy's is the simplest method of tubal sterilization. It consists of ligating a knuckle of tube with plain catgut and resecting the knuckle. The catgut is promptly absorbed and subsequently separation of the severed tubal ends which most often becomes sealed over by fibrosis. Failure rate for tubal ligation has been reported as 0.04 per 100 woman year.(4)

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PROLONGED PREGNANCY

Name : M.N.R.
Age : 24 years
Unit : 709108
Date of Admission : 7.11.85
Date of Discharge : 13.11.85

PRESENTING COMPLAINTS

She was admitted with complains of labour pain, and draining of liquor amnii for six hours. There was no history of bleeding per vaginam.

OBSTETRICS AND GYNAECOLOGICAL HISTORY

She had her menarche at 14 years of age. Her periods had been regular lasting 3-4 days and coming every 28 days. Once used oral contraceptive in 1983 and stopped in mid 1984.

She was para 2+0 and her last menstrual period was 1.1.85. The duration of gestation therefore was 44 weeks.

Her first pregnancy in 1981 was normal. The labour lasted 12 hours but she was delivered by a difficult vacuum extraction because of poor maternal effort. The baby was a still birth. The puerperium was normal.

In 1982 she had her second pregnancy which was also normal. She had spontaneous vertex delivery at a health centre. The labour lasted 10 hours and the puerperium was normal. The baby was alive and well.

HISTORY OF PRESENT PREGNANCY

She was booked in antenatal clinic at 19 weeks gestation because of the history of fresh stillbirth following vacuum extraction. On this first visit she reported to have felt fetal movements three weeks previous. but the fetal heart rate could not be heard. Subsequent follow up visit revealed normal progress of pregnancy, characterized with normotension, average weight gain, normal findings on urinalysis and blood tests and fundal height matching the gestational age. A normal oral glucose tolerance test was obtained at 32 weeks gestation. She was admitted with premature labour at 36th week. This was managed with salbutamol 4 mg three times a day, bed rest and pethidine 100mg and improved. A negative surfactant test was obtained at 42 weeks gestation and similarly at 43 weeks. At 44 weeks patient developed marked reduction in amniotic fluid and began complaining of reduced fetal movements but the fetal heart rate was 136/minute with no morbid fetal heart patterns.- She was admitted but as she needed to go home to prepare herself, labour started and she presented as reported.

PAST MEDICAL HISTORY: There was nothing significant.

FAMILY MEDICAL HISTORY

She was educated up to form four. She worked as a clerical officer with Ministry of Works. She was married and her husband also work go with the same Ministry. She did not drink or smoke.

PHYSICAL EXAMINATION

Her general condition was good. Her height was 4ft 9½ inches with a body weight of 49Kg. She had no anaemia, no leg pitting oedema, and no lymphadenopathy. Her blood pressure was 90/60mmHg., the pulse was 80/minute, regular and good volume. The breasts were normally developed.

ABDOMENAL EXAMINATION

She was having two contractions in ten minutes lasting 20-40 seconds. The fundal height was term and there was very little liquor amnii. The fetus lie longitudinally and the head was 5/5 above the pelvic brim. the fetal heart was regular with a baseline rate of 140 per minute. There were no abnormal fetal heart rate.

VAGINAL EXAMINATION

The external genitalia was normal. The vagina contained clear liquor. The cervix was soft about 50% effaced and dilated 5cm. The membranes could not be felt. There was no cord no caput and no molding. The pelvis was boarder line and the position was right occiput transverse with anterior assyncilitism.

DIAGNOSIS : Established Labour With Boarderline pelvis

MANAGEMENT

Compatible blood was booked and observations made charted on a partogram every ½ hourly. Alert and action line were drawn as described in introduction. In subsequent review after 4 and 6 hours, the contractions were 3 in ten minutes and lasting 30-40 seconds. The cervical dilatation was arrested at 8cm. The head was still 5/5 above the pelvic brim. The cervix was oedematous, and there was a small pelvic caput forming. But the maternal pulse and blood pressure were nomal. The action line was being approached.

A diagnosis of cephalo-pelvic disproportion was made. The patient was informed about the lack of progress of her labour. She was prepared for emergency caeserean section. After written consent premedication was given atropine salphate 0.6mg. An emergency lower uterine caeserean section was perfomed. A live female baby in cephalic

position was delivered. She scored 10 at 1 minute, and 10, at 5 minute. The birth weight was 3050 grammes. There were no signs of post maturity as evaluated by the paediatrician. The liquor amnii was clear. The placenta was complete with the membranes weighed 600 grams and appeared healthy with no areas of infarction.

POST OPERATIVE CARE

The routine post operative care was instituted as explained in the introduction. In addition patient was put on ampicillin 2 grams daily and dalacin C sulphate 1.2 gram daily for one week. Check haemoglobin on third day was normal. All stitches were removed on 8th post operative day and patient discharged to come back for post natal clinic.

SUMMARY OF INVESTIGATION DONE

1. Blood group "A" Rhesus "D" Positive
2. Kahn test - Negative
3. Haemoglobin - At 24 weeks gestation - 13.9 g/dl
 - 3rd Post operative day - 10.6 g/dl
 - At post natal clinic - 11.1 g/dl
4. G.T.T. at 32 weeks

TIME FOLLOW	0	½ hrs	1hr	1½ hr	2hrs	2½ hrs
Blood Sugar	3.5mmol	6.8	7.8	6.4	5.6	5.3
Urine Sugar	Nil	Nil		Nil		Nil

5. Surfactant Test

<u>Gestation</u>	<u>Colour of Liquor</u>	<u>Shake</u>	<u>Test</u>
		1:1	1:2
42	Clear	Negative ½	Negative 1/4
43	Clear	Negative 1/4	Negative 1/4

6. Urinalysis-

Antenatal - Protein - Negative, Sugar - Negative
Culture and sensitive - not indicated

FOLLOW UP

Findings at postnatal clinic were normal and patient requested for intra uterine contraceptive devise which she was inserted.

COMMENT

Pregnancy in this patient lasted 311 days. The upper limit for the duration of pregnancy is still debatable. However, in one recorded case in a court of law where the father was disputing paternity on the grounds that he had not had an opportunity to cohabit with his wife within the usually accepted limits of pregnancy's duration was dismissed in the mother's favour. The pregnancy was stated to have lasted 331 days.(2) pregnancy is considered prolonged when it exceeds 294 days calculated from the first day of the last menstrual period. The term postdatism is used interchangeably(1). The expected date of delivery as reckoned by Naegele's rule can only be calculated from the onset of the last menstrual period and except in very rare instances it cannot be known precisely when conception took place. Postdatism is a common clinical problem. This is illustrated by the following statistics: The chances that birth occurs on the expected date is 5 percent; within +/- 3 days of the due date is 29 percent; within +/- 2 weeks it is 80 percent. Prematurity occurs in 10 percent of pregnancy and prolonged pregnancy in another 10 percent. From demographic data the incidence of prolonged pregnancy has been reported to be between 7.5% and 10%. Brownie (1962) reported that the incidence of post maturity was 3.5 percent. In his series post maturity was equivalent to prolonged pregnancy(3). He further showed the relationship between perinatal

mortality and prolonged pregnancy. Perinatal mortality was lowest when delivery was accomplished between 39 and 41 weeks of gestation. But after 42 weeks of gestation perinatal mortality rate doubled. In further more than trippled after 43 weeks. Intervention in the form of induction and elective caesarean section was most beneficial as pregnancy went beyond 42 weeks gestation.

The importance of prolonged pregnancy is that the placenta has a life span. Under normal circumstances the peak placenta function is reached at 36 weeks gestation and thereafter there is decrease in the placental effeciency with aging. Placenta insufficiency leading to the post maturity syndrome has to be considered as an imbalance between placental capacity and fetal nutritive and respiratory demands.

The problems in the management of post-date pregnancy is to identify the true prolonged pregnancy and the fetuses likely to be affected by the consequences of placental senescence. In this patient expectant management was provided. In her previous pregnancy there was no history of postdatism to go by and suspect similar occurance in this pregnancy. It is estimated that a woman who carries one pregnancy beyond term has a 50% change for another post term delivery. This patient was booked at 19 weeks gestation at the time she had felt her first fetal movement. Earlier examination that would enhance her LMP had been missed. However the fundal height corresponded well with the gestational age. The history of use of oral contraceptive pills was important. This may explain a false prolonged pregnancy because of the anovulatory cycles that may follow the discontinuation of the pills(1). This did not appear to be the case in this patient. Clear liqour Amnii and negative surfactant tests at 42 and 43 weeks indicated that the woman might have given wrong dates. However, it is not uncommon for the shake bubble test to give false negative results and in

only fifty percent of cases meconium stains liquor in postmaturity. The reduced fetal movement was an ominous sign for the fetus. Morphological and biochemical changes that take place in an aging placenta are variable and require serial evaluation. However reduction of the fetal movements indicate impending intra uterine fetal death. Cessation of fetal movement occurred before fetal death in utero while fetal heart sounds are audible for at least 12 hours. It is reliable sign in that patients subjective sensation registers about 87 percent of the motions recorded by the electromagnetic devices.(5) This patient would have been delivered by elective cesarean section if she had not gone into spontaneous labour whereby liquor amnii was clear.

The baby that was delivered did not show any signs of postmaturity nor dysmaturity. Classic features of post maturity have been described by Clifford(5). They include failure of growth, dehydration, development of dry cracked wrinkled and parchment-like skin due to reduction in subcutaneous fat deposit and thin arms and legs. The finger nails are long and there is advanced hardness of the skull. The skin evidences absence of vernix and lanuga hair with associated full scalp hair. Often there is a skin maceration, particularly noted in the flexion folds and the external genitalia area. In the absence of vernix the fetal skin loses its protection and the normal red skin colour disappears. The skin may be stained brownish green or yellow with similar discoloration of the umbilical cord and membranes. In post mature infants the body length is increased in relation to weight. Such newborn infants are alert and look almost apprehensive.

In this patient it would be possible that the baby continued to grow. This might have contributed to the cephalopelvic disproportion.

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LONG COMMENTARY
OBSTETRICS CASE

TITLE: ASYMPTOMATIC BACTERIURIA OF PREGNANCY

Abstract: In a random sample of over 400 women drawn from patients attending antenatal clinic at Kenyatta National Hospital, Nairobi, the prevalence rate of asymptomatic bacteriuria was found to be 9.3 percent. The prevalence rate among primigravida was 11.3 percent whereas among the multigravida it was found to be 10.0 percent. The observed difference was not statistically significant.

The predominant micro-organism isolated in patients with significant bacteriuria was coagulase negative Staphylococcus which was found in 55.3 percent of the patients with asymptomatic bacteriuria. Two of the ten coagulase negative Staphylococcus tested were sensitive to novobiocin confirming that the majority to be staphylococcus saprophyticus. This test has not been available in the previous studies reported. The next common organism was Escherichia Coli. It was isolated in 25% of the bacteriuric women. The third organism were Klebsiella Spieces. These organism were sensitive to Ampicillin, Nitrofurantoin, Streptomycin and Nalidixic acid.

INTRODUCTION

Several body organs adapt to pregnancy by undergoing various anatomical and physiological changes. These changes are most pronounced in the Urinary tract. This may be due to the close proximity to and common embryonic origin of the internal genital organs and the urinary system. It is not well established whether these changes are necessary, however the marked changes in the urinary tract poses two major clinical problems namely; the increased risk to urinary tract infection and the erroneous interpretation of diagnostic test results(1). Studies by Hodson (1968) and Bailey 1971 indicate that during normal pregnancy the kidney

increases in size by 1-1.5cm. Six weeks post delivery similar decrease was reported.(2)(3) This increase in kidney size in pregnancy may reflect increase in renal blood flow and some degree of hyperplasia.

The most relevant renal change in this study is the physiological hydroureter of pregnancy. This typically involves the renal pelvis and the upper portion of the ureters and more frequent on the right(4). It is characterized by increase in the diameter of the ureteral lumen, hypotonicity and hypomotility of its musculature. The volume of the ureter in pregnancy may increase 25 fold and contain as much as 300ml(1). The right sided preponderance of the pyeloureteral dilatation above the pelvic brim has been accounted for by the local compression caused by the right ovarian vein, the right illiac artery, the kinking over the illac vessels and the dextrorotation of the uterus caused by the sigmoid colon. The ureters elongates and becomes tortuous during pregnancy. Two major mechanisms have been proposed regarding the aetiology of physiological hydroureter of pregnancy: External compression as has been stated above. This is reported to be more prominent in primigravida than multigravida because of the tensor abdominal muscles in the former.(5)The hormonal influence caused by increased levels of progestrone, gonadotropins and estrogen during pregnancy. There is also ureteric thickening of the lower part of the ureter due to hyperplasia of the connective tissue, hypertrophy of the longitudinal muscles and the inflammatory oedema.

The bladder also becomes atonic and progressively increase its capacity to double its volume by term. The trigone area undergoes modarate hyperplasia and muscular hypertrophy. The bladder is progressively pushed anterior and superiorly as pregnancy advances changing the trigone area from concave to convex. Towards term when the presenting part becomes engaged, the bladder mucosa becomes more edematous and easily traumatised and therefore more susceptible to

infection. The changes in the bladder causes incompetence of the vesico ureteral valve which creates a reflux from the bladder to the ureters.(6) Moreover the stretching of the trigone with lateral displacement of the intravesical portion of the ureters causes shortcoming of the terminal ureters and results in decreased intraureteral pressure.

When the intravesical pressure increases during mictrition regurgitation of urine from the bladder to the ureters occurs.

After delivery relatively rapid post-partum resolution develop. Most of the changes occur within 48 hours after delivery then continues further to progress gradually to reach pre-pregnancy levels by the third month in almost all the women.(4)

The Oedema and hyperemia that occurs in bladder along with its decreased tone predisposes the patient to urinary tract infection

The history of bacteruria dates back for centuries and has been reviewed by Brumfit (1973) in brief as follows.(7) Hippocrates in 400BC while studying urine recorgnised the presence of stones, haematuria and suppuration. In 1863 Pasteur noted that urine was an excellent growth media and Robert in 1881 reproted a relationship between bacteriuria and cystitis following instrumentation. However Rayer 1841 had recorgnised the pyelitis during pregnancy and Escherichia 1894 described the Clinical features of pyelitis in childhood. It was in 1892 that Rosving noted that infection of urine could be present without apparent inflammation of urinary tract. Sampson in 1903 demonistrated that infection and ureteric obstruction produced acute Haemato-genous pyelonephritis and at the same time Spooner using animal model demonstrated that bacterial spread into healthy animals only caused lasting damage if associated with injury to the bladder wall or obstruction to urinary flow. In 1932

Dodds while studying pyelitis in pregnancy and puerperium found that 25% of his patients were diagnosed as suffering from persistent bacteriuria and 34% were suffering from chronic pyelitis.

Several scholars have reported on the effect of asymptomatic bacteriuria on pregnancy. In 1939 Weiss and Purker suggested that asymptomatic bacteriuria might be the connecting link between symptomatic episodes of urinary tract infection.(8) Kaitz et al 1961 observed antepartum urinary tract infection in 18 percent of women with asymptomatic bacteriuria of pregnancy.(9) Also Kass 1962 while studying pyelonephritis and bacteriuria reported that 25% of mothers with asymptomatic bacteriuria early in pregnancy developed overt pyelonephritis during late pregnancy.(10)(33) Furthermore Kaitz (1961) reported that pregnant women with asymptomatic bacteriuria were found to have significant impairment of urinary concentrating ability when compared with a control group without bacteriuria. The impaired concentrating ability was most likely secondary to silent active pyelonephritis(11) Brumfitt et al (1969) reported that patient with asymptomatic bacteriuria were most likely to deliver prematurely. They also noticed that fetal mortality was greater in those bacteriuric patient who failed to respond to primary antimicrobial therapy than those in whom treatment was successful. But most fetal losses were during the first trimester when most of the patients had not started to attend antenatal clinic.(12) Percival et al (1964) while in search for immunological means of detecting early pyelonephritis found that patients with asymptomatic bacteriuria had high titre of antibody against the organism found in urine.(13) These patients had also elevated titre of Heamoagglutinating antibody in early pregnancy.(14) Mati (1974) reported from the study of pregnancy bacteriuria that patients with asymptomatic bacteriuria had significantly increased prevalence of short gestation babies as well as Class C and D at birth.(5) Kass (1962) defined bacteriuria as a state where bacteria

are multiplying in the bladder urine. In a careful epidemiological study he showed that under those circumstances the bacterial count was in excess of 100,000 bacteria per millilitre⁽¹⁰⁾. Bacterial count below 10,000 bacteria per millilitre constituted contamination of the urine as it was voided and were insignificant. But bacterial count of between 10,000 and 100,000 bacteria per millilitre were doubtful and hence needed to be repeated.⁽¹⁶⁾ When bacterial colony are counted a count of 100 colonies corresponded to 100,000 bacterial count per millilitre of urine.

Specimen of urine for microbiological analysis is usually obtained as a mid-stream specimen. With voided specimens the cleansing of the periurethral area is obviously more critical and the degree of cleansing will determine the precision and accuracy of the bacteriological results.⁽¹⁰⁾ In the mid stream specimen the error obtained at a cut off level of 100,000 bacteria per millilitre of urine is 20% but the error in a specimen obtained at catheterization is 4%. However two successive mid-stream specimen of urine collected with equal care has a combined error of 4% is obtained. Therefore two voided specimen are accurate as one catheterized specimen from the bacteriological point of view.

Female micturition is a complex event. The urine stream normally impinges on the labia and parts of the urine stream may then be deflected about the vulva. Sometimes reaching as far back as the anus. Because of the vulval dampness wiping is almost universal and if this is done from behind forward anal; organism are spread about the vulva. Vaginal reflux is common appearing in about 40% of the normal children.⁽¹⁷⁾ Most mid stream specimen of urine are at risk of contamination because of these complexities. Usually labia are separated but if the urine still hits the labia, washing from as far as the anus may reach the specimen.

Contact of the urine with the anus will give a pure growth of pathogens and a rapid urine douching of the vagina will add white cells if there is a purulent vulvovaginitis. This emphasized the importance of swabbing of the periurethral area. Cleaning with either soap solution or sterile water reduces the contaminants to 1%.⁽⁷⁾ However Turner (1961) and Mati (1974) did not find not swabbing the periurethral area a source of significant contamination.⁽¹⁵⁾⁽¹⁸⁾ Moreover Copper et al (1980) has reported that colonization of periurethral area by the bacteria was not the decisive event in the initiation of urinary tract infection.⁽¹⁹⁾ Few reports have excluded swabbing the vulva and periurethral area before specimen was obtained. This was a ritual that was attended by many drawbacks and uncertainties especially where health services are overcrowded and overutilised. The onus of thoroughness is left entirely to the woman though after a very good explanation.

This study was undertaken to estimate the prevalence rate of asymptomatic bacteriuria of pregnancy among patient attending antenatal clinic at Kenyatta National Hospital. Previous studies have reported varying rates.⁽¹⁵⁾⁽²⁰⁾⁽²¹⁾ Attempts were also made to explore any difference in the prevalence rate among the multigravida and primigravida. As stated earlier ureteric changes in pregnancy have been reported to be more prominent in primigravida.⁽¹²⁾ Whereas previous pregnancy and delivery may have involved manipulative procedures that were likely to harm the urinary tract. The most dominant microbial organism was also identified and its sensitivity to the common antibiotics determined. Kenya's high population growth entails a lot more pregnancies and it would be of great economic value if the patients likely to suffer from the sequelae attending asymptomatic bacteriuria would be identified and prevented during pregnancy.

MATERIAL AND METHOD

A stratified random sample was drawn from patients attending antenatal clinic at Kenyatta National Hospital on each clinic day. The strata were multigravida and primigravida. A sampling frame was drawn using the antenatal record cards of the patients attending clinic on that particular day excluding those who had been sampled before. This exercise was stopped when the desired sample size was achieved.

Random numbers used were obtained from the tables given in Armitage. (22) Those patients who had symptoms of Urinary Tract Infection a combination of dysuria, loin pain and urgency were excluded so were those patients who had been on antibiotics for the preceeding two weeks.

Two specimen were collected from each patient, one at the time of admission of the patient to the study and the other at a subsequent visit. Selected patients were instructed to consult the investigator during the intervening period in case of addition medical needs. Those who were given antibiotics during the intervening period were simillarly dropped from the study and replaced by the next random patient.

For collecting the specimen the patients were given instructions in a group and then individually in a language that the patient understood best through a female nurse. The instructions were adopted from those used by Brumfitt (1973). This involved swabbing the inside of the vulva three times from before backwards with three successive sterile swabs made wet with normal saline. The midstream urine was collected in a wide mouth specimen bottle. The lid was secured tightly. The specimen was immediately plated on cystine lactose electrolyte deficient media (Oxoid) (CLEAD Media). The plating was completed within 20 minutes of voiding the urine. The standard one microlitre platinum loop method described by O'sullivan et al (16) was used. The plates were incubated for 18 to 24 hours. Significant

number was decided upon by the method put forward by Kass (1962). In the Kass epidemiological studies bacterial count in excess of 100,000 bacteria per millilitre constituted significant bacteriuria. In O'Sullivan et al method this bacterial count corresponded to 100 colonies of micro-organisms.

The organisms were identified by methods described by Cowan and Steel. (1974), (23) AND Strokes 1975.(24) Disc sensitivity test was performed using the Disc Sensitivity testing media with the commonly used antimicrobial agent at Kenyatta National Hospital. Some of the coagulase negative organisms were tested for sensitivity to Novobiocin (Sigma)(25)

The urine was also tested by Combur 8 test (Boehringer Corporation London Ltd). Undiluted urine was examined microscopically using Kova Slide II with Grids (ICL Scientific 18249 Enclid Fountain Valley California 9270).

Details of patient and all laboratory findings were entered on a prepared data sheet. (see appendix). All the patients who had significant bacteriuria were put on ampicillin orally for seven days after the second specimen had been taken. The results were tabulated and subjected to statistical analysis and inference using Chi Squared test and 95 percent confidence level.

RESULTS

The study was commenced in May 1985 and ended in August 1985. It was conducted on 45 consecutive Clinic days. 923 specimen were collected from 497 women. Among these women 410 (82.5%) provided two specimen and therefore satisfied the requirement of the study design.

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The study was commenced in May 1985 and ended in August 1985. It was conducted on 45 consecutive Clinic days. 923 specimen were collected from 497 women. Among these women 410 (82.5%) provided two specimen and therefore satisfied the requirement of the study design.

number was decided upon by the method put forward by Kass (1962). In the Kass epidemiological studies bacterial count in excess of 100,000 bacteria per millilitre constituted significant bacteriuria. In O'Sullivan et al method this bacterial count corresponded to 100 colonies of micro-organisms.

The organisms were identified by methods described by Cowan and Steel. (1974), (23) AND Strokes 1975.(24) Disc sensitivity test was performed using the Disc Sensitivity testing media with the commonly used antimicrobial agent at Kenyatta National Hospital. Some of the coagulase negative organisms were tested for sensitivity to Novobiocin (Sigma)(25)

The urine was also tested by Combur 8 test (Boehringer Corporation London Ltd). Undiluted urine was examined microscopically using Kova Slide II with Grids (ICL Scientific 18249 Enclid Fountain Valley California 9270).

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Table 1 - PATIENTS BY AGE DISTRIBUTION

Age Group in years	Number of Patients	Percentage
19 or less	27	6.6
20 - 24	156	38.0
25 - 29	135	32.9
30 - 34	58	14.1
35 and over	31	7.6
Not known	3	0.7
TOTAL	410	99.9

Table 1 shows the distribution of patients by age. 85% of the patients were aged between 20 and 34 years. The mean age was 25.9 years with a standard deviation of 5.1 years. The range was 13 - 48 years.

Similar distribution was obtained for those patients from whom only one specimen was obtained. This similarity was confirmed by statistical analysis P. value equal to 0.1.

Table 2 - DISTRIBUTION OF PATIENTS BY PARITY AND NUMBER OF SPECIMEN OBTAINED

PARITY	NUMBER OF PATIENTS WITH ONE SPECIMEN	NUMBER OF PATIENTS WITH TWO SPECIMEN	TOTAL
0	21	71	92
1 OR MORE	57	331	388
NOT RECORDED	9	8	17
TOTAL	87	410	497

Table 2 shows the distribution of patients by parity and according to the number of specimen obtained. One specimen was obtained from 87 patients and two specimen were obtained from 410 patients. 92 patients were primigravida and 388 patients were multigravida. The proportion of primigravide in both groups was similar. Chi squared value 3.042. P value greater than 0.5 and less than 1.0.

From this two tables the exclusion of the patients from whom only one specimen was obtained from further consideration does not cause a bias in the selection of the study population as far as parity and age attributes are concerned. This leaves a study population of 410 patients.

Table 3 - DISTRIBUTION OF PATIENTS ACCORDING TO THE RESULTS OF EACH SPECIMEN

SPECIMEN	POSITIVE FOR BACTERIURIA	NEGATIVE FOR BACTERIURIA	TOTAL NO. OF PATIENTS	% OF POSITIVE
1st	31	379	410	7.6
2nd	25	385	410	6.1
Both	18	392	410	4.4
Combined	38	372	410	9.3

Table 3 shows the distribution of the whole study population according to the results of each specimen. There were 410 patients in the study population. 18 patients had significant bacteriuria grown in both specimen of urine. In 13 patients the first specimen alone had significant bacteriuria whereas the second specimen alone had significant bacteriuria in 7 patients. Hence persistent bacteriuria was found in 4.4% of the patients and in 3.2% of patients went into spontaneous remission. The incidence rate during the study period was 1.7%.

The total number of patients with asymptomatic bacteriuria were 38. The prevalence rate was therefore 9.3%.

Table 4 - PREVELENC RATE OF ASYMPTOMATIC BACTERIURIA BY GESTATION

GESTATION IN WEEKS	NUMBER OF PATIENTS	NUMBER WITH BACTERIURIA	PREVALENC RATE
12 OR LESS	8	1	12.5%
13-28	121	13	10.7%
29-40	252	23	9.1%
NOT RECORDED	29	1	
TOTAL	410	38	9.3%

Table 4 shows the prevalence rate by gestation (Trimester). The prevalence rate of asymptomatic bacteriuria is similar in all trimester. $P = 0.54$ and Chi-squared 0.3162. However the number in first trimester are small.

Table 5 - PREVALENC RATE BY AGE GROUP

AGE IN YEARS	NUMBER OF PATIENTS	NUMBER WITH BACTERIURIA	PREVALENC RATE
19 or Less	27	2	7.4%
20 - 24	156	19	12.2%
25 - 29	135	13	9.6%
30 - 34	58	1	1.7%
35 - OVER	31	3	9.7%
NOT KNOWN	3	0	-
TOTAL	410	38	9.3%

Table 5 shows the prevalence rate of asymptomatic bacteriuria by age group. The peak prevalence rate is in the age group of 20 - 24 years. The observed difference in the prevalence rates are not statistically significant. Chi square 5.59671 P value is greater than 0.2314. The age of the patient does not influence the prevalence of asymptomatic bacteriuria.

Table 6 - THE DISTRIBUTION OF ASYMPTOMATIC BACTERIURIA AMONG PRIMEGRAVIDA AND MULTIGRAVIDA PATIENTS

GRAVIDITY	PRESENT	ABSENT	TOTAL	% POSITIVE
Primegravida	8	63	71	11.3
Multigravida	30	301	331	10.0
TOTAL	38	364	402	

Table 6 shows the distribution of patients with asymptomatic bacteriuria and without asymptomatic bacteriuria by parity. From the table it can be computed that the prevalence rate of asymptomatic bacteriuria among primigravida was 11.3% and among the multigravida was found to be 10.0%. The prevalence rate among the primigravida was not statistically different from that found among the multigravida.

Table 7
THE DISTRIBUTION OF ORGANISM ISOLATED
AMONG PATIENTS AND SPECIMEN

Type Of Organism	No. Of Specimens	No. of Patients	Percentage Among Patients
Staph coagulase - ve	29	21	55.3
Esch Coli	18	11	28.9
Citrobacter	4	2	5.3
Staph Aureus	1	1	2.6
Strep fecalis	1	1	2.6
Klebsiella-species	2	1	2.6
Enterobacter species	2	1	2.6
		38	100.0

Coagulase negative staphylococcus was isolated in 55.3 percent of the patients with asymptomatic bacteriuria. When tested for sensitivity to Novobiocin only two of the ten specimen tested were sensitive to it. The eight microorganisms that were resistant to Novobionin may be regarded as

staphylococcus sapro phyticus. Since this numbers are small it is best to refer to this organism as coagulase negative Staphylococcus. Escherichia coli was isolated in 28.9 percent of the patients with asymptomatic bacteriuria. In seven of the patients E.Coli was isolated in both specimen. No phage typing was done in this study.

Several other organisms were isolated in this study but these are small in number. The absence of proteus species in the study was conspicuous.

Table 8
ANTIBIOTIC SENSITIVITY TABLE

PERCENTAGE OF ORGANISM SENSITIVE TO EACH ANTIMICROBIAL AGENT

	Staphylococcus coagulase - ve	Escherichia coli	Citrobacter species	Staphylococcus aures	Streptococcus fecalis	Klebsiella species	Enterobacter species
Ampicillin	88.6	36.8	50	100	100	0	100
Nitrofurantoin	62.9	63.2	100	100	100	0	100
Streptomycin	60.0	42.4	100	100	0	100	100
Tetracycline	20.0	21.1	50	0	0	0	100
Cotrimoxazole	14.3	26.3	25	100	0	0	0
Polymixin B.	8.6	31.6	0	0	0	0	0
Sulphatriad	5.7	15.8	0	0	0	0	0
Nalidixic acid	0	78.0	0	0	0	100	0
No. of specimen for each organism	34	18	4	1	1	2	2

Apart from the coagulase negative Staphylococcus and Escherichia Coli, the rest of the organisms represent small numbers.

88.6% of staphylococcus coagulase negative, and 36.8% of escherichia coli, and 100% of STAPH. AURES, STREPTO, FACALIS, and ENTEROBACTER were sensitive to ampicillin. 78.0% of E. COLI and 100% of Klebsiella were sensitive to Nalidix Acid. A combination of these two antimicrobial agent would cover most of the microorganisms.

DISCUSSION

The prevalence rate of asymptomatic bacteria of pregnancy vary from study to study. Most reports were done in Western countries where the prevalence rate of asymptomatic bacteriuria of pregnancy range from 2% to 7% depending on the socioeconomic status of the women surveyed.(26) The highest prevalence rate occur in women who are financially indigent whereas the lower rate occur in non-indigent higher income group. Kass 1955 reported a prevalence of significant bacteriuria to be 6 -7 percent, while Turner 1961 using unselected sample of women attending antenatal clinic at City of Aberdeen reported a prevalence of bacteriuria of 7 percent(10)(18) Bryant et al 1964 also found a similar prevalence rate.(8)

Reports from Africa have become available in the past two decades. They too show variation. Philips et al 1969 in a preliminary survey on bacteriuria of pregnancy in Kampala, Uganda reported a prevalence rate of 12.27 percent.(21) Similar report came from Ibadan Nigeria (Okubadejo et al 1969)(20). However Mati (1974) in Nairobi and Mtimavalye et al (1983) in Dar-es-Salaam reported prevalence rate of 5.5 percent and 6.3 percent respectively.(15)(27) In this study the overall prevalence rate was 9.3 percent. The range of the prevalence rate of asymptomatic bacteriuria in studies reported from African Region is 5.5 - 12.27 percent. This range overlaps with the one reported from Europe and North America. From there it has been suggested that the prevalence rate follow socioeconomic status of the women. It would be interesting to show whether studies from Africa

would concur with this suggestion. However Kirei (1984) while studying asymptomatic bacteriuria in non-pregnant child bearing women in Dar-Es-Salaam reported that parity and socio-economical factors did not seem to contribute significantly to prevalence rate of asymptomatic bacteriuria. (34) Other factors need to be considered in African situation include intercurrent disease such as Schistosomiasis and sickle cell disease, that might enhance the figure for Africa. In this study there was no patient with sickle cell disease or urinary schistosomiasis. Asymptomatic bacteriuria is twice as common in pregnant women with sickle-cell trait as in pregnant women of the same socioeconomic status. (28)

From table number 6 it is shown that the prevalence rate among the primigravida and multigravida was not significantly different. It may be deduced that previous pregnancy, delivery and puerperium with all the attending complication do not increase the risk for asymptomatic bacteriuria in subsequent pregnancy. Primigravida by itself does not constitute a high risk factor. The factor that predispose pregnant women to asymptomatic bacteriuria appear to be independent of the parity.

As shown in table 4 and 5, prevalence of asymptomatic bacteriuria was not associated with the gestation of the patient and the age of the patient. In this study, patients who had asymptomatic bacteriuria in the first specimen, 3.2% regressed spontaneously on examination of the second specimen. This may indicate a spontaneous regression rate reflecting on the body immune status or it may be attributed to sampling error. It may be worthwhile to study the aspect further. Furthermore, of those who had no asymptomatic bacteria in the first specimen, 1.7% developed it on second specimen. This may denote the period incidence of this condition. Once again it may be useful to study the "natural history" of asymptomatic bacteriuria.

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As seen in the table 7 coagulase negative staphylococcus was isolated in 29 specimen from 21 patients in significant numbers. Hence 59.1 percent of patients with asymptomatic bacteria had coagulase negative staphylococcus. Ten of this organisms were tested for sensitivity to novobiocin and 2 of them were sensitive. These two organisms were therefore staphylococcus albus or epidermiditis. The eight organisms that were resistant to novobiocin were staphylococcus saprophyticus. Because of the small numbers it is not possible to say in what proportion these two variants would have been isolated but the majority appears to be the latter. However coagulase negative staphylococcus have been reported as the second commonest causitive organisms in uncomplicated urinary tract infections of women in general practice.(29) Staphylococcus Saprophyticus have also been reported to cause urinary tract infection in young women(30)(31). These coagulase negative Staphylococcus were isolated in pure culture and in significant numbers as discribed by Kass. Some of them were isolated in two specimens from the same patient separated by several weeks. The possibility that these organisms might be containinants is remote. Staphylococcus albus were also the predominant organism in the study reported by Philips(21). In pregnancy there is a immunosuppression as illustrated by the severity of malarial attacks in previously immune patient while they are pregnant(26). Hence previously harmless constant commensal may become pathogenic.

Escherichia Coli was isolated in 18 specimen from 11 patients (28.9%) with asmtomatic bacteriuria. In seven patients Escherichia coli was isolated in both specimen. All the patients in this study were outpatients. Elsewhere the commonest pathogens isolated from urine of patients having urinary tract infection have depended on whether the patients were domicilliary or hospitalised.(7) In domicilliary patients Escherichia coli accounted for 90.5%, proteus species, 5.7%. Streptococcus 1% and paracolon 6%.(32) In hospital acquired infection Escherichia coli

accounted for 59% followed by Proteus 16% Klebsiella 9%. Staphylococcus aureus 5%, Pseudomonas 3%, Streptococcus 7%. In studies undertaken in Africa O'kubadejo (1969) isolated Escherichia coli in 41%, followed by Klebsiella in 19% proteus in 16% and Streptococcus faecalis 9%. Mati 1974 and Mtimavalye (1983) isolated Escherichia coli as the predominant organism in 46.7% and 47.6% respectively.

Table No.8 indicates that 88.6% of the coagulase negative staphylococcus isolated were sensitive to Ampicillin, 62.9% to nitrofurantoin and 60% to streptomycin, whereas 78.9% of Escherichia coli were sensitive to Nalidix acid and 63.2 percent to nitrofurantoin. Hence in a situation where sensitivity test cannot be undertaken a combination of Ampicillin and Nalidix Acid would cover most of the microorganisms.

CONCLUSION

- (1) Asymptomatic bacteriuria is a public health problem afflicting 9.3% percent of the women attending antenatal clinic at Kenyatta National Hospital.
- (2) The age, parity and gestation did not influence the prevalence rate of assymptomatic bacteriuria.
- (3) The most common bacteria isolated in woman with asymptomatic bacteriuria was coagulase negative staphylococcus- followed by Escherichia coli.
- (4) Ampicillin Nitrofurantoin and Nalidixic acid cover these two microorganisms well.

RECOMMENDATION

- (1) All patients attending antenatal clinic at Kenyatta national Hospital should be screened for Asymptomatic bacteriuria.

- (2) Whenever coagulase negative staphylococcus is isolated in urine in significant numbers efforts should be made to subject it to novobiocin test in an attempt to identify the strain. There is already evidence in this study to suggest that there are at least two strains namely: Staphylococcus epidermiditis and Staphylococcus saprophyticus. Evidence has been recalled from previous reports that the latter is associated with urinary tract infection.

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APPENDIX

Data Recording

PROFORMA

Date _____

Title : Asymptomatic Bacteriuria of Pregnancy

Gestation at 1st visit -----

Gestation at 2nd visit -----

Internal -----

Name of Patient -----

Parity ----- Age ----- Marital status -----

Contact Address in Nairobi -----

L.M.P. ----- EDD -----

Date of Last Delivery -----

Reason for Booking -----

Dysuria ----- Loin Pain ----- Urgency -----

Laboratory Reports

Examination	1	1st Specimen	2nd Specimen
(1) Direct Microscopy			
	WBC		
	RBC		
	Cost		
(2) Protein			
(3)	Sugar		
(4) Growth			
(5) No. of organism per mil of Urine			

Type of Organisms Isolated

1st Specimen	2nd Specimen
1	
2	
3	
4	
5	

Sensitivity test i.e. +ve - Sensitive Organism
 -ve - Resistant Organism

Antimicrobial	1st Specimen	2nd Specimen
	Organisms	
(1) Ampicillin		
(2) Sulphadimidine		
(3) Streptomycin		
(4) Tetracycline		
(5) Cotrimoxazole		
(6) Polymixin B		
(7) Nitrofurantoin		
(8) Nalidixic acid		

BARTHOLIN'S ABSCESS
MARSUPIALIZATION

Case No. 100
Age 23 years
Unit 134
Date of Admission - 27/11/66
Date of Discharge - 29/1/67

PRESENTING COMPLAINT

The patient presented through the casualty complaining of a painful swelling of the vulva for five days.

GYNAECOLOGY

HISTORY OF PRESENT ILLNESS

The patient was well until five days prior to admission when she noticed a swelling of the vulva. The swelling was painful and she was unable to walk properly. She also noticed vaginal discharge. She had no discharge per vaginam or dysuria and no frequency of micturition.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She was born 1943. Her LMP was on 1/8/66. She had 23 months at the age of 18 years and her periods have been regular lasting 4 to 5 days and coming every 30 days. She had not used any contraceptive.

RELEVANT MEDICAL HISTORY

FAMILY AND SOCIAL HISTORY

The patient's family history is unremarkable. She is the only child of a family of six. Her father is a carpenter and her mother is a housewife. She has one brother and one sister. She is employed as a typist. She has no other relatives in the family.

G Y N A E C O L O G Y

BARTHOLINS ABSCESS
MARSUPIALISATION

Name : S.O.
Age : 23 years
Unit : 764764
Date of Admission - 27/6/86
Date of Discharge - 29/6/86

PRESENTING COMPLAINT

She was admitted through casualty complaining of a painful swelling of the vulva for five days.

HISTORY OF PRESENT ILLNESS

Patient was well until five days prior to admission when she developed a swelling on the left labia majora. The swelling was painful and she was unable to walk properly. She also started feeling feverish. She had no discharge per vaginum; no dysuria and not frequency of mictrition.

OBSTETRICS AND GYNAECOLOGICAL HISTORY

She was para 0+0. The LMP was on 9/6/86. She had her menarche at the age of 14 years and her periods have been regular lasting 4 to 5 days and coming every 30 days. She had not used any contraceptive.

PAST MEDICAL HISTORY : Was non contributory.

FAMILY AND SOCIAL HISTORY

She was educated up to standard seven being the last born of a family of six. She stayed in Nairobi at Kibera with her brother. She was unmarried but had a regular boyfriend. She was unemployed. She drunk but did not smoke. There was no major illness in the family.

PHYSICAL EXAMINATION

She was in obvious pain and could not walk straight. The temperature was 38.0°C., the pulse was 90 per minute regular good volume. Blood pressure was 110/60 mmHg. She was not anemic and there was no cyanosis.

The breasts were normal, non active and non tender, no lumps were felt.

The respiratory system, cardiovascular system, abdomen and central nervous systems were essential normal.

PELVIC EXAMINATION:

She had a cystic, tender mass on the left labia minora which was about 4 to 5 cm in diameter. There was no discharge per vaginam. The cervix was normal. The uterus was normal size, anteverted and anteflexed. The adnexia were clear and non-tender. The pouch of Douglas was empty, Rectal examination revealed normal finding.

DIAGNOSIS: Left Bartholins Abscess.

The patient was explained what was causing her discomfort. She was informed that the treatment that was going to be offered her was surgical and that it was urgent in order to relieve her suffering. She was to be admitted in the ward. She gave written consent and she was put on the Emergency Operation list for the same day.

Premedication was given in the form of Atropine 0.6 in half hour before theatre.

MARSUPIALISATION

Since the operation was going to be done under sedation she was explained the whole procedure in order to win her confidence. She was informed that she was going to hear

and feel while the procedure is going on, but because of the drugs that she will be given she will be drowsy. She was further assured that she will feel very little pains but it would be nothing to compare with what she was feeling then.

Sedation was provided by intravenous injection of 20mg valium and 150mg pethidine. While the patient was on operating table.

She was placed in lithotomy position. The operation field was cleansed with hibitane solution and drapes were then applied. The edge of the left labia minora was held using a pair of Allis forceps. The abscess was stabilized between the thumb and the index finger. An incision about 0.5cm lateral and parallel to the base of the hymen was made all the whole length of the abscess. This incision was deepened to open the abscess cavity. Purulent foul smelling blood stained pus came out immediately the abscess was open and the abscess wall collapsed. The Abscess wall were immediately picked up by Allis forces and the incision on cavity, extended to match with the skin incision. A cyst wall was taken for culture and sensitivity. The absces was drained and the cavity irrigated with warm saline. Haemostasis was achieved, then edge of the cavity of the Abscess was stitched on the edge of the skin with interrupted number 2(0) catgut. Sofratulle park was left in cavity.

Post operatively, blood pressure, pulse, respiration rate were observed half hourly until patient was fully awake. Sofratulle pack was removed after 24 hours and patient was discharged home on capsules ampicillin 500mg 6 hourly for seven days and paracetamol tablets two three times a day for three days. Patient was advised to have daily saline sits baths at home. She was to be followed up in the Gynae clinic after 6 weeks.

FOLLOW UP

Patient was seen in gynae clinic after six weeks. She was in good general condition. There was no history of dyspareunia. The new stoma had reduced to about 0.5 cm in diameter and was discharging freely. The laboratory report for culture could not be traced.

COMMENT

Patient with Bartholins Abscess which was managed by Marsupialization is presented. The symptoms and signs of this abscess are so characteristic and do not present any problems.

Bartholins glands or vulvovaginal gland is a small racemose gland deeply located in the perineum and is covered by a resistant urogenital diaphragm. (1 and 2) it was first describe by Casper Bartholins who lived 1655-1739 in Copenhagen, Denmark.(1) It is homologous to the Cowper gland of the male. It is its long duct which becomes distended as it traverses the loose connective tissue between the gland and the Ostium. It secretes a clear viscid fluid during coitus which lubricates the interoitus. Very often the ostium closes due to fibrosis caused by infection or trauma.(4) It is thought that Bartholins gland direct abscess may be initiated by gonococcal infection but develop usually as a mixed bacterial infection which do not include gonococcus.(3) Only 3.5% have been associated with Neisseria Gonococcus.

The incidence of vulvovaginal gland direct abscess in our community or KNH is not exactly known. But it is a very common illness in the acute gynae wards.

The management of the Bartholin gland duct abscess is usually surgical.

Simple incision and drainage followed by periodic iodoform pack as advocated by Davies (1948) was not enough (1) The patient had long stay in hospital and recurrent rate were found as high as 68%. (2) Excision of the gland was attended by several technical difficulties. It had been objected to because perineum is deprived of an important secretory gland. Haemorrhage, hematoma formation and drainage to surrounding structure can be serious complications. The recurrent rate after excision is still too high. The operation is not feasible when the cyst or abscess has ruptured through or under the skin.

Marsupialization was first described by Jacobson (1950) and slightly modified by Wilder (1955). (2) It aims at achieving two objectives, namely: To construct a new mucocutaneous junction between the wall of the cyst and the skin of the labia, and to place the new ostium in approximately the normal position so that the section will be released on the valva. (5)

Marsupialization has the following advantages:

- (1) The mucous secretion function of the gland is retained.
- (2) The procedure is technically simple and operation time is short.
- (3) Blood loss is minimal
- (4) Injuries to surrounding tissues do not occur.
- (5) There is little or no post operative discomfort or morbidity.
- (6) Hospital stay is shortened.
- (7) Painful post operative scarring does not occur.

(8) The procedure can be done regardless of whether the cyst is infected, ruptured or recurrent.

Usually a piece of th cyst wall put in transport media may grow the infective organisms rather than swab from the abscess.

Although our patient healed quite well cases of reccurency following marsupialization have been reported.

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PRIMARY AMENORRHOEA:

LAPARASCOPY

Name : R.K.K
Age : 21 years
Unit : 655145
Date of Admission: 9/8/85
Date of Discharge: 9/8/85

PRESENTING COMPLAINT

She presented at the gynaecological clinic with complains that she had not had her memarche. She was 21 years of age.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She had not had her menarche. There was no history of periodic lower abdominal pains. She had not had sexual intercourse and had no boy friend. There was no history of use of contraceptive or any hormonal therapy.

PAST MEDICAL HISTORY: There was nothing significant.

FAMILY AND SOCIAL HISTORY

She was from a family of four sisters and three brothers. Her sisters had all had their menarches between age of 13 and fifteen years. There was no major illness in the family. Her father and mother were both alive and well.

She had passed her "O" level examinations the previous year.

PHYSICAL EXAMINATION

Her general condition was good. She was of a female phenotype. Her height was 5 feet one inch and her weight was 56Kg. There was no webbing of the neck. The carrying

angle of the arm was normal. She had normal intelligence. The blood pressure was 120/60 mmHg., and the pulse was 78 per minute, regular and good volume. There was no lymphadenopathy. The pubic and axillary hair were scanty. The breasts were not developed. There was no acnae.

Examination of the central nervous system, the respiratory system and the cardiovascular system revealed normal findings.

VAGINAL AND SPECULUM EXAMINATION

The external genitalia were infantile. The vagina was small with a depth of 6-7cm. The speculum could not be introduced in the vagina. However bimannual examination with the right index finger in the vagina revealed small cervix. The uterus was not palpable vaginally and on rectal examination. There was no masses in pouch of Douglas and the adnexia.

The Diagnosis of Primary Amenorrhoea was made.

INVESTIGATION DONE

- (1) Urinalysis revealed normal findings
- (2) Haemoglobin - 14.5 g/dl
- (3) Stool ova/cyst - Normal findings
- (4) Skull X-Ray - The pituitary fossa was normal with no evidence of tumor or calcification.
- (5) Buccal smear - 12 percent cells contained bar bodies. (Normal range in our laboratory was 6-26%)
- (6) Hormonal profile
 - Prolactin - 247 u/l
 - Luteinizing hormone - 3.90 Iu/l
 - Follicular stimulating hormone - 2.49 Iu/l
 - Estradiol - 514.5 P.mol/l
 - Progetrone - 12.70 mmol/l

These level are normal for luteal phase.

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These level are normal for luteal phase.

She was admitted as a day case for laparoscopic examination of the internal genital organs. The procedure was performed as described in the patient with abnormal uterine bleeding with polycystic ovaries. (see page 288)

LAPAROSCOPIC REPORT

A good view of pelvic organs was obtained. There were no adhesions and no masses. The uterus was small but normal in appearance. The fallopian tubes were both healthy looking but correspondingly small. Both the ovaries were normal but there was no old or recent corpus luteum seen. The dilatation and curettage could not be performed because the cervix was too small to be dilated. Biopsy of the ovaries was not taken because the right punch was not available.

The patient was sent to ENT clinic for assessment of olfactory function. This was reported as normal. There was no evidence of anosmia.

TREATMENT

Since all the findings in this patient were normal except for infantilism it was decided that this patient might be a case of delayed menarche. She was left alone for six months to await for spontaneous onset of menarche. After this period she had not menstruated.

She was then put on combined contraceptive pills in the form of microgynon for three cycles. The patient had withdrawal bleeding after each cycle of the pill but no spontaneous menses when the pill was stopped. It was decided that she should be done karyotyping to try and unfold the cause of her amenorrhoea. By the time of reporting this case the result of the karyotype had not been received. The patient has also not been seen for follow up.

COMMENT

This patient presented with primary amenorrhoea and sexual infantilism. The incidence of primary amenorrhoea at Kenyatta National Hospital has been reported by Gumbi (1976) as 0.11 percent.⁽¹⁾ Many of these patients reported late. Only 9 (25.7 percent) patients were under the age of 20 years at the time of seeking medical services. However 23 (65.5%) were between the age of 20-29 years when first seen. Many of them presented with infertility, failure to menstrate and difficulties at intercourse. This patients main concern was that she had not menstrated. She was of average intelligence and feminine stature.

The cause of primary amenorrhoea in this patient still remains elusive. However investigation have been done and the findings indicate that most of her functions are normal except for her complain and infantilism.

Investigation for primary anenorrhoea include a detailed history to exclude familiar conditions such as testicular feminization; the present of pulmonary tuberculosis in the family; sexual experience of the patient and childhood development. Physical examination is done to confirm development of secondary sexual characteristics and to exclude local causes such as imperforate hymen or under-developed vagina which cause cryptomenorrhoea. The height of the patient is taken because it has been observed that those who are 4 feet 10 inches tall or less are very likely to be due to one of the other of the chromosomal abnormalities leading to gonadal dysgenesis. ⁽²⁾ This group may include turners syndrome with its characteristis features. This patient was five feet one inch tall. The skull X-Ray were taken to exclude any abnormality of the sella turcica caused by pituitary neoplasm. Buccal smear is examined to exclude cases of turners syndrome, XY females, and testicular feminization. In these cases the

buccal smear will be negative. But in some turners syndrome bucal smear may be positive if there is turners mosaic.(3)

Hormonal profile was done to investigate aberrations in the hypothalamic - pituitary ovarian axis. Hormone profile in this patient revealed normal levels of gonodotrophins and ovarian steriods. Prolactin level was also normal. Elevated levels of prolactin would be expected in Del-Castillo syndrome. In this syndrome amenorrhoea and galactrorhoea occur without following a pregnancy! The sense of smell is tested to detect patients who in addition may have anosmia. This occurs in olfacto-genital syndrome and may be suspected in patients with hypogonadotropin and hypogonadism.(2) In this patient there was no anosmia and hormonal levels were normal. Since these investigations were unrewarding it was necessary for the more invessive laparoscopic examination to be done except for the infantilism the internal genital organs were nomal and healthy.

There was no sign of Chronic Pelvic Inflammatory Disease. Tuberculosis of the pelvic organs has been reported to cause primary amenorrhoea.(4) It is thought to start in the fallopian tube and endometrial infection is secondary to this. In severe cases the entire endometrim may be destroyed, leading to amenorrhoea and these cases may not respond with endometrial proliferation even if oestrogens are administered in high doses. In such cases no endometrium may be obtained at curetrage and confirmation of the diagnosis is difficult. Other possible explanations for the amenorrhoea may be ovarian involvement in a tuberculous mass or inactivation of hormones by tubercule bacillus.

Laparoscopic examination also excluded mullerian agenesis and streak ovaries. There was also no evidence of ovulation.

A biopsy of the ovary could have been done at the time of laparoscopy.

Dewhurst has classified the causes of primary amenorrhoea in seven groups namely; chromosomal; gonadal, end organ resistance; hypothalamus; pituitary; adrenal hyperplasia; gynestresia and delayed menarche(2). Although the definative diagnosis in this patient will await the completion of the investigation to include kariotyping it would appear that this patient might be a case of delayed menarche. However in the majority of individuals with primary amenorrhoea it is possible to arrive at a fairly firm provisional diagnosis from the history and the results of physical examination. It is only in minority as in this patient that there is need to go beyond fairly simple out patient investigation. Dewhurst has also stressed that no attempt should be made to treat these patients until a firm diagnosis is reached.(2)

Although this patient was put on combined oral contraceptives and the intended response obtained, these cannot be used as long term solution because combined oral contraceptive do cause amenorrhoea when this is eventually stopped. (5) Induction of ovulation may also be attempted using clomid but this has to await the definative diagnosis.

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CARCINOMA OF VULVA
RADICAL VULVECTOMY

Name - E.M.
Age - 29 years
Unit - 762250
Date of Admission - 14/8/86
Date of Discharge - 4/12/86

PRESENTING COMPLAINTS

Vulval Ulceration,
Granulomatous swelling on vulva,
Itching of the vulva,
Duration of 8 years.

HISTORY OF PRESENT COMPLAINTS

The patient has had ulcers at the vulva on and off since 1979. She had also noticed several granulomatous swelling around the vulva which also came and went but not altogether for the same period. These have been accompanied by much itching which was worse during menstrual period. About a year ago she noticed that one of the ulcers remained constant and had bloody discharge which stained her clothe. She received medical treatment from the nearest health centre with no improvement. She was referred to the Gynae Clinic via Female Filter Clinic.

PAST MEDICAL HISTORY: She has not had any major illness before.

FAMILY HISTORY:

She is the 5th born in a family of eight children with only one brother. There was no history of major illness in the family.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She had her menarche at 15 years. Her cycles had been 28 days lasting 4 - 5 days and were painless. She was para 2+0. Her last delivery was in 1982. The first delivery was in 1979, at Pumwani Maternity Hospital. The pregnancy had been normal but she had preterm delivery at eight months. She had laceration of the perineum which was not repaired. The baby stayed in Nursery for three weeks. The baby was alive and well. The second pregnancy similarly ended up in a premature delivery at six and half months at Kenyatta National Hospital. The baby stayed in Nursery for one week and then died. Her last menstrual period was on 29th August 1986. There was no history of use of contraception.

SOCIAL HISTORY

She was unmarried and worked as a house servant in Banana Hill. She was educated up to standard four. She did not drink and smoke.

PHYSICAL EXAMINATION

She was in good general condition. She was not anaemic; no pitting leg oedema, No lymphadenopathy and afebrile. There was congenital absence of both thumbs. The breasts were well developed and normal. The blood pressure was 130/80 mmHg. The pulse was 90 per minute and good volume.

ABDOMINAL:

It was scaphoid; the spleen and liver were not enlarged. There was no other masses. There was no ascites and no tenderness.

Examination of the cardiovascular system, the respiratory system and the central nervous system revealed normal findings.

VAGINAL EXAMINATION:

External genitalia revealed scattered areas of gramuloma accuminata. There was an ulcer on the left vulva about one centimetre in diameter which bled easily on touch. There were several ulcers around the fourchet. There was an old third degree tear which had not been repaired. The vagina was normal. Cervix was normal, multiparous and had clear mucoid discharge. The uterus was anteverted, anteflex and of normal size. The Adnexia and Pouch of Douglas revealed normal findings.

Diagnosis:

- (1) Vulval Ulcer? Cause
- (2) Condyloma Accuminata
- (3) Syphilis
- (4) Carcinoma of Vulva Stage I.

SUMMARY OF INVESTIGATION

- (1) Haemoglobin 14.1gm/dl. Haematocit 43.0 percent
- (2) Blood group "O" Rhesus "D" Negative
- (3) WBS 5.1×10^9 per litre
- (4) Na^+ - 134 mm ol/litre, K^+ -3.8mmol/litre
BUN - 3.3 MMol/litre
- (5) Chest X-Ray was normal findings
- (6) Pap Smear - Was done but report never obtained
- (7) Malarial Smear - No malarial parasite seen
- (8) Khan Test - negative
- (9) Biopsy of the Vulval Ulcer
Microscopy-Skin biopsy. Microscopically showed vulva covered by normal squamous epithelium and dysplastic epithelium. In the Stroma islands of infiltrating carcinomatus areas were seen. With only sparce keratinization. Diagnosis - Squamous cell carcinoma
- (10) MSSU - No proteins, no sugar and no growth.

She was explained that she had cancer of the vulva which was still in the early stage. She was informed that she needed very extensive operation - Radical vulvotomy - which would offer her reasonable chances of survival. It was made clear to her that she would have to be under close medical supervision for long time if not for the rest of her life. She gave written consent for the operation but this could not be undertaken immediately because her blood group and type were not readily available. Several weeks elapsed.

RADICAL VULVECTOMY

Preoperative preparation was undertaken as outlined in the introduction. Four pints of compatible blood was made available.

The anaesthesia was induced and patient placed in modified lithotomy position. The anterior abdominal wall, vulva and perineum were cleansed with savlon solution, then painted with Tincture of iodine. She was draped and a folleys catheter inserted. With two surgeons working simultaneously each with his set of assistant and scrub nurse, Taussigs modification of Bassets incission was made from about two finger breadth above the pubis to the anterior superior illiac spines. Vertical incisions downwards on either side of the mons gave access to the femoral triangle and formed the initial line for the vulvectomy. Dissection was then carried out removing the fascia, nodes and fat in block. The round ligament was not cut but the femoral triangle was dissected from the lateral aspect to the medial aspect. The node of cloquet was removed and labled. The saphenous vein was then cut after ligating with strong chronic catgut no. 2.

From below an incision was made using diathermy knife for the intra vaginal margin and a vulval one was made which joined the incision from above following along the crural-valval fold. Subcutaneous perineorrhaphy was then made with interrupted sutures and the rest of the skin edges were closed with corrugated rubber drainage. Most of the skin came together well except at the suprabubic tee junction of the incision. The total blood loss was 400ml. pressure dressings were applied. Specimen was sent for histopathology.

POST OPERATIVE PERIOD

Routine post operative care was provide as explained in the introduction. In addition injection pethedine intramuscularly 100mg six hourly for 24 hours was given. She was put on continous bladder drainage. Injection of Ampicilin and Gentamycin were given for one week.

The dressings were removed on the second post operation day. The rubber drainage also removed then. there was no evidence of infection and no further dressing was applied. Sugar was applied on the raw area around the vaginal incision and the suprapubic area daily. After 7 days the catheter was removed and catheter specimen grew no organism. On the 14th day all the stitches were removed and patient started on the physiotherapy. Most of the wound healed by first intention except for the suprapubic area which healed by granulation tissues.

HISTOLOGICAL REPORT

Received at the pathology labaratory was vulvectomy specimen consisting lower part of pubis, labia majora and minora.

- (i) On the left side near the urethra was polypoid turmour 2 cm in diameter. Besides several smaller polypoid tumour seen.

- (ii) Biopsy from vagina 2x3x8mm.

(iii) Left side lymphnodes. Three pieces of fatty tissue. one lymphnode seen.

(iv) Right side lymphnodes. Fatty tissue 3.5cm diameter. Several smaller lymphnodes seen.

HISTOLOGY REPORT

I. Shows a multifocal process, several foci of moderate differentiated squamous cell carcinoma were seen. Besides pronounced virogenic changes in the epithelium and foci of severe dysplasia.

The tumour seems to have been removed in healthy tissue in the depth and lateral but tissue from the vaginal and posterior resection boader show severe dysplastic changes.

II. Shows epithelial hyperplasia with virogenic changes.

III. Fatty tissue with lymphnodes with unspecific reactive changes.

IV. Fatty tissue with lymphnodes with unspecific reactive changes.

Diagnosis Vulvectomy specimen with multifocal moderately differentiated squamous cell carcinoma.

Vaginal and posterior resection border with epithelial dysplasia.

Pronounced virogenic changes of the epithelium. Lymphnodes without metastasis.

FOLLOW UP : Patient was allowed home to come back after two weeks.

COMMENT

This patient presented at relatively young age for carcinoma of the vulva. She is only 29 years old. the majority of the cases occur among women aged between 50 and 70 years. But the age range is wide. The youngest woman reported with carcinoma of the vulva was 15 years of age (2), and the oldest was over 80 years at the time of diagnosis. There is a difference in the presentation of the disease among the old patients and the young patients. Among the older patient most of the cases of carcinoma of the vulva like any other skin tumour of the body represent a slowly growing tumor with predictable growth pattern (1). It is associated with leukoplakia and lichen atrophy. In the young women the tumor tends to grow faster and attain large lesions. It may present concomitantly with vulval granulomatous lesions such as granuloma inuinale, lymphogranuloma venereum, hypertrophic dystrophy and condylomata accuminatum. Our patient who belongs to the younger group presented with concomittant condylomata accuminata.

The ulcer in our patient was on labia majora. In one series reported by Rutledge (1970) 62 percent of the lesions were confined to the labia majora. The labia minora and the vestibule had 20 percent of the lesions. Twelve percent of the lesion occurred in periclitoral area and only 6 per cent were found in the posterior commissure. However the lesions of the condylomata accuminata occurred all over the valvae, the perineum and others in the vagina. The cervix was not involved.

In Jamaica, West Indies, Sengupta reported that 51.2 per cent of the patients with carcinoma of the vulva had past history of chronic granulomatous and hypertroplastic dystriophic lesions of vulva. Sixty percent were below the age of forty and were parous. Only 3.5 per cent had concomittant condylomata accuminata, in the series.

Carcinoma of the vulva may occur concomittantly with carcinoma in other genital organs e..g carcinoma of the cervix. This explains why PAP smear examination was necessary in this patient.

The differential diagnosis included ulcerative and gramulomatous lesions of the vulva such as Herpes Simplex, lymphogranuloma venereum, chancroid, syphilis, granuloma inguinale, tuberculosis of the vulva, bilharziasis, yaws, condylomata accuminata and matastatic carcinoma of the cervix, bladder and anorectal.

The histological report showed well differentiated squamous cell carcinoma. In the literature 80-90 per cent of carcinoma of the vulva are epidermoid.(1) The size of the lesion corresponds to the nodal involvement. The lymphnodes were not clinically involved in this patient. On the vulvectomy specimen also the lymphnodes were not involved.

Since the disease was at Stage I the appropriate treatment offered was radical vulvectomy and node dissection of bilateral superficial inguinal and femeral lymphadenectomy. The incision was closed as a primary precEDURE with drainage. The patient did very well during the post operative period. However complication that attend this operation include, wound dihesence, osteitis pubis, urinary tract infection, post operative bilateral lymphoedema and stenosis of the vaginal interoitus.

Long term follow up of this patient will have to ensure normal sexual function and detection of recurrency early if any. Follow up pap smear will be undertaken because Boyce, 1974 reported that 9 out of 43 patients treated for Cancer of the vulva later developed carcinoma in situ of the cervix (5). The Survival rate after five years is 61%.

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CARCINOMA OF CERVIX

WERTHEIMS HYSTERECTOMY FOLLOWED BY TELETHERAPY

Name : D.A.
Age : 27 years
Unit : 593344 RT No. 7878
Date of Admission - 2.12.83
Date of Discharge - 1.3.84

PRESENTING COMPLAINTS

The patient complained of bleeding per vaginum after sexual intercourse, lower abdominal pains for a duration of two months.

HISTORY OF PRESENT CONDITION

The patient was well until two weeks prior to admission when she started to notice blood from the vagina following sexual intercourse. There was no history of foul smelling discharge per vaginum. She complained of lower abdominal pain and dyspareunia. She reported to the Family Welfare Centre where a pap. smear report showed class four with malignant cells seen. She was consequently referred to casualty for admission.

PAST GYNEACOLOGICAL AND OBSTETRICAL HISTORY

Her menarche was at 14 years of age. The periods had been regular coming every 28 days and lasting four to five days. She could not remember at which age she had her first intercourse. But she was married at the age of seventeen years.

She was para 5+0. Her LMP was on 23/11/83 and her last delivery was on 12/5/81. She had used contraceptive up to August 1983.

PAST MEDICAL HISTORY: There was no major illness in the past.

FAMILY HISTORY: There was nothing significant

SOCIAL HISTORY

She was educated up to standard seven. She was a married housewife. Her husband worked as a mechanic. She was the only wife. She did not drink or smoke.

PHYSICAL EXAMINATION

Her general condition was good. She was not anaemic, had no lymphadenopathy and had no jaundice. The blood pressure was 120/70 mmHg. The pulse was 80 per minute regular and good volume. The breasts were normal with no masses felt and were not active.

ABDOMINAL EXAMINATION

The abdomen was scaphoid with few the rapeutical marks in the hypogastrium. The spleen and the liver were normal. There was no ascites and there was no abdominal tenderness.

Examination of the respiratory system, the cardiovascular system and the central nervous system were essentially normal.

VAGINA EXAMINATION

Speculum Examination

The external genitalia were normal. The vagina was normal. The cervix was eroded at one O'clock and bled easily from this ulcer when touched. The ulcer was confined to the cervix.

PAST MEDICAL HISTORY: There was no major illness in the past.

FAMILY HISTORY: There was nothing significant

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The external genitalia were normal. The vagina was normal. The cervix was eroded at one O'clock and bled easily from this ulcer when touched. The ulcer was confined to the cervix.

BIMANUAL EXAMINATION

The cervix was firm and the OS was closed but patulous. The uterus was anteverted, anteflexed and of normal size. It was freely mobile and had no nodules. The adnexia and POD revealed normal findings and rectal examination revealed similar findings as per vaginum.

An impression of Carcinoma of cervix was made.

SUMMARY OF THE INVESTIGATIONS DONE

1. Papanicolau smear
Endocervical cells were seen. Cytology showed malignant cells of squamous cell carcinoma. Pap smear class iv.
2. Blood group "B" Rhesus "D" Positive.
3. Haemoglobin - 13.1 grammes per decilitre
Haematocrit - 39.9 per cent
4. Stool - No ova and cysts seen.
5. Urinalysis - Sugar and protein absent
- PH 5
6. Blood Urea and Electrolytes
BUN - 3.4 mmol/l
Na⁺ - 135 mmol/l
K⁺ - 4 mmol/l
7. Chest X-Ray was normal
8. I.V.P. was normal.

EXAMINATION UNDER ANAESTHESIA (EUA)

BIOPSY AND STAGING

The patient was explained the nature of the procedure. She gave a written consent and she was prepared for theatre as described in the introduction.

General anaesthesia was induced as described in the introduction. The patient was placed in lithotomy position. The vulva-vagina and perineum were cleansed with savlon solution. Sterile drapes were applied and she was catheterized. A sims speculum was introduced in the vagina and exposed the cervix for examination. A cotton swab held on the sponge forceps was touched on the ulcer on cervix and it bled easily. The speculum was then withdrawn and systematic bimanual examination was done. Cystoscopy was not done as it was not available. The speculum was re-introduced into the vagina and a biopsy was taken from the lesion using a punch under direct vision. Lastly the parametria and the pelvic wall were examined through the rectal digital examination and the rectal mucosa was assessed. The anaesthesia was stopped and the patient allowed to recover from it.

THE FINDINGS

Haemorrhagic ulcerative lesion was seen involving only the tip of the anterior lip of cervix. The posterior lip and the surrounding vaginal mucosa were free of the tumour. The parametria was not involved. the uterus was normal size. The adnexia and pouch of Douglas were normal. The rectal mucosa was free.

After Eua a impression of CARCINOMA OF CERVIX STAGE 1B. Suitable for Weitheims Hysterectomy was made.

HISTOLOGICAL REPORT

"Cervix - This grey fragment 1x0.5x0.5cm shows an infiltration poorly differentiated squamous cell carcinoma with focal areas of giant cell reaction".

DIAGNOSIS OF SQUAMOUS CELL CARCINOMA OF CERVIX STAGE IB

She was planned for Wertheims Hysterectomy. This information was passed to the patient and her husband. There was however a delay of seven weeks because of lack of blood of her group. eventually six units of blood were available and patient taken for the operation.

WERTHEIMS HYSTERECTOMY

General anaesthesia was induced and maintained as described in the introduction. Muscle relaxation was achieved by intermittent injection of curare.

Vulva and perineum were cleansed with savlon. Sterile drapes were applied. EUA confirmed the earlier findings. the vagina was packed with sterile gauze to balloon it. The end of the gauze was anchored on the end of the table. A nelaton catheter was left in place.

The patient was placed in supine position. The abdomen was opened in layers through a subumbilical midline incision. A normal looking uterus with health fallopian tube and ovaries were found. There was no adhesions.

The ligament was clamped close to the lateral pelvic wall cut and ligated. An opening was made in the broad ligament and the distal end of the pelvic ureters were identified and marked. Bilateral infundibulo pelvic ligaments were clamped, cut and transfixed. The ureters were followed through the ureteric canal. The later was

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identified, and uterine arteries and veins were double clamped, cut between the clamps and transfixed above the ureters.

The utero-sacral ligament was double clamped and cut then ligated. The obturator nerve, artery and fossa were identified. The vaginal pack was removed by pulling on the end anchored on the end of the table. The bladder was pushed down and uterus removed with all its appendices plus 1½ inches of the vaginal walls.

The lymphatic glands were dissected in the para iliac vessels and the obturator and sent for histopathology. The gland dissection extended up to the bifurcation of the common iliac arteries and veins. Peritonization was done and abdominal wall closed in layers. The anaesthesia was reversed.

POST OPERATIVE CARE

Routine post operative care was instituted as described in introduction. In addition patient was put on Ampicillin and gentamucin for seven days. She was transfused with four pints of blood. Haemoglobin checked on the fifth post operative day was 14.9 g per decilitre. The stitches were removed on the eighth post operative day.

HISTOPATHOLOGY REPORT

The report came back after 12 days as follows:

"Macroscopic - Received was a specimen of a total hysterectomy with both tubes and ovaries. A cuff of the vagina was also included. The height of the uterus was 9 cm. Grossly there was an ulcerated granular tumour in the cervix with lateral extension. Grossly too the tumour appeared to be involving the cervix only. A small lymph node attached to the posterior part was also identified".

"Microscopy: Histology shows an extensively infiltrating poorly differentiated squamous cell carcinoma of the cervix. In places there is a suggestion of Keratin formation. Numerous giant cells were also seen. The tumour shows partial necrosis. There is a dense chronic inflammation infiltrate in the stroma and a good number of oesinophils are also identified. The Tumour appears to be restricted to the cervix. Its extension into the endocervical canal through the proximal margin of the endocervix is clear of the tumour. Likewise the vaginal cuff is free from the tumour".

"The uterine cavity appears essentially normal. The right ovary shows a simple cyst in which there is haemorrhage. The left ovary is normal. There is no metastases to the ovaries. The endometrical cavity does not contain any tumour".

"The lymphnodes attached to the posterior cervix in the hysterectomy specimen shows metastatic carcinoma. However the right and the left inguinal lymphnodes are free from tumour. They show reactive changes with a moderate sinus histiocytosis."

"Conclusion: Squamous cell carcinoma of the cervix with an lymphnode close to the cervix showing metastatic carcinoma. The inguinal lymphnodes and vaginal cuff are free from the tumour."

TELEETHERAPHY:

She was started on external radiation on the 33rd post operative day due to over booking at the radiotherapy unit. Otherwise she would have been started on the 8th Post Operative Day. The two opposing anterior and posterior field of 15x15 cm were used on gammatron 60. She received 2.00 gray daily from Monday to Friday and rested over the weekend. She received a total of 40.00 grays over the 27

days. patient developed diarrhoea during radiotherapy. this was treated with tables lomotil and kaolin sedative and improved.

FOLLOW UP

She was seen again at the radiotherapy clinic seven months later. Simulation was done and there was no evidence of tumour. Her haemoglobin was 13.7g per decilitre. She was given another six months appointment but has not yet returned to the clinic.

COMMENT

Carcinoma of the cervix is a common disease among the women in Kenya. The true incidence is not known but it is estimated to be second to the carcinoma of the breast. Patients usually present with advanced disease in stage III mostly in stage III "B" disease. This patient presented in Stage I'B'. Ojwang reported that in his series only 10 percent of patients presented with stage I disease.(1) It is likely that this patient benefited from the regular check up of patients attending family planning clinic. These patient make contact with health facilities every three months.

The lesion was that of exophytic tumour and histology report showed that gaint cells were present. Both these findings are consistent with excellent tumor response to radiotherapy. The other good prognostic finding as regards response to radiotherapy was that it was poorly differentiated. These three findings indicate that the rumour was dividing rapidly and hence such cells respond well to radiation. Radiotherapy is the treatment of choice for patients with carcinoma of the cercvix but surgery may be offered in carefully selected patients who present in stages equal to or less than IIA.

She was offered Wertheim's hysterectomy in which radical hysterectomy and pelvic lymphadenectomy was done. The results of surgery at Kenyatta National Hospital is not very encouraging due to several factors, one of which is errors made during staging.

Figo Staging is a rough estimation of the extent of the disease at the time of diagnosis.⁽³⁾ It provides for comparison of treatment results from different centres. It is however attended with high inter observer error of about 10-12 percent.⁽²⁾ The common error is the failure to accurately define the extent of the parametrial disease.⁽⁴⁾ The pelvic structures are relatively inaccessible to examination even when the patient is fully anaesthetised. As a result clinical staging is at best an inaccurate estimation of local extent of cervical carcinoma. Particular care needs to be taken in patients with stage II disease.

Lymph node metastasis also varies with the clinical stage of the disease. Thus in clinical stage I, lymph node metastasis occur in 4.3 percent to 34.2 percent of cases; whereas in clinical stage II lymph node metastasis occur in 12.4 percent to 50.7 percent and in stage III disease lymph node metastasis are found in 31 to 62 percent of cases.⁽⁵⁾ In this patient we found lymph node metastasis involving only one node adjacent to the cervix but no further. However radiotherapy was offered to take care of nonpalpable microscopic metastasis which may not have been removed at operation, or to mop up any spillage of tumour that might have occurred. The combination of surgery and radiotherapy does improve the survival rate. During radiotherapy patient developed diarrhoea. This was due to proctitis which is caused by radiation of the rectum.

It cannot be over emphasized that carcinoma of the cervix is a preventable disease. This may be though routine pap smear for all women who are sexually active. This unfortunately is not possible in Kenya owing to the inadequacy of health resources. Selective screening has been advocated to cover the high risk population. Problems arise in how to define a risk population. For example Kibunguchy found 1.4 percent Pap smear Class III while he was studying patients with sexually transmitted diseases.(6) This is usually regarded as a high risk population. However a programme needs to be developed that will cover the majority of the population and whose cost-benefit and cost-effective ratio are well analysed so as to justify the society paying for it. The cost of treatment for invassive disease at Kenyatta Naitonal Hospital have not been reported but it can be envisaged that the loss of a mother at a relatively young age leave heavy burden to the family and the society at large.

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UTERINE FIBROIDS
TOTAL ABDOMINAL HYSTERECTOMY

Name : J.M.
Age : 35 years
Unit : 685796
Date of Admission: 2.10.85
Date of Discharge: 3.12.85

HISTORY OF PRESENT ILLNESS

She presented at the gynaecology clinic with complaints of lower abdominal pains on and off, progressive swelling of the lower abdomen and heavy prolonged menstruation. Her abdominal pains were exacerbated during menstruation. She had had this complains for 10 years but had become worse over the last four months. Micturition and bowel movements were normal. There was no history of post coital vaginal bleeding but there was history of dyspareunia.

PAST MEDICAL HISTORY

She has been admitted in various hospitals for similar complaints over the last 10 years. Appendicectomy was done in 1983 in a Kisii private hospital.

OBSTETRICAL/GYNAECOLOGICAL HISTORY

She was para 5+0. Her last delivery was in 1978. All the babies were delivered at term. The puerperium was uneventful and all were alive and well.

Her last menstrual period was on 15th September 1985. The cycles were irregular coming every 21 days or 36 days and lasting 8-12 days. It was accompanied with dysmenorrhoea and heavy flow. Patient had not used any form of contraceptive.

FAMILY HISTORY

She was a married house wife. Her husband worked as a teacher. She did not take alcohol and did not smoke.

PHYSICAL EXAMINATION

Her general condition was good. There was no pallor, she was afebrile and had no pitting oedema of the legs. There were no lymphadenopathy, blood pressure was 120/70 mmHg., pulse 82/min regular and good volume. The breasts were normal, with no masses and not active.

ABDOMINAL EXAMINATION

There were several traditional therapeutic marks in lower abdomen with an old surgical scar in right macbunners point. There was a nodular mass in the lower abdomen arising from the pelvic. There was slight tenderness in lower abdomen. The liver was not enlarged and the spleen was not palpable. There was no ascites.

The respiratory system cardiovascular system and central nervous system were essentially normal.

VAGINAL EXAMINATION

External genitalia and the vagina were normal. The cervix was firm with clear mucoid discharge. The cervical OS was closed and multiparous. The uterus was about 14 weeks enlarged, firm and nodulated. The left adnexia was free but the right adnexia had a firm mass about 7x7 cm, which was mobile. The pouch of Douglas was free. Rectal examination revealed similar findings:

DIAGNOSIS: UTERINE FIBROID WITH OVARIAN MASS OR
PEDUNCULATED FIBROID

The plan of management was to prepare the patient for abdominal hysterectomy.

INVESTIGATIONS DONE

1. Haemoglobin - 14.4g per decilitre
2. Haematocrit - 42 percent
3. White blood cell count - 4.9×10^9 /litre
4. WBC - Differential - Neutrophils - 19%
- Lymphocytes - 70%
- Monocytes - 2%
- Eosinophyl - 9%
5. Blood group - "O" Rhesus "D" Positive
6. Urea and electrolytes
BUN - 3.3 mmol/litre
Na⁺ - 140 " "
K⁺ - 4.2 " "
7. Urinalysis MSSU - PH - 7
Protein - Negative, Glucose - Negative.
Culture was not indicated
8. Papanicolau smear - Class I
9. Malarial smear - negative
10. I.V.P. could not be done because there was no contrast media.

The patient was informed about the nature of the operation with all its implications. She gave a written consent. Three units of compatible blood was reserved for the operation. Premedication with atropine sulphate 0.6 mg intramuscularly half hour before theatre was given.

TOTAL ABDOMINAL HYSTERECTOMY

General anaesthesia was induced as described in the introduction.

Asceptic catheterization was done. Vaginal examination under anaesthesia confirmed earlier findings. The vagina was painted with melthylene blue. The abdominal wall was prepared and sterile drapes applied. Anterior abdominal wall was opened through a midline subumbilical incision. Gosset self retaining retractor was inserted and the bladder pushed down by morrison retractor. The intestines were packed away.

FINDINGS

The uterus was enlarged to about 14 weeks gravida uterus with several intramural fibroids. There were no adhesions. Both the ovaries were normal with a recent corpus luteum on the right overy. Both fallopian tubes were grossily normal. The pouch of Douglas was empty.

DONE

The round ligaments were clamped by two long artery forceps and divided between the clamps and the distal ends ligated. The sutures were held with small artery forceps. The vesco-uterine pouch was opened and the bladder pushed down. The broad ligaments were divided between clamps and the distal ends transfixed. The posterior flap was dissected down. The uterine vessels were divided between the clamps and transfixed with chronic catgut No.2. The cardinal ligament were clamped and divided a long the cervix and ligated. The anterior vaginal vault was opened between little woods just below the cervix and circumcised with scissors while catching the bleeders thus removing the uterus.

The vaginal angles were secured with a stitch thus tying up the vaginal branch of the uterine vessels. The vaginal vault was closed using mattress stitches with chronic catgut No.2. Haemostasis was achieved. Peritonization was done using purse stitches and anchored the vaginal vault. The instruments, gauze and swabs were reported correct. The abdominal wall was closed in layers.

POST OPERATIVE CARE

The post operative care was provided as described in the introduction. In addition she was transfused with two pints of compatible blood.

The post operative period was uneventful. The 4th post operative day the haemoglobin was 14.0 g per decilitre. All stitches were removed on the 7th post operative day, the wound had healed well and the patient discharge home.

FOLLOW-UP

The patient was seen in Gynae Clinic after 6 week.

HISTOPATHOLOGICAL REPORT

The histology of the uterus revealed multiple nodules of leiomyomata.

The cervix was found to be normal with no evidence of dysplasia or chronic cervicitis.

The patients scar had healed well and vagina vault had also healed well with no granulation tissue. The patient was discharged from the clinic.

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COMMENT

Uterine fibroids are leiomyomas. There are the most common tumors of women⁽⁴⁾ and are found in all races and at any age after puberty. Fibroids have been associated with hyperoestrogenism. Novak and Woodruff (1979) reported that there were present in about 20% of women over 30 years of age. The aetiology of fibroid is unknown but there are usually associated with both primary and secondary infertility.

This patient presented with menorrhagia. Fibroids may be asymptomatic for long periods. Most patients present late when the fibroids have grown to enormous size and may present with pelvic pain or discomfort and menorrhagea, a mass in lower abdomen or with recurrent abortions. Patients may present with urinary symptoms due to pressure on the bladder by cervical fibroids or a stommy post delivery period due to infected fibroid in the puerperium (Lawson and Steward 1975).

A patient presenting with uterine fibroids should be investigated as follows: A pap smear is done to detect cervical dysplasia if any. In the presence of dysplasia extended hysterectomy is done. A full haemogram should be done to rule out anemia which may be caused by the menorrhagia. Other causes of anaemia should also be investigated especially in the tropics. Urinalysis should be done which should include culture and sensitivity to exclude urinary tract infection. Urea and electrolytes and intravenous pyelogram should be done to assess the state of the kidneys and the ureters. IVP was not done in this patient because there was no contrast media. In case myomectomy was being contemplated a hysterosalpingogram should be done to assess the patence of the tube and the outline of the uterus.

The management of fibroids depend on several factors namely: the size, the location on the uterus and cervix, the age of the patient, presenting symptoms, and the desire to have more children. A patient who has few fibroids is perimenopausal and has mild symptoms is better left alone for after the onset of menopause the majority of fibroid regress rendering surgery unnecessary. Surgery is necessary if the fibroids are causing symptoms or patient who have had enough family or those who are remote from menopause. Myomectomy is offered to young women who still want to have children but only when the procedure is found practicable after opening the abdomen. In either case the patient should always sign down for total hysterectomy. In this patient total hysterectomy was given because she had symptoms, had enough children and the fibroids were big.

Presence of fibroids is attended by several complications. Menorrhagia which is due to dilatation and congestion of endometrial venous plexus caused by the expanding tumor. Torson of pendunculated fibroids as well as hyaline, cystic, fatty and red degenerations. Red degeneration occur mainly during pregnancy and puerperium. Few fibroids may change into sarcomatous degeneration.

A few cases of venous spread of leiomyoma have been reported leading to pulmonary metastasis.

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INCOMPLETE ABORTION

EVACUATION

Name - A.W.
Age - 25
Unit No. - 732958
Date of Admission - 13-1-86
Date of Discharge - 15-1-86

HISTORY OF PRESENT ILLNESS

She was admitted through the Casualty complaining of bleeding per vaginum with clots, lower abdominal pains and having passed an immature fetus.

She had been well until a day before admission when she noticed bleeding from the vagina. The bleeding was profuse and was accompanied by colicky lower abdominal pain. Two hours prior to admission she expelled an immature fetus and started bleeding more and passing clots.

OBSTETRICS AND GYNAECOLOGICAL HISOTRY

The menarche was at 16 years and the periods were regular lasting 5-6 days and coming every 28 days. Her parity was 2+1 and she had not used any contraceptive. Her first two pregnancies were normal, she had spontaneous onset of labour at term ending in spontaneous vertex delivery. The puerperium was normal in both cases. The babies were alive and well. The third pregnancy was aborted at about four months. She did not attend any hospital and no evacuation and curttage was done. The lochial discharge stopped after two weeks. She did not suffer any febrile illness after the abortion. L.M.P. was 15/8/85 and EDD was 22/5/86. The period of amenorrhoea was 20 weeks.

FAMILY HISTORY : There was nothing significant.

PAST MEDICAL HISTORY : There was nothing significant.

SOCIAL HISTORY: The patient was educated to standard seven. She was married and the husband worked with a construction company. They stayed at Kibera. She did not drink alcohol or smoke. She was a catholic by religion.

PHYSICAL EXAMINATION

Her general condition was weak. She had moderate pallor, but no jaundice. The temperature was 36.5°C. The blood pressure was 90/60 mmHg. The pulse was 110 per minute regular but weak. The respiratory rate 20 per minute. The breasts were normal and active. There was no lymphadenopathy.

The respiratory system, the cardiovascular system and the central nervous systems were normal.

ABDOMENAL EXAMINATION

The Fundal height was 16 weeks and the uterus was well contracted. There was no tenderness over the fundus and no fetal parts could be felt. The spleen and the liver were normal.

VAGINAL EXAMINATION

The external genitalia were covered with clotted blood otherwise they were normal. Several clots were removed from the vagina. Products of conception were felt through the cervix whose OS was 3-4 cm dilated. The adnexia and the pouch of Douglas were normal.

DIAGNOSIS: INCOMPLETE ABORTION

SUMMARY OF INVESTIGATIONS

- (1) Blood Group "O" Rhesus "D" Positive
- (2) Haemoglobin - 10g per decilitre
- (3) Haemotocrit - 31 per cent
- (4) Kahn test - Negative

MANAGEMENT

Plasma expanders in the form of normal saline 500ml intravenously was started while awaiting for compatible blood. Abollus of Egometrine 0.5mg intravenously was given and repeated every 4 hourly. Pethedine 100mg intramuscularly was given. Patient's blood pressure, pulse, respiration and temperature were observed every half-hourly. After the initial treatment the bleeding was minimal. The patient was explained about the incomplete abortion and the heavy blood loss that she had had. She was informed that she needed blood transfusion while arrangement were made to take her to theatre for evacuation. She gave written consent.

She was given one and half litres of normal saline and two pints of compatible blood. This raised the blood pressure to 110/70 mmHg the pulse dropped to 100 per minute with a good volume.

Premedication was given as atropine sulphate 0.6mg intramuscularly half an hour before sending the patient to theatre.

EVACUATION AND CURETTAGE (D&C)

With the patient on the operating table in theatre, sedation was achieved by valium 20mg and pethidine 100mg intravenously in a bolus using an intravenous line of normal saline which was running. Ergometrine 0.5mg intravenous was also given.

Patient was placed in lithotomy position. The vulva, the perineum were cleansed with savlon solution. Sterile drapes were applied and the bladder emptied with a straight catheter. Clear urine was obtained. The vagina was emptied of blood clots and examination confirmed, earlier findings. Some placental tissues was felt in the cervical canal. A half hand was introduced in the vagina and the middle finger was passed into the uterus. Using the other hand on the abdominal wall to push the uterus on the internal fingers, the whole of the internal uterine cavity was explored and the placental tissue loosened by the finger in the uterus. The internal hand was then withdrawn from the vagina. The Auvard's speculum was inserted in the vagina. The anterior lip of the cervix picked up with a tenaculum curved sponge holding forceps was introduced in the uterine cavity rotated in ninety degrees opened and closed to pick up the loose placental tissues. Curettage was performed to remove any remaining placental tissue. The procedure was completed by exploring the uterine cavity with the middle finger again. Ergometrine 0.5 mg was given intravenous and haemostasis achieved.

The vital signs were observed half-hourly until the patient was fully awake.

The patient was discharged same day of operation in satisfactory condition. She was given tablets of ferrous sulphate 200mg three times a day and folic acid 5mg daily for one month. She was also given ampicillin 500mg capsules to take one three times a day and tablets of paracetamol two three times a day for seven days.

FOLLOW UP

She was seen in gynae clinic after 8 weeks. Her general condition was satisfactory. She was having her second period since discharge from the hospital. She reported that she experienced breast engorgement following the evacuation which subsided after three days. Her haemoglobin was 12.0 gram per decilitre.

She was sent to family planning clinic where she was inserted a lippes loop. She was advised to report early in pregnancy should she desire to have more children. She was given a three month appointment, but she did not come back.

COMMENT

This patient illustrates one of the most common complications of abortion i.e. uterine bleeding. It is because of this complication that most of the patients who suffer from abortion find their way to the hospital. Lwanga (1977) reported that in a large number of patients, the uterine bleeding was so severe that blood transfusion was necessary as was the case in this patient.(1) The other complications cited in Lwanga's series included infection of the uterus and generalised peritonitis, jaundice and uterine perforation.

Induced abortion is illegal in this country unless it is performed as provided for in the law. Consequently patients who induce abortion do not volunteer such information. However we can regard this patient to have had spontaneous abortion. She does not fit well in the characteristics tabulated by Lwanga (1977) in his attempt to identify the characteristic of women who are likely to resort to induced criminal abortion. Lwanga observed that most women who resorted to criminal abortion were below the age of 25 years; they were having their first pregnancy; they did not have living children; they were school girls; they were not

engaged in gainful employment outside their homes; they aborted in first trimester; the abortions were likely to be complicated with excessive uterine bleeding and infection. She too does not fit in the definition and criteria used by Aggarwal and Mati 1982. to identify patients who definitely had criminal induced abortion.(2) Admission of history of interference; Evidence of insertion into the genital tracts of a foreign body and evidence of trauma to the woman or the fetus were separately regarded as definitive for induced abortion. Such history and findings were absent in this patient.

W.H.O. report on abortion rate is 15-20% as cited by Lwanga. Mati (1972) reported that Abortion was one of the three leading causes of admissions to our emergency gynaecological wards. i.e Abortion, Pelvic inflammatory diseases and ectopic pregnancy (3). Khehar (1969) reported that abortion constituted 40-60% of the total gynaecological admission representing over 10% of the total hospital admission. Aggarwal and Mati (1980) reported that Abortion accounted for 60% of the total gynaecological admission at Kenyatta National Hospital. (5) So abortion is a major problem among the hospital population.

Uterine bleeding leading to hypovoleamia in the this patient was managed by resuscitatory measures and blood transfusion. The definitive treatment was evacuation of uterus which effect uterine heamostasis.

The liberal use of ergometrine before evacuation was to arrest the bleeding so as to bring the patient in suitable condition to go to theatre. The use of sedation during evacuation has been adapted in this unit but it has not been fully evaluated. Donald (1979) stresses that the evacuation of the pregnant uterus demand the availability of proper theatre facilities.

This patient has had one previous mid trimester spontaneous abortion. Causes of mid trimester abortion such as cervical incompetence, uterine fibroid and uterine anomalies need to be investigated.

Prophylactic antibiotics are given to this patient because infection is a real danger.

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PRIMARY INFERTILITY: BILATERAL TUBAL BLOCKAGE
BILATERAL SALPINGOSTOMY

Name : A.A
Age : 26 years
Unit : 705892
Date of Admission : 15-9-86
Date of Discharge : 15-10-86

PRESENTING COMPLAINTS:

Inability to conceive for 6 years. Married and stays with husband.

HISTORY OF PRESENT ILLNESS

She presented at the gynaecological clinic with complains of having been married for six years, stays with her husband but has been unable to conceive. She was the only wife and the husband did not have any children outside this marriage.

FAMILY HISTORY

She has five sisters and all of them have got children. There is no history of tuberculosis or diabetes mellitus in the family.

OBSTETRICAL AND GYNEACOLOGICAL HISTORY

She had her menarche at 15 years of age. Her cycles had been regular coming every 28 days and lasting 4-5 days. She was para 0+0. Her last menstrual period was on 19/9/86. There was no history of dysmenorrhoea. There was no history of use of contraceptive method.

PAST MEDICAL HISTORY

Patient had been done laparoscopy in Rahemutulla wards. No other admission was reported.

SOCIAL HISTORY

She was a married housewife. The husband worked in a bank in town. She was educated up to Standard Seven. She did not drink alcohol and did not smoke.

PHYSICAL EXAMINATION

Her general condition was good. The blood pressure was 110/70 mmHg, pulse was 80/minute. There was no pallor, no lymphadenopathy and no cyanosis. She was afebrile, the hair distribution was feminine. She had normal secondary sexual characteristics. The cardiovascular system, the respiratory system examination revealed normal findings.

Abdomenally there was no palpable mass or any tenderness. The liver and the spleen were normal.

VAGINAL EXAMINATION

The external genitalia were normal. The vagina was normal. The cervix was normal. The uterus was normal size, anteverted and anteflexed. There was no adnexial abnormality. Pouch of Douglas was empty.

DIAGNOSIS: PRIMARY INFERTILITY

INVESTIGATION

(1) SEMINALYS:

- Volume - 2.3 ml
- PH : 7.5
- Viscosity - Normal
- Motility normal
- Concentration 312.0 millions per millitre
- Morphology - Normal 60% ideal forms
- Fructose 16mg/100mls

Remarks: Clumping of spermatozoa, low fructose probably due to elevated count.

(2) HYSTEOSALPINGOGRAM

Uterine cavity was well outlined and normal. Both fallopian tubes were outlined and showed terminal loculation on the left side. The right side was blocked at the fimbria. There was no free spill.

- (3) Urinalysis PH - 5.0
 Protein Nil
 Sugar Nil

- (4) Urea and Electrolytes
 BUN - 4.5 mmol per litre
 Na⁺ - 134 mmol per litre
 K⁺ - 4.1 mmol per litre

- (5) Haemoglobin 13.8 gm per dl
 WBC 4.6 x 10⁹ per l.

- (6) Pap Smear - Class I

LAPAROSCOPIC EXAMINATION:

This examination was performed as described in the case on polycystic ovarian diseases. The findings included adhesion in the pouch of Douglas which extended to involve the fallopian tubes. The terminal ends were attached to the respective ovary. The uterus appeared normal. The right ovary had a recent corpus luteum. There was bilateral hydrosalpinx and on hydrointubation there was no free spill. Dilatation and curattage was done and specimen sent for tuberculosis culture and the other for histopathology.

It was recommended that the patient may benefit from salpingolysis and salpingostomy.

HISTOPATHOLOGY REPORT

1. Early secretory phase endomentrinum consistant with the dates.
2. Tuberculosis culture report was not received.

OPERATION: BILATERAL SALPINGOSTOMY AND RELEASE OF ADHESSIONS

Pre-operative preparation was performed as described in the introduction.

Aseptic catheterization was done and the catheter left in place. The vagina was packed with moisted sterile gauze. The abdomen wall opened through the midline subumbilical incision.

The findings were as follows: There were thin membranes adhesions between the pelvic organs. The ovaries and the uterus were normal in size. The fallopian tubes were blocked at the fimbriated end, as demonstrated by injecting methylene blue in the uterine cavity through the fundus while the cervix was closed by a cervical clamp.

Many of the pelvic adhesions were released using diathermy with the aid of our angled glass rod. Both fallopian tubes were opened at the fimbriated ends using fine diathermy knife. The edge of the openings were everted using interrupted nylon number six zero. Diathermy coagulation was used to achieve full haemostasis. Throughout the operation pelvic organs were kept moist using a jet of Hartman solution, and sucked to avoid any blood clot formation. Gentle in the handling of the organs was stringently practised.

500ml of Dextravan 70 was left in the peritoneal cavity at the end of the operation. While closing the abdominal wall in layers care was taken to avoid any blood clot or blood on the raw wall layer from trickling back in the peritoneal cavity. The catheter was removed and clear urine obtained. The vaginal pack was removed after the operation.

POST OPERATIVE CARE

Routine post operative care was instituted as described in the introduction. In addition Dexamethasone 8mg was given in a loading dose, then a tapering dose of prednisone 5mg was given over seven days. Antibiotic cover was effected with a seven day course of ampicillin.

The post operative period was uneventfully normal. Check Haemoglobin done on 14th post operative day was 13.8 grams per decilitre. Patient was discharged home on the eighth post-operative day.

FOLLOW UP

The patient was seen in gynaecology clinic after seven weeks. She had had a normal menstrual period. She was in good health. The abdominal wound had healed with first intention. She was advised to start trying at conception.

COMMENT

Despite the rapid population growth in Kenya today the failure of one couple to get children brings anxiety and misery not only to the couple itself but also to the immediate relatives and friends. And to the gynaecologist it brings frustration and despair. Unfortunately the society unfairly blames the women for childlessness in the couple. Yet it is estimated that the male factor is the cause of infertility in approximately 45% of the infertile union, male-female factor represents another 10% and female factor appears to be the sole cause for infertility in approximately 45% of couples. (1)

The majority of patients attending Kenyatta National Hospital (KNH) gynaecological clinic do so for infertility. In 1971 nearly two thirds of all patients who attended the clinic did so because of primary or secondary infertility (2). This patient had primary infertility.

The main cause of infertility in patients attending gynaecological clinic at KNH is tubal blockage. Several investigators have reported high incidence rate of tubal blockage among these patients: Mati (1973) reported an incidence rate of 73%, Chatfield et al (1970) reported an incidence rate of 56%. (1) And Walton and Mati 1976 reported an incidence rate of 7.3%. (2) In Chatfield series primary infertility accounted for 61%. Whereas secondary infertility accounted for 48%. The low incidence of pelvic tuberculosis (2%) therefore implicated gonorrhoea as the major cause of primary infertility in Kenya:- Furthermore

Carty et al (1972) reported that the primary lesion in ectopic pregnancy and infertility in the majority of cases was gonococcal salpingitis.⁽⁵⁾ They identified or suspected gonorrhoea in 53% of the consecutive patients with acute PID. These organisms primarily destroy the mucosa of the tubes and this subsequently leads to partial or complete occlusion of the tube.

When investigating these patients the male factor is first excluded by seminalysis. Prior to the collection of the semen the husband is instructed to abstain from intercourse and alcohol for at least three days. Mati and Walton (1976) found an incidence of abnormal semen count to be 5% after examining 65% of the husbands in infertile couples. The parameters studied in seminalysis are volume of ejaculate, motility of the spermatozoa, viscosity, sperm count and number of ideal forms of sperms. A volume of 1.5ml or more, sperm density of more than 20 million per ml and a mortality of more than 30% of the sperms within 4 hours of production represented a reasonable change of fertility.⁽⁶⁾ In the laboratory at Kenyatta National Hospital, the following parameters are used: to indicate reasonable chance of male fertility: The volume range from 0.5 - 7.0 mls with a concentration 40-270 million per ml: Mortality at 120 minutes after ejaculation should have actively progressive sperms 38 per cent or more with the non-motile sperms fifty percent or less. After the same period there should be seventy percent or more living sperm. Thirty percent or more should be ideal forms in morphology. Fructose level and poststatic acid phosphatase should be between 32 - 456 mg/100ml and (130 - 700)x10³ KA/100mls respectively.

However the male is declared normal without investigation if he has fathered children with another woman. The youngest child being younger than the duration of infertility.

The patency of the tube was tested in this patient in two ways: One was during hysterosalpingogram and the other was at laparoscopy with hydrotubation. In both investigations the block was at the fimbrial end. Hysterosalpingogram also provides information about the outline of the uterine cavity. Irregularity and defects may be demonstrated. Similar observations are made about the inside of the tubes. Laparoscopy provides the advantage of direct visualizing the outside of the tube for adhesions and kinking. The external surface of the uterus and the ovaries is also examined. Ovulation is noted as evidenced by presence of recent corpus luteum. At hydrotubation the exact site of blockage is visualized. Both HSG and laparoscopy are relatively easy and safe investigative procedures. The latter method however has complications associated with general anaesthesia, and introduction of instruments. These include cardiac arrest, subperitoneal emphysema; haemorrhage from damaged vessels, perforation of viscera and peritonitis. This patient did not have any complications.

A pap smear is taken from all patients so as to screen for cervical dysplasia.

The criteria for patient likely to benefit from surgery have been set up by Mati et al as follows:⁽³⁾

- (a) Minimal involvement of the tube with no masses;
- (b) Few peritubal adhesions causing kinking of the tubes;
- (c) Fimbrial occlusion as demonstrated by the dye swelling up the tubes;

This patient satisfied this criteria and she was offered bilateral salpingostomy. However with the above criteria only 12% of the patients with tubal occlusion leading to primary infertility could be offered surgery. In 1976 Walton and Mati found that more than 50% of patient with secondary infertility due to tubal occlusion were suitable for surgical reconstruction as compared to 17.9% of similar group with primary infertility. Hence there appears to be a better prognosis for secondary than primary infertility due to tubal blockage.

The outcome in fertility after tubal surgery is generally poor. Coltert (1970) found bilateral tubal occlusion at laparoscope in five of the six patients with past history of tubal surgery (7). Hence this patient does not have much chance of success.

Long term solution to tubal blockage as a cause of infertility lie with the control of pelvic inflammatory diseases. Most authors have reported that following a single episode of PID treated appropriately the incidence of infertility should approximate 15 to 20% conversely with the second episode this incidence increases to 30-35% and following the third or subsequent attack. Infertility approaches 85-90 percent (8). Hence the need for early and appropriate therapy cannot be overemphasized.

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CHRONIC PELVIC INFLAMMATORY DISEASE

Name : S.B.K.
Age : 29 years
Unit : 619754
Date of Admission - 20/4/84
Date of Discharge - 3/5/84

PRESENTING COMPLAINT

The patient complained of bleeding per vaginam, lower abdominal pains, backache and dizziness for one day. This complaints were of insidious onset and she reported in casualty.

HISTORY OF PRESENT ILLNESS

The patient was well until the day before admission when she started to have bleeding per vaginam with clots and dark blood. The blood was also foul smelling. It was accompanied with severe lower abdominal pains and backache. She also felt dizziness but there was not history of nausea, vomiting, diarrhoea or dysuria and frequency.

OBSTETRICS AND GYNAECOLOGICAL HISTORY

Her menarche was at 15 years of age and her periods had been regular coming every 30 days and lasting 3 days. There was no history of dysmenorrhoea until after the first abortion in 1979. She was para 0+2. She had had spontaneous abortions at 3 months in 1979 and 1982 but no evacuations and curettage was done. Her last menstrual period started on 23/12/83. It was normal flow lasting three days. Therefore there was amenorrhoea of 17 weeks. The patient had not used any form of contraception.

PAST MEDICAL HISTORY

She had had repeated attacks of lower abdominal pains vaginal discharge, fever and chills which were treated at the nearest health centre with capsules and injections. During these previous attacks she did not have bleeding per vaginam.

FAMILY HISTORY: There was no history of pulmonary tuberculosis.

SOCIAL HISTORY

Her husband died the previous year after seven years of marriage. She now has a regular boy-friend. She does not drink alcohol or smoke cigarettes.

PHYSICAL EXAMINATION

Her general condition was good. She was not anaemic, not jaundiced and no lymphadenopathy. She was afebrile. The blood pressure was 110/70 mmHg. The pulse was 90/minute regular and good volume. The breasts were well developed, normal and not active.

The respiratory system the cardiovascular system and the central nervous systems were normal on examination.

ABDOMINAL EXAMINATION

The abdomen was firm but not distended. There was tenderness in the lower abdomen with an irregular tender mass in the right illiac fossa arising from the pelvis. There was no rebound tenderness. There was no hepatosplenomegaly. There was no free fluid in the peritoneal cavity.

VAGINAL EXAMINATION

The external genitalia was normal. There was dark brown blood in the vagina with no clots or tissue. The cervix was firm and closed. The uterus was normal in size. The right adnexia had a large and tender irregular mass. The left adnexia and the pouch of Douglas were normal.

The Differential Diagnosis

1. Unruptured Ectopic pregnancy
2. Right tubo - ovarian mass

SUMMARY OF INVESTIGATION

1. Haemoglobin 12.6 g/dl. haematocrit 38%
2. Blood group "O" Rhesus "D" positive
3. urine Pregnancy Test - negative
4. Urinalysis - protein- Negative, Sugar-negative, PH-6, Cells-3, Culture not indicated.
5. WBC - 30,000/cc,
- lymphocytosis.

Because of the complex pelvic mass with an amenorrhoea, it was decided that patient be offered diagnostic emergency laparotomy. This was explained to her and having given written consent she was prepared for the theatre as described in the introduction.

LEFT SALPINGO OPHERECTOMY

RIGHT OVARIAN CYSTECTOMY AND DRANAGE OF PELVIC ABSCESS

Three units of compatible blood was booked and patient was taken to theatre.

General anaesthesia was induced and maintained as described in the introduction .

Vulvae and perineum were cleansed with savlon. Sterile drapes were applied and patient catheterized. Examination under anaesthesia confirmed earlier findings.

Patient was placed in supine position. Anterior abdomen was cleansed with savlon then by surgical spirit. Sterile drapes were applied and the abdominal wall opened through the midline sub umbilical incision, as described in the introduction.

Marked adhesion of long standing involving the fallopian tubes, the uterus, the rectum and the greater omentum were encountered. The uterine size was normal. The left fallopian tube was dilated and distended attached to the left ovary which was also cystic with locules. The right fallopian tube was stuck to the right ovary which had a cyst about 5cm in diameter.

Lysis of the adhesions was performed by blunt dissection through tissue plane until a abscess was identified involving the left ovary and the tube, attempt to enucleate the abscess failed when the abscess burst and it was necessary to remove the tube and the ovary. Right cystectomy was also performed and the pelvis cleansed by irrigation with warm Hartman Solution. haemostasis was achieved and corrugated rubber drainage introduced through a stab wound. Instrument and swabs were reported correct and the Abdominal wall was closed in layers. Specimen were sent for Histopathology.

Routine post operative care was instituted as explained in introduction. Patient was put on intramuscular Ampicillin 1000mg 6 hourly and Dalacin C Sulphate 300mg 8 hourly which were changed to oral on third day. The drainage tube was removed on second day when it was dry. Post operative haemogram was 10.6 gram per decilitre.

FOLLOW UP

Patient was seen again after six weeks in gynaecology clinic in good health. but the histologic report was not available. She was seen again after a further four weeks and she had resumed her menstrual periods. She was in good health.

HISTOLOGY REPORT

"There was Dilatation of the fallopian tube with sparse plasma cells infiltration of subepithelium, cyst wall was made of ovarian stroma. There was haemorrhagic material in the cyst. This was hydrosalpinx with chronic salpingitis and simple haemorrhagic cyst."

Patient was lost to follow up.

COMMENT

Pelvic Inflammatory Diseases (PID) are more common in most parts of tropics than in temperate countries. This is partly due to poor care and hygiene following delivery or abortion and partly due to the frequency of venereal infection.(2) This patient had had two abortions which were for one reason or another not attended to at hospital. It is possible that these may have exposed her to post abortal sepsis. She subsequently started to have dysmenorrhoea. She has hitherto had several similar attacks.

The incidence of Pelvic Inflammatory Disease at Kenyatta National Hospital is not clearly known. However Khehar (1980) estimated that 40% of the acute admission at Kenyatta national Hospital and the Aga Khan Hospital gynaecological wards comprises of cases of Pelvic Inflammatory Disease.(4) Makokha in the same year while looking at Maternal Mortality at Kenyatta National Hospital

reported that Infection was direct cause of death in 43.3%. This was the single leading cause. 22.2 percent of this death were due to post abortal sepsis.⁽³⁾ Hence the consequences of post abortal sepsis are considerable.

The importance of Pelvic Inflammatory Disease is not only the suffering that the patient undergoes but the devastating results of tubal infection on subsequent fertility. Most authors have reported that following a single episode of Pelvic Inflammatory disease treated appropriately the incidence of infertility approximates 15 to 20 percent. Conversely, with the second episode this incidence increases to 30 to 35 percent and following third or subsequent attacks infertility approaches 85 to 90 percent.⁽¹⁾ Our patient has already developed secondary infertility.

Pelvic Inflammatory Disease quite often mimicks a number of other condition. This may include acute pylonephritis, cystitis, ectopic pregnancy, corpus luteal haemorrhage, torsion of ovarian cyst and torsion of pedunculated fibroids. In this patient it was not possible to exclude clinically ectopic pregnancy from this attack of PID. The patient had a period of amenorrhoea 17 weeks. It is not uncommon for PID to present with a period of amenorrhoea This is brought about by the effect of the infection to the ovary. The ovaries that are involved in infection tend to develop cysts because of the interference with the tunica albuginea. These cysts cause pericapsular stromal stimulation leading to steady production of estrogen and androgen and this causes anovulation. Conversely ectopic pregnancy may present without a period of amenorrhoea.

Urine pregnancy test was negative but other tests that could enhance the diagnosis of chlamydiae PID include Pelvic Sonography, and paracentesis and culdocentesis. These tests were not done. Leucocytosis is more likely in PID.

At laparotomy the exact cause of the acute abdominal pain was not immediately obvious. However hydrosalpinx, and pelvic abscess and ovarian cyst were found. Histological report showed evidence of chronic inflammation involving the ovary and the tube. There was haemorrhage in the ovarian cyst. Indeed haemorrhage in the ovarian cyst may cause acute abdominal pain.

In some centres treatment of chronic PID may include pelvic clearance procedure. This will relieve the patient of her suffering.⁽⁴⁾ This may be considered too drastic for a young woman like this one who still has hope to conceive. But she will still develop more adhesion and will still have recurrent lower abdomen pain. The other treatment that may be offered to this patient is short wave diathermy (SWD). This improves the blood supply to the pelvic organ and accelerates the healing. The patient did not come back to the clinic. She is likely to reappear with either secondary infertility or recurrent P.I.D.

Pelvic inflammatory diseases may be prevented by measures taken collectively and individually by member of the community. Cases that fall under sexually transmitted diseases are covered by the public health act, where it is required of any individual who contracts such a disease to present himself or herself for treatment till he/she is cured. Contact tracing is also provided for. Specific measures that need to be undertaken includes health education programmes in all forms of mass media. The use of condoms will go a long way to reduce the incidence of PID. Post abortal sepsis may be prevented if all

spontaneous abortions receive proper care in hospital setting. The public need to be made aware of the dangers that may arise from induced abortions. However with increased acceptance of family planning techniques this may obviate the need for induced abortion. Traditional Birth Attendants (TBA) deliver most of the women. Programmes that improve their personal hygiene and sterility in conducting deliveries will reduce the incidence of puerperal sepsis.

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PROCIDENTIA - VAGINAL HYSTERECTOMY AND
ANTERIOR COLPORRAPHY

Name : R.O.J
Age : 50 years
Unit : 601121
Date of Admission - 18/1/84
Date of Discharge - 22/3/84

HISTORY OF PRESENT ILLNESS

She was well until three months prior to admission when she noticed that something was coming out of her vagina. This was accompanied by vaginal discharge and occasionally vaginal bleeding. There was no history of frequency in micturition, urgency, dysuria or incontinence of urine. There was no history of chronic cough or passing hard stool or swelling of abdomen.

PAST MEDICAL HISTORY: There was nothing significant.

OBSTETIRCAL AND GYNAECOLOGICAL HISTORY

She could not remember the year her menarche. Her last menstrual period was about three years previous. She had passed the menopause.

Her parity was 6+0. All the deliveries were contacted by a traditional birth attendant (TBA) at home and were all spontaneous vertex delivery. All the six children were alive and well. The last born was 12 years old.

FAMILY HISTORY:

There was no history of any major illness in the family.

SOCIAL HISTORY

She was a widow for 5 years by then. She neither smoked nor took alcohol.

PHYSICAL EXAMINATION

Her general condition was good. There was no pallor; no anemia, no jaundice and no lymphadenopathy. The blood pressure was 120/70 mmHg. The pulse was 80 beats per minute regular and of good volume. The breasts were normal and no masses were felt in them.

ABDOMEN

There were several striae gravidarum. Scaphoid and lax abdominal wall was noted. There was no hepatosplenomegaly and no ascites. There was no abdominal masses.

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

VAGINAL EXAMINATION

The external genitalia was normal. The perineum was intact. The vagina was smooth and patulous. The anterior vaginal wall was prolapsed and everted bringing the cervix and the uterus out of the vulvae. The cervix was everted and had ulceration and areas of hyperpigmentation and hyperkeratosis. The uterus was of normal size. It could be pushed back in the pelvis and come out on cough impulses together with the anterior vaginal wall. Rectal examination reveal no rectocele.

DIAGNOSIS: PROCIDENTIA WITH CYSTOCELE.

The patient was explained the illness that she had and that she needed surgical treatment. She was admitted and prepared for total vaginal hysterectomy and anterior colporrhaphy. The vagina was packed with acroflavine in glycerine daily. She was given ethinyl oestradiol 0.01mg three times daily.

SUMMARY OF INVESTIGATION:

1. Urinalysis - Normal findings.
2. I.V.P. On injection of the contrast there was prompt bilateral excretion of contrast. Both kidneys are normal in size. The left pelvic calysal lining and the ureter was normal. There was right hydronephrosis and right hydroureter. There was no obstruction within the ureter. The bladder was wellfilled and normal in the mid line. The diagnosis - Right hydroureter with hydronephrosis.
3. Heamoglobin - 14.5 g/dl
RBC - 483 x 10¹²/l.
WBC - 4.3 x 10⁹/l
4. Urea and Electolytes
BUN - 4.0 mmol/l
Uric Acid - 85 umol/l
Na⁺ - 140 mmol/l
K⁺ - 3.8 mmol/l
5. Papanicolau smear
- Class II
6. Blood group "O" Rhesus "D" Positive.

After 4 weeks on the ward patient was ready to be taken to theatre but could not be done then because of blood shortage. Hence patient was operated after 7 weeks on the ward.

VAGINAL HYSTERECTOMY AND ANTERIOR COLPORRHAPHY

Four pints of compatible blood was reserved for the patient. She gave written consent and was prepared overnight for surgery as described in the introduction. Atropine sulphate was given 0.6mg intramuscularly $\frac{1}{2}$ hour before taking patient to theatre.

General anaesthesia was induced as described in the introduction.

Patient was placed in lithotomy position. The vulvae, vagina and perineum were cleansed with savlon. Sterile drapes were applied and the patient catheterized. Examination under anaesthesia was performed which confirmed earlier findings.

Using the metal catheter the bladder margins were identified, both the anterior and the posterior lips of the cervix were held with volsellum forceps to provide a firm grip. the cervix was circumised about 1 cm from the external OS. The bladder base was pushed away from the uterine cervix by blunt dissection. The lateral padicle was developed and the uterine arteries grasped and cut between clamps and ligated with No. 2 catgut. The posterior peritoneal flap was formed by further dissection. The peritoneal cavity was opened on the posterior. The utero-sacral ligament was cut between clamps and transfixed. The vault was delivered in the vagina through the posterior opening. the broad ligaments was clamped cut between the clamps and ligated and the uterus removed away. All the pedicles were retied for safety. Peritonization was performed by a purse stitch. The utero-sacral ligaments were tied together.

A midline vertical incision was made in the anterior vaginal wall. Dissection was done laterally avoiding the bladder base and the urethra. A triangular vaginal wall was trimmed from both sides. The edges of the remaining vaginal walls were brought together by interrupted No. 1 chronic Foleys catheter was inserted and clear urine obtained.

POST OPERATIVE TREATMENT

Routine post operative care was instituted. In dwelling foleys catheter was retained for seven days. She was put on ampicillin 1 gram every 6 hourly for seven days Flagyl 400mg three times a day for seven days.

Repeat Haemogram taken on 4th post operative day was 13.0 g/dl.

Catheter Specimen of urine taken on seventh post operative day grew Klebsiella organism which were sensitive to introfurantoin, nalidixil acid and septrin.

Patient was discharged home on septrin tablets II twice a day for seven days.

FOLLOW UP

Patient was seen after six weeks. The vaginal wall had healed well with no stenosis or adhesion. There was no evidence of prolapse of valt.

PATHOLOGICAL REPORT

"A specimen of total hysterectomy was received. The uterus was 60mm long with an elongated cervical canal. There was no fallopian tubes or ovaries included. There was thickening of cervical mucosa with areas of keratinization. Histology showed keratinisation and pigmentation of ectocervical epithelium with inflammation of cervix. The endometrium was poorly fixed but showed acute inflammation".

COMMENT

Genital prolapse is a consequence of failure of the uterine support. It may be due to congenital tissue weakness, or it may be due to the process of child birth, or it may be due to the withdrawal of the influence of the ovarian hormones on the pelvic tissue during menopause.(1) In Kenya high incidence has been reported from Amudat Mission Hospital among Pokot people. Isolated cases were also reported elsewhere within East Africa.(2) Among the Pokots it occurs mainly following child birth. The women have a wide pelvis which allow the head of the baby to descent before full dilatation of the cervix is achieved during delivery in which early pushing is encouraged.

In the Amudat series the majority of the patients presented in their third or fourth decade of life. The peak incidence was in women with one or two deliveries. Most deliveries were attended by traditional birth attendants. This patient was in her 6th decade and menopause. She was of high parity.

She presented with complain of something coming down the vagina. This is the commonest complain in major degree of genital prolapse. Otubu in Northern Nigeria studying genital prolapse in Hausa/Fulani people found this as the presenting symptom in 88.1 percent of cases.(3)

It should also be appreciated that major degree of genital prolapse may be symptom free, whereas minor degree of prolapse may cause serious symptom .(1)She did not complain of urinary symptoms such as stress incontinence, dysuria and frequency, although IVP demonstrated right hydronephrosis. This is not unusual presentation since Otubu also reported only 29.9% of patient.

Patient being menopausal she was put on Eostrogen tablet daily and Acroflavine in glycerine vaginal pack which were changed daily. This was to improve the vascularity of the vagina before surgery.

Patient was offered vaginal hysterectomy and anterior colporrhapy because she was already menopause. If she was in her reproductive period, the ideal operation would have been manchester repair. Manchester repair comprises of amputation of the cervix, shortening of the uterosacral ligament; anterior and posterior colpo perinorrhapy.

These repair operations are attended with post operative morbidity. This may include pyrexia; urinary tract infection; genital sepsis; secondary heamorrhage; pelvic haematoma and pelvic peritonitis with abscess formation.(4) She develops urinary track infection despite the antibiotic cover. She had an indwelling catheter a practive which Adeleye (1977) reported that it was associated with high incidence of urinary tract infection. He recommended that it should be abandoned unless there is urinary retension.

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CHRONIC ECTOPIC PREGNANCY
SALPINGOTOMY

Name - R.A.
Age - 28 years
Unit - 770055
Date of Admission: 19/7/86
Date of Discharge: 26/7/86

PRESENTING COMPLAINTS:

She presented with complaints of lower abdominal pains and intermittent bleeding per vaginum for three weeks.

HISTORY OF PRESENT ILLNESS

She was well until three weeks ago when she had sudden onset of lower abdominal pain. The pain had not subsided since then. The pain was made worse on opening bowel and on movement. She started to bleed per vaginum two days later. The bleeding was slight, dark brown blood and there were no passing of clots or tissue. There was no history of diarrhoea, vomiting, frequency of mictrition or dysuria.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She had her menarche at 14 years. The periods were regular coming every 28 days and lasting 4-5 days. She was para 2+1. The two children died in infancy. The abortion was at three month in 1980. Evacuation was done at KNH. She had had dysmenorrhoea since then. Her last delivery was in 1977. L.M.P. was 8-5-86 giving an ameorrhoea of 10 weeks. She had not used any form of contraceptive.

PAST MEDICAL HISTORY

She was admitted in 1980 with an abortion at 9-10 weeks. She was done evacuation and the endometrium showed secretory pattern with strsd of decidual reaction, but no trophoblastic tissues were seen on histology. The features were suggestive of a recent pregnancy. She had no had major illness.

FAMILY HISTORY: There was nothing significant.

SOCIAL HISTORY:

She was married at 15 years of age. Her husband had lately married another wife and has two children from second wife. She went to school up to standard four. She did not drink nor smoke.

PHYSICAL EXAMINATION

She was in good general condition. She was afebrile and there was no aneamia. The blood pressure was 130/80 mmHg.

The pulse was 90/minute regular and good volume. The breasts were not active.

Examination of cardiovascular-system, respiratory system and central nervous system were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was not distended. There were marked tenderness with guarding in the lower abdomen. But rebound tenderness could not be elucidated. There was no fluid thrill and no shifting dullness. The liver was not enlarged and the spleen was not palpable. Bowel sounds were presen tand normal.

VAGINAL EXAMINATION

The external genitalia were normal. There was dark brown mucoid blood per vaginum. The cervix was firm and closed. Cervical excitation was positive. The uterine size the adnexia and the pouch of Douglas could not be assessed because of marked tenderness and guarding.

PROVISIONAL DIAGNOSIS:

- (1) Acute Pelvic Inflammatory Disease.
- (2) Chronic Ectopic pregnancy
- (3) Torsion of the ovarian cyst.

TREATMENT:

She was put on Ampicillin 1000mg start intramuscularly and every 6 hours for seven days, gentamycin 80mg intramuscularly and every 6 hours for seven days. She was given paracetamol three times a day. She was admitted for observation of blood pressure, pulse respiration every half hourly. The patient was reviewed every 4 hours.

INVESTIGATION IN SUMMARY

- (1) Haemoglobin 10.2g/dl and per 31.0 percent.
- (2) Urine pregnancy test - negative.
- (3) Blood group O Rhesus D Positive
- (4) Pelvic Ultrasonography: This demonstrated a bulky uterus with complex mass in the right adnexia. There was a cystic mass in the left adnexia, measuring 4.5cm x 7.0 cm. This gave the impression of either a pelvic infection with left ovarian cyst or an ectopic gestation with ovarian cyst.

PROGRESS:

Review of the patient for up to the third day revealed stability in the vital sign. The bulk uterus, the ultrasound report and constant tenderness in the lower abdomen made the possibility of ectopic pregnancy most likely.

She was informed about the necessity to have surgery as form of treatment and a means to definitive diagnosis. She gave written consent.

Intravenous fluid was started. Compatible blood was obtained. Patient was prepared for theatre as described in introduction.

LAPAROTOMY: RIGHT LINEAR SALPIGOTOMY AND LEFT CYSTECTOMY

General anaesthesia was induced and maintained as described in the introduction. Vulval perineal toilet was done using cetavlon solution. Aseptic catheterization was then done and catheter left in place. Examination under anaesthesia confirmed the earlier findings.

The abdomen was opened through a midline subumbilical incision and the following were the findings: "There was little haemoperitoneum and a right tubal pregnancy at the ampullary part of the fallopian tube which was aborting through the fimbriated end. There were recent adhesions involving the greater omentum; The sigmoid colon and the uterus which had walled off the bleeding. The left fallopian tube was normal. The left ovary had a large cyst about 8 cm by 8cm. The right ovary which was involved in the haematoma could not immediately be visualised but was later found to be normal. The uterus was bulky soft and empty. There was haematoma in the pouch of Douglas. The appendix was normal".

All the adhesions were easily lysed. The right tube was elevated and supported by moist laparotomy pads. A longitudinal incision was made on the anti-mesenteric surface of the tube over the ectopic pregnancy for 2 to 2.5 cm in length using a scalp knife. The bleeders at the incision were picked by mosquito artery forceps and ligated. The products of conception were gently evacuated and the base lavaged with warm Hartman solution. There was minimal bleeding from the ectopic base. Haemostasis was achieved around the ectopic area. The serosa and the muscularis only were closed with interrupted number 4.0 nylon suture. Specimen of the product of conception was sent for histology. Left cystectomy was performed and also the specimen sent for histopathology. The old clots in pouch of Douglas were removed. The pelvis was irrigated with three litres of warm Hartman solution. The abdomen was closed in layers. The total blood loss was about 300ml.

POST OPERATIVE CARE

Routine post operative care was offered as described in the introduction. In addition, Ampicillin and Gentamycin were continued for seven days. She was weaned off intravenous fluids on the second post operative day. All vital signs remained stable. Haematocrit done on third post operative day was 30.3 percent. She was allowed home to come back on the 8th post operative day for removal of suture.

FOLLOW UP

She came back as instructed and stitches were removed and she was allowed home. She was seen again after 3 months in the gynaecological clinic but the report for histology could not be traced. She was however in good general condition. The wound had healed with first intention.

COMMENT

Chronic ectopic pregnancy is a direct result of tubal abortion or rapture of tubal pregnancy in which the haemodynamic insult is subclinical and self-limiting (1) Breen (1970) reported that 97.7 percent of ectopic occur in fallopian tube. 1.3 percent in abdomen, 0.75 percent in uterus and 0.15 percent in ovary.(2) The ampulla being the site of ectopic in this patient was the commonest tubal location for ectopic pregnancy. It is followed by the Isthmus, then the fimbria and the least common tubal site is the interstitium.

The incidence of chronic ectopic pregnancy at Kenyatta National Hospital is not exactly known but Gebbie observed that there were 4-5 cases of ectopic pregnancy every week. (3) Lucas (1970) in Lusaka Zambia reported one ectopic pregnancy for every 159 births of which thirty percent were described as chronic ectopic pregnancy.(4) Douglas (1963) reported the highest incidence in Jamaica where there was one ectopic in every 28 deliveries and thirty percent were also reported as chronic.(5) Stromme et al (1962) reported an incidence of 1 in 241 live birth in United States(6). The high incidence in developing countries could be related to the high incidence of pelvic inflammatory disease (4). However Marley and Auma while analysing tubal pregnancy in Nairobi found out that only 35 percent of their cases had associated inflammatory diseases and that the commonest histological diagnosis was follicular salpingitis.(7)

Ectopic pregnancy occur at any age during the reproductive period of a woman. (Mwathé 1984). But 72.9 percent of patient studied by Mwathé were between the age of 20-30 years.(8)(4) This patient was aged 28 years.

Tarit stated just over a century ago that the difficulty in ectopic pregnancy was its diagnosis (9). The picture has changed very little since then. With no single symptom or sign or laboratory test being diagnostic several clinical conditions may masquerade as ectopic pregnancy. In this patient the following clinical condition could not be excluded. Chronic pelvic inflammatory disease. Threatened or incomplete abortion and Torson of the Adnexia. However condition such as rapture of corpus luteum, degenerating fibroid and chronic appendicitis were also entertained. The suspension of ectopic pregnancy was on fore front.

This patient presented with abdominal pains, bleeding and a period of amenorrhoea. Abdominal pain occur in a wide range of clinical conditions. However it has been reported in 90 - 100 percent of patients with ectopic pregnancy (8)(4)(10). Vaginal bleeding is in 49.8 reported percent of patient with ectopic pregnancy.(8)(10) A period of Amenorrhoea has been reported in 75 - 95 percent of the patients with ectopic pregnancy.(9)(8)(10) This patient gave a history of secondary infertility and factors that lead to infertility may predisposed to ectopic pregnancy. Moreover studies have reported that the incidence of ectopic pregnancy invitro fertilization and embryo transfer programs to be greater than spontaneous pregnancy.(11) Other aspect of history that are associated with increase incidence of ectopic pregnancy include indused abortion and use of IUCD.(10)(12)

Clinical examination revealed adnexial tenderness, and adnexial masses enlarged uterus. Adnexial tenderness occur in 75 - 90 percent of patient with ectopic pregnancy. Adnexial mass was reported in only 50% of patients. The enlargement of the uterus associated with extra uterine pregnancy which is secondary to the hormonal stimulation does not usually match the period of amenorrhoea.(10) In this patient the uterine size matched the period of annenorrhoea but uterus is reported enlarged in 20 - 30 percent of patients(10).

In this patient the pregnancy test in urine was negative. Most urine pregnancy test are sensitive to 700-3500 MI.u/ml.HGG and since ectopic pregnancy generally produces lower levels of HCG, these tests are only positive in 25 - 35 percent of proven ectopics(12). False positive also occur. However radioreceptor serum pregnancy test (BioceptorG) sensitive to 200m/u.HCG/ml is reported to have 94% sensitivity in ectopic pregnancy.(14) The radioimmununo assay (RIA) is the gold standard, sensitivity to 5 mIu HCG/ml and positive in virtually all cases of ectopic pregnancy.

These tests with high sensitivity take long to perform, are very expensive, and are not readily available.

Pelvic sonography has diagnosed ectopic pregnancy in 65 - 94 percent of proven cases.(10) Nevertheless false positive and false negative are substantial. Pelvic ultrasund does make a diagnosis of intrauterine pregnancy in 95 percent of proven cases.

Other diagnostic procedures that assist indiagnosis of ectopic include culdocentesis(3), Peracentesis (10), Dilatation and curettage, and laparascopy.(10)

Several social and anatomical factors influenced the form of conservative surgical management that were offered to this patient. The history of infertility and consequently the husband having married a second wife. The pregnancy was in ampulla. The haemodynamic changes were minimal so that she was in reasonable good condition. The contralateral ovary had been stretched by a cyst, left fallopian tube was grossily normal.

Conservative surgical management of the tubal pregnancy has been preferred to radical salpingectomy because of the following reasons.(13)

- (1) In more than 50% of patients the contralateral tube is abnormal.
- (2) 10 - 50 per cent of patient will have a repeat tubal pregnancy often in the contralateral tube.
- (3) 60 - 70 percent of women after routine salpingectomy have no viable off spring.
- (4) In 90 percent of ectopic gestation are in the distal third of the tube which is safer and feasible to repair.
- (5) A woman who has ectopic pregnancy has 30-60% chances of remaining infertile.

Linear salpingotomy was performed in this patient. This is the most preferred form of conservative surgical management (17). It's advantages include:

- (1) The functional capacity of tube may be preserved.
- (2) Salpingectomy may be repeated if there is a recurrent tubal pregnancy rate when compared with salpingectomy.
- (3) Repeat ectopic pregnancy rate are not significantly increased.

Persistent ectopic pregnancy is a complication of conservative surgery for treatment of tubal pregnancy.(16) It is caused by incomplete evacuation of trophoblastic tissue. It is diagnosed by a rising Beta Human Chrionic gonadotrophin, the finding of Adnexial mass with Haemoperitoneun. Prevously it has been treated with repeat laparotomy and salpingectomy. But more recently methotexate as treatment has been reported.

This patient is booked in the gynae clinic and after 3 to 6 month she would be ready for HSG to asses the patieny of the tubes.

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OVARIAN CYST:
RIGHT CYSTECTOMY

Name - A.A.A.
Age - 30 years
Unit - 771138
Date of Admission - 27/7/86
Date of Discharge - 4/8/86

HISTORY OF PRESENT ILLNESS

The patient was admitted through casualty complaining of vaginal bleeding, lower abdominal pain and feeling of fullness in the abdomen for nine weeks. The bleeding had started as a normal period but had continued since then. There was no history of amenorrhoea and she had not passed any clots or tissue. There was no history of pus discharge, no dysuria and no frequency of mictrition.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

The patient was para 0+1. She had had an ectopic pregnancy at age of 19 years. This was treated by right salpingectomy. The last menstrual period was on 24th May 1986. Her menarche was at 15 years. The cycles were usually regular coming every 28 days and lasting for 3-4 days. The periods were accompanied by dysmenorrhoea and she had mild dyspareunia. She had not used any contraceptives but since her last period she had continued to bleed.

PAST MEDICAL HISTORY

Since her last admission to private hospital for ruptured ectopic pregnancy at 19 years of age she has not had any major illness.

FAMILY HISTORY: There was nothing of significance.

SOCIAL HISTORY

She was divorced in 1977 and works in industrial area staying in Makongeni. She had a regular boyfriend. She did not smoke but took alcohol.

PHYSICAL EXAMINATION

Her general condition was good. She was afebrile and was not anaemic. There was no lymphadenopathy. The breasts and the thyroid glands were normal. Her blood pressure was 130/80 mmHg and the pulse was 82 per minute.

ABDOMINAL EXAMINATION

There was an old subumbilical midline scar. There was marked tenderness in the lower abdomen but no rebound tenderness.

There was no free fluid in the abdomen. The liver was not enlarged and the spleen was not palpable. There was a large cystic mass in suprapubic area arising from the pelvis about 10-12 cm in diameter. The mass was tender on touch.

Examination of the respiratory system, the cardiovascular system and the central nervous systems revealed normal findings.

VAGINAL AND SPECULUM EXAMINATION

The external genitalia were normal. The vagina had some brown bloody discharge. The cervix was firm and tubular. The cervical OS was closed and nullparous. The cervical excitation test was negative. The right Adnexia had a cystic mass that could be palpated above the uterus. It was tender. The uterine size was normal.

Differential Diagnosis

- (i) Unruptured Ectopic pregnancy
- (ii) Ovarian cyst
- (iii) Chronic Pelvic inflammatory disease with Pelvic abscess.

SUMMARY OF INVESTIGATION

1. Haemoglobin - 13.2g per decilitre
Haematocrit - 40.1 percent
2. Urinalysis - Sugar-Negative, Protein-Negative, PH-7.1
Cells less than five in high power field.
Culture and sensitivity was not indicated.
3. Blood group "O" Rhesus "D" Positive.
4. Urine for pregnancy test - Negative.
5. Pelvic ultrasonography report. "Uterus appears slightly bulky but otherwise normal. There was no evidence of pregnancy. A cystic mass with septae was seen mainly on the right adnexia which measured 14x16 x10cm."

She was informed about the nature of her illness. She was informed that she needed to have a laparotomy to remove the cyst and make definitive diagnosis. She gave written consent. Compatible whole blood three pints were booked. Atropine sulphate 0.6mg was given as premedication intramuscularly half an hour before sending patient to theatre.

RIGHT CYSTECTOMY AND LEFT SALPINGOLYSIS

General anaesthesia was induced and maintained as described in the introduction.

The vulva the vagina and the perineum were cleansed with cetavlon. The patient was aseptically catheterized. Examination under anaesthesia confirmed the earlier findings. The Anterior abdominal wall was opened in layers by excising the old scar.

FINDINGS

There was no ascites. There was a large lobulated right ovarian cyst mainly in the broad ligament. It measured 14x14cm. It was wellcapsulated and fixed in the broad ligament. The capsule was intact. There was no difference in the consistency from one area to another. There was a few adhesions involving the rectum and the omentum. There was also left hydrosalpinx and the fimbriated end was stuck to the ovary. the left ovary was otherwise normal only short stump of the right fallopian tube was seen. The uterus and the appendix were normal.

The liver and the spleen was normal with no evidence of metastasis; the mesentery and the uterus were also free. The subphrenic area was free.

DONE

The adhesions were lysed. Enucleation of the cyst was attempted and found difficult and likely to injure the right ureter. The cyst was punctured and 600ml of straw coloured fluid was aspirated from the three to four rules of the cyst. The collapsed cyst was removed in total. The inside surface was smooth. It was sent for histopathology. Small ovarian tissue was left behind.

The left tube was mobilized from the ovary. The fimbriated end was opened and clear fluid came out. The opened end was averted by interrupted nylon suture number five. Haemostasis was achieved and total blood loss was 700 millilitres. Abdominal wall was closed in layers.

POST OPERATIVE CARE

Routine post operative care was offered to the patient as described in the introduction. In addition patient was transfused two pints of blood. She was put on intramuscular ampicillin 1 gram 6 hourly. She was given pethidine 100mg only for pain.

Check haemoglobin was 11.9 grams per decilitre. The patient was already up and about. She was allowed home to come back on the 8th day for removal of stitches. This was done. The wound healed with first intention.

HISTOPATHOLOGICAL REPORT

"Macroscopically: Cystic ovary 6cm in diameter. The outer and inner surface were smooth with cystic wall measuring 0.3-0.6cm thick.

"microscopically - shows ovary with simple serous cyst. There was small inclusion cysts near the surface. The surface part of the fallopian tube with chronic inflammatory changes.

DIAGNOSIS: OVARIAN SEROUS CYSTADENOMA.

COMMENT

The patient had two types of cysts namely inclusion ovarian cysts and cystadenoma of serous type. Inclusion cysts commonly develop as a result of the adhesive disease following pelvic surgery. They represent the most frequent cysts for which a second pelvic procedure is performed. These cysts were on the same side that the partial salpingectomy had been done. On histology part of the stump of the fallopian tube was involved in the cyst wall. The cyst had developed in three lobules. The importance of the inclusion cysts lie in the factor that it is very difficult in most incidence to differentiate clinically neoplastic tumors from these simple cysts. So that in either cases biopsy is necessary.(1)

The presentation in this patient was that of an acute process. The differential diagnosis included unruptured ectopic, ovarian cyst and pelvic inflammatory disease with pelvic abscess. Pelvic ultrasonography eliminated the possibility of intrauterine pregnancy and detected the large cyst with septa. Laparotomy was undertaken first to rule out or confirm the acute pelvic episodes and secondly to remove the ovarian cyst for histological examination.

At operation no gross feature that would suggest that the tumor mass was malignant were noted. These include: any solid ovarian tumor; bilaterality of ovarian tumor, combination of solid and cystic areas in a simple tumor; cystic tumor with papilliferous inner surface; tumor with a papilliferous external surface; presence of implants on adjacent peritoneal surfaces and presence of ascites.(2)

Histological report showed serous cystadenoma. Dennis et al (1980) reported that serous cystadenoma accounted for 5.7 percent of all the benign tumors and 3.5 percent of all the ovarian tumours in their series in Kenya.(3) While Green and Lewis (1967) reported that Serous cystadenoma formed 9.2 percent of the ovarian tumors.(4) These low figures are due to problems encountered in diagnosis of ovarian tumors as compared in more advanced countries.

Radisarljeric (1977) observed that inclusion cysts and cystomas might have a common pathogenesis.(5) He concluded that these lesions are almost always initiated by the mechanism of ovulation, both normal and abnormal and the consequent alterations of the ovarian surface, related to normal life cycle of the graafian follicles. The stromal component around these cysts have the ability to react as totipotential ovarian mesenchymal tissue leading to normal production.(6) This causes hormonal imbalance causing periods of amenorrhoea followed by periods of abnormal uterine bleeding as was demonstrated in this patient.

Treatment offered to this patient was cystectomy. This was appropriate and would alleviate the patient symptoms. However this patient needs to be followed up. Other cysts may develop. At the operation hydrosalpinx was found on the left fallopian tube. This was drained and left salpingolysis performed. No attempt was made to probe the left tube. It is planned that after six weeks this patient will be ready for hysterosalpingogram to assess the patency of the left tube.

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CHORIOCARCINOMA

Name - H.K.
Age - 22 years
Unit - 656428
Date of Admission - 15/11/84
Date of Discharge - 23/3/85

HISTORY OF PRESENT ILLNESS

This patient was referred from Nanyuki District Hospital where she had presented with history of bleeding per vaginam with clots, lower abdominal pains and generalised body weakness for two weeks. A diagnosis of incomplete abortion was made and she was evacuated. This provoked heavy haemorrhage and patient was transfused three pints of blood. It was then that it was discovered that she had not volunteered the history that five months prior to that admission she had aborted a hydatidiform mole at the same hospital. According to the records suction curettage and subsequently sharp curettage were performed. But patient was lost to follow. The urine pregnancy test done at Nanyuki Hospital prior to referring the patient was 1:200 positive but 1:300 negative.

OBSTETRICS AND GYNAECOLOGICAL HISTORY:

She had her menarche at 18 years old. The cycles had been normal, coming every 28 days and lasting 4 to 5 days. Last menstrual period was on 11th April 1984. Her parity was 0+2. In 1983 she had an abortion at three month gestation and evacuation and curettage was done at Nanyuki District Hospital. In June 1984 she aborted a hydatidiform mole as stated above. There was no history of use on contraceptive.

PAST MEDICAL HISTORY: There was nothing significant.

FAMILY HISTORY: There was nothing significant.

SOCIAL HISTORY

She was unmarried lady not employed. She was educated up to primary education. She did not drink alcohol nor smoke. She stayed up country with her parents.

PHYSICAL EXAMINATION

Her general condition was weak, ill looking. She was clinically anaemic. Her body temperature was 36.5°C. The blood pressure was 120/80mmHg with a pulse rate of 90 per minute regular and good volume. There was slight pitting leg oedema. There was no cyanosis, no lymphadenopathy and no finger clubbing. The Thyroid gland was not enlarged. The breasts were well developed and had no masses but they were active.

ABDOMINAL EXAMINATION

The abdomen was scaphoid. The spleen, the liver were not enlarged. There was a suprabupic mass arising from the pelvis to a fundal height of 14 weeks. It was also tender on palpation. There was no free fluid in the abdomen.

The respiratory system, the cardiovascular system and central nervous system were essentially normal.

VAGINAL AND SPECULUM EXAMINATION

The external genitalia were normal. The vagina had dark brown blood. The cervix was soft and looked normal. It admitted one finger but no products of conception were felt. The uterus was 14 weeks gestation, soft and slight tenderness on motion. The adenexia and the pouch of Douglas revealed normal finding. Rectal examination also revealed similar findings.

DIAGNOSIS:

CHORIONIC

CARCINOMA

SUMMARY OF INVESTIGATION:

- (1) Urine Pregnancy tests in dilution
HCG-Concentration - more than 256 IU/ml and less than 502 IU/ml.

- (2) Urea and Electrolytes
Na⁺ - 136 - mmol/litre
K⁺ - 4.9 mmol/l
Bun - 4.1 mmol/l

- (3) Haemoglobin - 9.8 g/dl
Haematocrit - 31.1 percent
WBC - $9.8 \times 10^9/l$
Polymorphs - 77%
Lymphocytes - 23.0%
Monocytes - 6%
RBC - Moderate anisocytosis. Poikilocytosis Macro and microcytes - Target cells present. Slight hypochromic. Platelet 300,000 per cubic mm.

- (4) Liver Function Tests (LFT)
Alkaline Phosphatase - 10.0 KA Units
SGOT - 32 K Unit
SGPT - 21 " "
Serum Albumin - 27 g/l

- (5) Pelvic Ultrasonography
The uterus was bulky with some echo-free areas (Cystic areas)

- (6) Thin and Thick blood slide - No Malarial parasites seen.

- (7) Urinalysis - Normal findings

- (8) Radio immunoassay for luteinizing Hormone 286 um/l (Note Elevated LH is equivalent to elevated HCG.)
- (9) Chest X-Ray - Normal findings - There was no evidence of metastasis lesions.
- (10) Histological report of Currettings - There was extensive necrosis in white fragments received and marked trophoblastics proliferation and no chrionic villi were seen. The morphology lacked pleomorphism and fall short of choriocarcinoma.

TREATMENT AND PROGRESS

She was given parentrovite I and II to improve her general condition. She was transfused three pints of blood and each pint was covered with frusamide 80mg intravenously. Chloroquine tablets 4 at once two after 6 hours and two daily for three days were given. Repeat heamoglobin was 12.0 g/l with a PCV of 34 percent, WBC 9.4×10^9 per litre and differential of 41 polymorphs, 3 stad, 55 lymphocytes and one percent monocyte. the plalet count was 350,000.

Tripple Therapy And Monitoring Of Patient

A table was kept of the records of the following tests on weekly bases: Heamoglobin level; Total white cell count and platelets; Urine pregnancy test; Radio immuno assay of Luteninizing Hormone only after the pregnancy test had become negative, urea and electrolytes, and liver function tests. Specimen were not taken during the week of the course of Triple Therapy. Her weight was 57 Kg., and she was weighed every week.

Drugs

- (1) Intravenous Methotraxate 75mg on first day in 5 percent dextrose. It ran over 16 hours. the bottle was covered with green towel to protect it from direct light.
- (2) Daily intravenous cyclophosphamide 150mg on 1st day through to the 5th day.
- (3) Tablets of 6 mecarptopurine 300mg three times daily on first day through to the fifth day.
- (4) Patient was also put on Ferrous sulphate daily and Folinic Acid daily except on the day she was on Methotraxate.

After the first course the patient developed severe stomatitis and upper respiratory tract infection. No organism was isolated on the throat swab, but patient was treated with ampicillin and gentamycin for five days.

Two weeks after the first course of treatment urine pregnancy test became negative. Heamogram was 7.6 gram per decilitre. White cell count was 3.0×10^9 per litre. Platelet were reported adequate and liver function tests were normal.

Luteinizing hormone Radio immunoassay level fell from 192 iu/l in 1st week to 90.5 iu/l in 2nd week after 1st course. By the 5th week the level was 42.8 iu/l which was normal for luteal phase.

Second Course : She was transfused and given second course after six weeks from the 1st course. The delay was due to inavailability of blood and drugs.

There was no adverse effect except for leucopenia which recovered soon. Liver function test, urea and eletrolytes were normal. Pregnancy test was negative and radio immnoassay of LH was 42.0 iu/l.

Third Course and Fourth Course: These were given two and 6 weeks from the second course. In between each course patient received 4 pints of blood. After the fourth course the urine Pregnancy Test was still negative Radio immno assay for Lh was 40.0 Iu/litre which is normal for Luteal phase. Hamoglobin was 10 gram per decilitre and WBC was $8.6 \times 10^9/l$ with normal plalelets.

She was discharged home on cyclic microgynon.

FOLLOW UP: SIX WEEKS AFTER DISCHARGE

She was seen at Gynae Clinic in good general condition. Haemoglobin was 10.0 gram/dl with PCV of 31 percent. pregnancy test was negative and Lh was 25 Iu/l. Her uterus was normal size but she had not had her periods.

Patient was instructed to continue on oral contraceptive and to return to clinic after 1 month. She did not come again for follow up.

COMMENT

The delay to start definitive treatment for this patient was brought about by break down in follow up arrangement after she had aborted a hydatidiform mole. The patient was consequently subjected to a second and fairly dangerous evacuation and curettage at the District Hospital. She detoriorated from her prevously good prognosis with low risk to poor prognosis with high risk. Patients with choriocarcinoma have low risk from the point of view of probability of the drug resistance developing when

- a) The initial serum HCG titre is less than 40,000 in/u per ml or urinary HCG titer is less than 100,000 Iu per 24 hours.
- b) The duration of symptoms is less than 4 months.
- c) There are no metastasis to the brain or the liver and if present there are only in the lungs and vagina and are of small size.
- d) The disease followed molar pregnancy
- e) The patient's age is less than 39 years
- f) There has been no previous chemotherapy.(1)(2)(7)

As a result of the delay the duration of the symptoms was well over 6 months. Placing her in high risk group.

The diagnosis of chorocarcinoma was made on history and the observation of elevated HCG litre as shown by the urine pregnancy test in dilution. Pelvic ultrasonography excluded intrauterine pregnancy. Histological report was eventually received but this is not usually necessary for the management of choriocarcinoma.

Choriocarcinoma is preceded by Hydatidiform mole in 40-50%, abortion or ectopic pregnancy in 20-25% and term pregnancy in 25 percent of cases. (2)(3) Rarely it may co-exist with a normal pregnancy. Choriocarcinoma occurs more commonly in the Eastern than the Western communities. It's geographical distribution is similar to that of hydatidiform mole. Jeffcoate (1975) cited an incidence of 1:50,000-70000 pregnancies in British and North America as compared to 1:5,000-6,000 pregnancies in the East and Central Africa. The incidence of choriocarrenoma in Kenya may be between the Eastern and Western figures.

Chemotherapy is the mainstay of the treatment of chroriocarcinoma with surgery as a possible adjunct. The patient because of the poor prognostic score was put on Triple therapy. This included methotrexate,

cyclophosphanide and 6 mecaptopurine. Human chorionic gonadotrophin (HCG) is the tumor marker for chorio carcinoma treatment is continued until the level of HCG drops down to normal and it is presumed that the last malignant cells has been destroyed. Declining levels of HCG in this patient was monitored by urine pregnancy test till it became negative. Urine pregnancy tests are sensitive to HCG levels between 200-500 IU/l. When the urine pregnancy test was negative HCG level were monitored by LH radioimmunoassay. The levels that were aimed at was not zero, but rather LH level less than 20 IU/l in women with functional ovaries and less than 200 IU/l in women who have had oophorectomy. In this patient the level of LH was 25 IU/l. She was therefore presumed to be cured. The follow up was planned for once every three months for two years because reactivation of trophoblastic may occur even after five years (2). Oral contraceptive ensures that the patient does not conceive during the follow up period and that the production of anterior pituitary luteinizing hormone is suppressed so as to facilitate efficient monitoring.

The cure rate of 90% of cases of metastatic trophoblastic disease can be anticipated (5). In good prognostic category 100% cure can be expected in a centre specializing in treatment of such cases. In high risk or bad prognostic category the results are obviously less good but great advances are being made by improving methods of identifying these high risk cases early and giving them combined chemotherapy regime at the outset.

This patient developed marked leukopenia, anemia, and upper respiratory tract infection. Several blood transfusions were instituted. She should also have been put on prophylaxis antibiotic since leukopenia and depression of body defense mechanism was expected with the patient on cytotoxic drugs. Folinic acid was given to rescue the bone marrow depression.

The future obstetric carrier of this patient still looks good. According to Rustin (1984) women who have suffered gestational trophoblastic disease and have been successfully treated with chemotherapy do not appear to be at increased risk of developing trophoblastic disease again with another pregnancy. They can also anticipate a reproduction outcome with risks not much different from those for the general population. More abnormal pregnancy would be expected after trophoblastic diseases but as Bagshawe (1976) reported these abnormalities do not seem to be significantly affected by chemotherapy(7).

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ABNORMAL UTERINE BLEEDING WITH POLYCYSTIC OVARY

- LAPARASCOPY -

Name - J.K.M
Age - 24 years
Unit - 516398
Date of Admission - 30/8/85
Date of Discharge - 30/8/85

PRESENTING COMPLAINTS

She presented with history of irregular menstrual period since Menarche.

HISTORY OF PRESENT ILLNESS

She first sort medical attention at 21 years of age in the Gynaecological clinic complaining of having missed her menstrual period for seven months. She did not think that she was pregnant. Since menarche at 13 years of age her periods had been irregular coming once in three to four months and lasting 8 to 10 days. They were usually heavy. There was no history of dysmenorrhoea and dyspareunia.

She was para 0+1 and the abortion was at 4 months. No evacuation had been done. Her last menstrual period was in November 1984, i.e. ten months prior to admission. It was prolonged and she had been admitted for it and discharged on medication.

PAST MEDICAL HISTORY

She had enjoyed a healthy life since childhood with no major illness.

FAMILY AND SOCIAL HISTORY

She was the third born in the family of 13 children composed of five brothers and seven sisters. None of the sisters had had such problems. She was educated up to form four and worked as a telephone operator in town. She was unmarried but had a regular boyfriend. She did not take alcohol and she did not smoke.

PHYSICAL EXAMINATION

She was a well built woman of 5 feet 2 inches tall and weighing 87½Kg. Her general condition was good. There was no Pallor, no Oedema, no Cyanosis nor lymphadenopathy. She was afbrile. She had a feminine hair distribution with normally developed breast. There was no inappropriate galactorrhoea. There was no hirsutism and no acne. The blood pressure was 110/80 mmHg. The pulse was 80 per minute regular and good volume. The Thyroid gland was normal.

ABDOMINAL EXAMINATION

The liver and the spleen were normal. There was no tenderness and there was no palpable mass. There was no ascites.

Examination of respiratory system, cardiovascular systems, central nervous system and ear, nose and throat revealed normal findings.

VAGINAL AND SPECULUM EXAMINATION

The external genitalia were normal. The vagina was normal. There was no discharge per vaginum. The cervix was healthy looking, nullparous with clear viscous mucus. The uterus was normal in size, smooth, anteflexed and anteverted and freely mobile. The adnexia and the pouch of Douglas were normal. Rectal examination revealed normal findings.

Impression : Abnormal uterine bleeding.

SUMMARY OF INVESTIGATION DONE

1. Papanicolau smear - Class II
Trichomonas vaginalis present
2. Haemoglobin 14.3 g/dl Haematocrit 44.1%
3. Blood group "O" Rhesus "D" positive
4. White blood count - 8.0×10^9 per litre
5. Urinalysis - Normal findings
6. Urine pregnancy test - negative
7. Skull Xray - pituitary fossa reported normal
8. Hormonal Profile
 - Prolactin level = 116 MIu/l
 - Luteinizing hormone = 14.76 Iu/l
 - Follicular Stimulating hormone = 1.51 Iu/l

LAPAROSCOPY, HYDROTUBATION, DILATATION AND CURETTAGE

The procedure was explained to the patient and she gave written consent. It was also certified that she had come with a friend who would go with her home after she has recovered from the anaesthesia. She was then prepared for theatre. Patient was premedicated with intramuscular atropines 0.6 mg a half an hour before theatre General anaesthesia was induced and the patient was placed in modified lithotomy position with the legs extended at the

knee. The anterior abdominal wall, the vulva, the vagina and perineum were cleansed with hibitane solution and draped with sterile towels. The patient was catheterized and vaginal examination confirmed the earlier findings.

The anterior lip of the cervix was held with the volsellum forceps and the uterine canula introduced into the cervical canal, this was fastened on the volsellum forceps with a special device. Pneummo peritoneum was created by passing carbon dioxide through a veres needle pushed into the abdominal cavity. Two and a half litres of carbon dioxide was sufficient for this. The trochar, together with its canula was then pushed firmly and steadily with twisting movement through a small transverse infra-umbilical incision in the direction of the sacral promontary until the abdominal cavity was entered. The trochar was then replaced by the laparoscope connected to a light source. Good view of the pelvic visera was obtained.

The uterus was normal in size with smooth surface and freely mobile. Both fallopian tubes were healthy looking, well developed with no adhesion. The firmbriated end were ferning well. The ovaries were enlarged about 5-6cm across. These were cystic and covered with smooth pearly white capsules. There was no corpus luteum seen. methylene blue dye was injected through the cervical canal and there was immediate bilateral spill.

Carbon dioxide was let out and canula and laparoscope removed. The incision was closed with two michel clips.

The cervix was dilated to Heggar size 8 and sharp curettage performed recovering healthy looking endometrium. Specimen was sent for histopathology.

The impression made was that of polycystic ovaries in the presence of clean pelvis with healthy tubes.

HISTOPATHOLOGICAL REPORT OF ENDOMETRIAL BIOPSY

"Received was bulky curettings. Histology: - This is out of phase endometrium showing both tubular and spiral endometrial glands with irregular vacuolation of the cytoplasm. There is dense stroma. These features were suggestive of hormonal imbalance."

TREATMENT AND PROGRESS

The finding of the investigation were explained to the patient. She expressed her desire to conceive even though she was not married.

She was put on clomiphene citrate 50mg daily for 5 days starting on the 5th day of each cycle for three cycles. The first induced menstrual periods was prolonged lasting 7-10 days, but the other two lasted 4-5 days. When she stopped the medication the period continued regularly but although she claimed to have frequent intercourse she had not conceived after six months. She was encouraged to try further for another six months and if she had not conceived despite her regular periods then she could come back with her boyfriend for seminalysis. The patient had not yet come back to the clinic by the time of writing.

COMMENT

This is a patient with abnormal uterine bleeding with polycystic ovaries confirmed at laparoscopy. This condition was first described by Stein and Leventhel in 1935 and there found an association between amenorrhoea and bilateral polycystic ovaries. From then the syndrone has been known by their names. (Stein-Leventhel Syndrome)(1). In this condition anovulation is the key feature and present as amenorrhoea, as was the case in this patient, in 55% of cases. It also presents as abnormal uterine bleeding in 28 percent of case. But those who are severely affected may present with primary

amenorrhoea. Infertility prior to diagnosis is present in 75 per cent and evidence of ovulation, such as finding of corpora lutea at operation, biphasic temperature records or the occurrence of dysmenorrhoea occur in 20%.(2) True virilization is rare but 70 percent of anovulatory patients complain of cosmetically disturbing hirsutism.

Although obesity has been regarded as an important feature it is very subjective. Minor increase in weight may be difficult to appreciate. Like this patient would simply pass as well built.

Like this patient cases with this condition present in their second or third decade of life. This patient did not have any sign of virilism such as deepening of the voice, atrophy of the breast and abnormal hair distribution.

An X-linked dominant transmission by inheritance has been reported in one group of patients with this condition. There is a 2 fold higher incidence of hirsutism and oligomenorrhoea with paternal transmission but with a marked variability of the phenotypic expression.(3)

Polycystic ovary occur when a state of anovulation persists for any length of time. A steady state of gonadotropins and sex steroid obtains in persistent anovulation quite different from the normal fluctuation of hormone level. There is increased estrogen and androgen production due to Luteinizing hormone (LH) stimulation. High levels of circulating estradiol and estrone has the effect of increasing sensitivity of the pituitary to GnRH and releases high levels of LH and suppressing FSH. In this patient the LH level were on the upper side while the FSH was depressed. With little FSH new follicular growth is continuously stimulated and follicular life span is extended for several month forming small multiple follicles 2-6 cm in diameter. These follicles are surrounded by hyperplastic theca cells often luteinized in

amenorrhoea. Infertility prior to diagnosis is present in 75 per cent and evidence of ovulation, such as finding of corpora lutea at operation, biphasic temperature records or the occurrence of dysmenorrhoea occur in 20%.⁽²⁾ True virilization is rare but 70 percent of anovulatory patients complain of cosmetically disturbing hirsutism.

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response to elevated LH levels. High levels androgen (testosterone) interfere with the local action of estradiol causing follicular atresia and reducing the sensitivity of the follicle to the F.S.H. Hence maturation does not occur and hence ovulation is inhibited. The polycystic ovary is usually enlarged and characterized by a smooth pearly white capsule. This is a consequence of the loss of ovulation and the achievement of the steady state of hormones.(4)

The diagnosis may be made on clinical presentation alone and treatment instituted. However where possible elevated levels of LH in the presence of low normal levels of FSH may be diagnostic. In this patient the LH level was elevated to 14.76 iu/l (normal level are 2.7 - 10.3 iu/l in luteal phase and 4.2 - 14.4 iu/l in follicular phase).

F.S.H. level were normal for either luteal or follicular phase. Prolactin levels should always be determined to rule out hyperprolactaemia. In this patient prolactin level was normal at 116 in iu/l. (normal level 96-137 miu/l) X-Ray examination focussing on pituitary fossa should be done to exclude tumors of this gland that may lead to amenorrhoea. The diagnosis in this patient was confirmed by laparoscopic examination. This provides the direct visualization of the pelvic organs. It is most useful in cases where the ovaries are enlarged but cannot be detected by bimanual examination as was the case in this patient. It is of limited value in cases where there is minimal enlargement.

The principle of the treatment is to aim at disrupting the steady state of gonadotrophin and sex steroid and initiating the fluctuation of the hormone level thereby effecting ovulation. These can be achieved in three main ways:

- 1) By medical induction of ovulation
- 2) By providing progestogens eg provera tablet (10mg daily for the first 10 days of every month)

3) By surgical treatment of wedge resection. (5)

This patient was offered medical induction of ovulation with clomiphene citrate. This is usually the first line of management in that once cyclic ovulation has been established it will continue normally.

Clomiphene citrate is an orally active nonsteroidal agent distantly related to diethylstilbestrol. It is available in 50mg tablet under the trade name of clomid, clomiphene exerts only a very weak biological estrogen effect. The structural similarity to estrogen is sufficient to achieve up take and binding by oestrogen receptors. It modifies hypothalamic activity by affecting the concentration of the intracellular estrogen receptors, thus the concentration of oestrogen receptors is reduced by inhibition of the processes of receptor replacement. The hypothalamic pituitary axis cannot perceive or act upon the high endogenous estrogen level in the circulation. Thinking that estrogen level in the circulation is low because perception is obscured the neuroendocrine mechanism is activated. Hence FSH is secreted appropriately.

A program of clomiphene therapy is begun on the 5th day of the cycle following either spontaneous or induced bleeding. The fifth day is important because clomiphene induced increase in gonadotrophin during day 5-9 is at a time when in most cases the dominant follicle has already been selected. Beginning clomiphene earlier can be expected to stimulate multiple follicles maturation resulting in increased incidence of multiple gestation. If ovulation is not achieved in the first cycle the dosage is increased in stair-case fashion by 50mg increment to a maxima of 200-250mg daily the high dose is given for 3-4 cycles. This patient resumed periods with the first course and on stopping the periods continued spontaneously. This may be regarded as successful but the true success will be when she has conceived.

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VESICO- VAGINAL FISTULA
SUCCESSFUL REPAIR

Name - M.C.K.
Age - 38 years
Unit - 599876
Date of Admission - 17/1/84
Date of Discharge - 15/2/84

PRESENTING COMPLAINTS

She complained of dribbling of urine and no menstrual period for three years prior to admission.

HISTORY OF PRESENT ILLNESS

She presented at the casualty with the complaints mentioned above. This followed caesarean section delivery of a term baby in 1981 at a mission hospital. She had been in labour pains for two days at home before the operation and the baby was Fresh Still Birth. The indication for the caesarean section according to accompanying letter was obstructed labour with cord prolapse. The urine started dribbling ten days after the operation. the patient had not resumed her periods since that operation.

OBSTETRICAL AND GYNEACOLOGICAL HISTORY

She could not remember the year of menarche. Nevertheless her periods had been regular. Her parity was 9 and she had not had any abortion. Her last menstrual period was in 1980 and her last delivery was in 1981 which was a fresh still birth by caesarean section.

PAST MEDICAL HISTORY: There was nothing significant.

FAMILY HISTORY: There was nothing significant.

SOCIAL HISTORY

She was a married housewife. She belonged to one of the nomadic tribes of East Africa and she had not been to school.

PHYSICAL EXAMINATION

The general condition was good and she was a tall woman. She was not clinically anemic. She was not jaundiced and not febrile. There was no lymphadenopathy. The breasts were well developed. The blood pressure was 130/80 mmHg. The pulse was 90/mm Regular and good volume.

RESPIRATORY SYSTEM : There was nothing abnormal detected.

ABDOMENAL EXAMINATION

There was a well healed subumbilical scar. The spleen was not palpable and the liver was not enlarged. There was no ascites and no other masses.

VAGINAL AND SPECULUM EXAMINATION

There was minimal vulval excoriation involving also the medial aspect of the upper thigh. There was urine dribbling from the vagina. The perineum was intact. There was fibrotic scar tissue in the anterior vaginal wall anterior to the cervix. The cervix was firm closed and healthy looking. The uterus was normal size adnexia and pouch of Douglas were normal. Rectal examination revealed normal findings.

Diagnosis: VESICO-VAGINAL FISTULA (VVF)

SUMMARY OF INVESTIGATIONS

- (1) Blood group "O" Rhesus "D" Postive
- (2) Urinalysis - Protein Nil, Sugar Nil, PH 6
- (3) Urine Culture and Sensitivity - No growth was obtained
- (4) Haemoglobin - 14.8 g/dl
Haemotocit - 44.3 %
WBC - 8.9 x 10⁹/l
MCHC - 33.0
MCV - 89
MCHC - 30
- (5) Urea and Electrolytes
BUN - 4.3 Mmol/l
Na⁺ - 141 Mmol/l
K⁺ - 3.6 Mmol/l
Uric acid 295 Umol/l
Creatinine 10 Umol/l

The plan for further management of this patient included examination under anaesthesia to identify the fistula and decide on the position of the patient during subsequent repair.

EXAMINATION UNDER ANAESTHESIA

The patient was premedicated with intramuscular atropine sulphate 0.6 mg a half hour before theatre. Under general anaesthesia the patient was placed in lithotomy position. the vulvo vaginal and the perineum were cleaned with savlon and then the legs and the perineum were draped with sterile towels.

Using a Sims speculum and sponge holding forceps to expose the anterior vaginal wall normal length vagina which ended blindly with anterior position fibrous septum was noted. The cervix could not be visualised but was palpable beyond the blind end of vagina septum. The uterus was normal size. The adnexia and pouch of Douglas were normal.

Methylene blue dye was introduced into the bladder via the metal urethral catheter. Normal length of urethra was noted. Free flow of the dye from the bladder through the fistula into the vagina was noted. The Fistula was next to the cervix. This confirmed the fistula. Fibrosis around the fistula was minimal. The Vesco-Vaginal fistula could be repaired in knee chest position. The patient recovered well from the anaesthesia. She was supplied with zinc ointment to apply on vulval area and the thighs to reduce skin excoriation.

REPAIR OF VVF

Patient was ready for operation after one week. pre-operative Haemoglobin and urea and electrolytes were reported normal. A msu did not grow any organisms.

Premedication with intramuscular atropine sulphate 0.6mg and intramuscular pethidine 50mg were given half an hour before theatre. Pre operation preparation was done as described in the introduction. She had 2 pints of blood kept ready just in case she required transfusion.

Under general anaesthesia the patient was placed in the knee-chest position with the legs secured on stirrups with crepe bandage. Vulvovaginal and perinevial toilet was done with hibitane solution and then the patient was draped with sterile towels and leggings.

Examination under anaesthesia confirmed previous findings. The urethra was then catheterized with a metal catheter which was left in position. The fibrotic scar tissue around the fistula was excised and moderate mobilization of the tissue layers was achieved by undermining the layers with special instruments. Interrupted suture of catgut no 2/0 were used to bring the bladder together. A second layer of bladder muscular was achieved in similar manner. The vagina mucosa was repaired similarly.

The metal catheter was then replaced by a size 14 Nelaton's catheter through which 200ml of methylene blue was passed into the bladder to test the integrity of the repair. There was no dye leakage noticed. The catheter was securely stitched to the vulva and a urine bag connected to it for continuous drainage. There was little blood loss and therefore transfusion was not done. Anaesthesia was reversed.

POST OPERATIVE MANAGEMENT AND PROGRESS

The patient was put on septrin 2 tablets two times a day for seven days. She had intravenous fluid 5% dextros alternating with normal saline 500 ml each for 4 hours for 24 hours. Intramuscular pethidine 100mg every 6 hours was given for six doses. A strict input output fluid chart was maintained. She had an uneventful post operative period. The output and input chart readings were satisfactory. Catheter specimen and haemoglobin done on the third day were normal. The bed remained dry and at 14 days the catheter was removed at which time catheter specimen of urine grew klebsiella organism which was sensitive to nitrofurantoin. This was given for ten days.

Patient continued to void urine well and the bed was drying. On the 21st day the patient was done three swabs test in the ward. In this test the patient was placed in Dorsal position with legs flexed at the knees, and the hip and the thighs put apart. Using a speculum and sponge forceps, a swab was introduced into the posterior vaginal fornix; a second swab was left in middle of vagina and a third was placed at the introitus. Through a catheter methylene blue was introduced into the bladder and left for a while. The swabs were then inspected one after the other. In this patient none of the swabs stained with methylene blue. This confirmed that the V.V.F. had been completely and successfully repaired.

The patient was discharged home with strict instructions to avoid sexual intercourse for three months and that when she gets pregnant again she would be delivered by caesarean section.

FOLLOW UP

She came back for check up in the Gynaecological clinic. she had done well.

COMMENT

This patient took three years to come for the repair of the vesico-vaginal fistula. Normally vesico-vaginal fistula occurring as a consequence of obstetrical complication may be repaired after three to four months. This will ensure that the oedema has subsided and the divitalized tissue have been shade. Some small fistulae may heal by themselves over this period. There was no indication that the attending physician made any attempt to refer this patient for the repair of the fisitula. This was a serious ommisison.

Whereas operative and radiation injuries are the main causes of urinary fistula in developed countries, obstetric complicaitions are the commonest causes in the developing world. (Lawson 1967). Obstetrics complication include obstructed labour, ruptured uterus, caeserean section and operative vaginal deliveries. This patient had obstructed labour for two days at home. This predisposes the bladder to pressure necrosis neck between the fetal head and the mother pubic bone. The obstructed labour in this patient is likely to have been due to malpresentation which also predisposed to coro prolapse.

The success of repair is dependent to various factors namely:

- (i) The size of the fistula
- (ii) The amount of fibrosis and fixity present,
- (iii) The location of the fistula
- (iv) The presence or absence of infection
- (v) The number of previous repairs
- (vi) The current surgical technics with suitable surgical instruments

Although this patient was done EUA on a separate day as the actual repair this has been abandoned and both EUA and repair are done on the same day. The knee-chest position is chosen for repair of the bladder neck VVF. Whereas lithotomy position is best for the juxta -cervical and mid vaginal fistulae.

Abstinence from coitus for 3 months is meant to facilitate healing.

For comparison of results in treatment of VVFs from different centres the anatomical classification by Coetzee and the lithgour (1966) are set out below:

1. Uncomplicated fistulae usually repaired vaginally
 - a) Involving the urethra alone or the bladder neck and the urethra
 - b) Midviginal
 - c) High midvaginal juxtocervical
2. Fistulae involving the ureters
3. Complicated fistulae: closure is impossible without supplementary operations.

The mid vaginal fistulae have been found to have the highest cure rate followed by the high mid vaginal fistulae (Gunaratine 1980). The cure rate diminishes as the number of repair attempts increases. The cure rate referred to here is in so far as the patient achieves complete continance including stress continence. Coetzee

and lithgour refer to this as "functional cure" For complete cure they include allowance of normal coitus without dyspnea resumption of normal periods and ability to bear children.

Of the 254 pregnancies leading to fistulae formation 142 resulted in stillbirth and 14 in neonatal death (3). In another study, Grech found 78.6% stillbirth and 11.6% neonatal death. This patient had still birth.

In cases of co-existing VVF and RVF a colostomy before repair is necessary to avoid contamination of the repair site. The VVF must always be repaired before R.V.F.

Before the repair the patient must be in good general health including the correction of anaemia if present, urinary tract infection is uncommon in VVF because of the absence of urinary stasis. but if present it must be treated appropriately. Catheter specimen of urine should be examined during the post operative period because if urinary tract infection develops as it did in this patient appropriate antibiotics must be instituted at once.

Patients with VVF are usually social outcasts and are often abandoned by their husbands. The urea splitting organisms release ammonia which does not only give the characteristic smell to the patient but causes vulval excoriation. The excoriation can be prevented by zinc oxide paste but despite aggressive hygiene the smell persists. The traumatic experience often leads to secondary amenorrhoea and infertility. It is not surprising that these patients are so grateful after successful repair.

Fortunately more cases of fistulae are preventable by anticipation of difficulty before labour and by termination of labour by caesarean section of labour prolonged by disproportion before the stage of obstruction is reached. (Lawson 1967). For those patient who have had difficult vaginal delivery continous bladder drainage may obviate the fistula formation.

Health education, provision of basic health services, the use of partogram to facilitate a good referal system will go along way to eleviate this unfortunate socially embrassing condition.

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LOST IUCD: REMOVAL AT DILATATION
AND CURETTAGE IN A NON PREGNANT PATIENT

Name - R.O.
Age - 25 years
Unit - 764758
Date of Admission - 27.6.86
Date of Discharge - 28.6.86

PRESENTING COMPLAINTS

She was referred from Family Planning Clinic where she had presented with complains of inability to feel the threads of the intra uterine contraceptive device (IUCD) She complained of backache and heavy periods. She had been inserted a Copper T.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

Her parity was 3+0. All the children were alive and well. her menarche was at 14 years. Cycles were regular every 30 days and periods lasted 5 - 6 days. There was no history of dysmenorrhoea. She was inserted copper T (IUCD) six weeks after her last delivery in 1983. She had had no problem with the coil since then.

PAST MENSTRUAL HISTORY

She was admitted in a private hospital with anaemia in December 1985 and treated with haematinics.

FAMILY MEDICAL HISTORY

Her mother suffers from hypertension.

SOCIAL HISTORY

She was educated upto form four. She works as a secretary with a private company. Her husband works with KP&T Corporation. She did not take alcohol and she did not smoke.

PHYSICAL EXMAINATION

Her general condition was good. She was not anaemic. Her blood pressure was 110/70 mmHg. The pulse was 80/min. The temperature was 36.5°C. The respiratory rate was 16/mm. The breasts were normal and not active. There was no varicose vein and no lymphadenopathy.

ABDOMINAL EXAMINATION:

The abdomen was scaphoid. There was no tenderness. The liver was not enlarged and the spleen was not palpable. There was no ascites.

PELVIC EXAMINATION AND SPECULUM EXAMINATION

The external genitalia and the vagina were normal. There was no discharge. The cervix was firm, closed and had clear mucoid discharge. IUCD thread were not seen. the uterus was normal size anteverted and anteflexed.

The adnexia and the pouch of Douglas revealed normal findings. Examination per rectum reveal no abnormalities.

Examination of the central nervous system, respiratory system, and cardiovascular system revealed normal findings.

A diagnosis of Lost IUCD threads was made.

SUMMARY OF INVESTIGATION

- (1) Blood group "O" Rhesus "D" positive
- (2) Haemoglobin 13.9 gram per decilitre and Haematocrit was 40 percent.
- (3) Urinary pregnancy test - negative
- (4) Ultrasonography-Revealed intrauterine contraceptive device seen in the uterine cavity.
- (5) Urinalysis was normal.

PLAN: She was scheduled for removal of IUCD under sedation at dilatation and curettage. She was explained about the procedure and she gave written consent. She was prepared for theatre as described in the introduction. Premedication with atropine sulphate 0.6mg and pethidine 50mg intramuscularly was given half an hour before sending the patient to theatre.

REMOVAL OF THE IUCD UNDER SEDATION

With patient on the operating table in theatre sedation was induced by intravenous diazepam 20mg and pethidine 100mg inabolus.

The patient was placed in lithotomy position and vulval perineal toilet was done. Examination under sedation confirmed the earlier findings. An anwards speculum was introduced in the vagina and let to hang. This exposed cervix whose anterior cervical lip was grapped with the tenaculum forceps. The cervix was dilated to Hergars number six. A small curette was introduced through the cervical OS into the uterus and sharp curettage done. The threads came out with the first curette and by pulling on the threads removal of IUCD copper T was effected. Examination of the Copper T revealed that it was complete with both threads present.

POST OPERATIVE

Routine post operative care was provided for this patient. She recovered fully from the sedation. No excessive bleeding was observed. She was discharged on the second post operative day for follow up in the family Planning clinic. She was discharged home on ampicillin 500mg four times a day for seven days. she was also given a supply of condoms for use till her next period when she would go to family planning clinic for reinsertion of another coil.

FOLLOW UP

She reported to the family planning clinic during her second menstrual period and another Copper T was inserted, since she was still determined to use the coil.

COMMENT

The strings of the intrauterine contraceptive devices (IUCD) provide a means where by the woman by self examination reassures herself that IUCD is in place. The strings are made of nylon. The patient may complain of the inability to feel the strings or more commonly the problem may be detected during a follow up visit. The patient had reported to the clinic when she was unable to feel the strings. This is part of the instructions that clients are given when they are inserted an IUCD.

There are two major reasons why clinicians become concerned if the IUCD strings are no longer detectable or are lost: The IUCD may have been expelled and hence the woman is no longer protected from pregnancy. The second reason is that the IUCD may be in the abdominal cavity and will alarm the patient. Moreover it may provoke or predispose to infection. The woman at the same time is not protected.(1)

IUCD expulsion whether partial or complete has been reported to occur in 5 - 20 percent within the first one year. Uterine perforation have been reported to occur one in 2500 insertions. Most of the perforations occur at the time of insertion.(1)

In this patient the copper T was in the uterus. Since the strings had been drawn in the cervical canal, it is possible that migration might have taken place or change in polarity(4). This puts the protection against pregnancy that is supposed to provide in doubt. It is therefore necessary to confirm whether pregnancy has occurred or not. In this patient this was confirmed by the negative pregnancy test and the normal pelvic sonography. If pregnancy had occurred and the strings could be retrieved from the cervical canal that coil should be removed at once. This will reduce the incidence of spontaneous abortion by half and the incidence of premature labour five fold. Other complication that may attend pregnancy with coil in uterus include premature rupture of membranes and septic abortion. If the coil string can not be retrieved easily from the cervical canal and pregnancy has occurred than it is advisable to leave the coil alone since any interference may induce abortion.

Once the IUCD string cannot be felt the whereabouts of the IUCD has to be determined. In this patient it was located by ultrasonography(2). This is safe in suspected early pregnancy. It is much easier if the device is still in the uterine cavity but quite difficult in case of the coexisting advanced pregnancy, because of the supra imposed fetal echos. At the same time localization of the lipps loop among the intestinal loop after uterine perforation is unreliable and only in particular cases where the IUCD is located behind the uterus could its sonography detection be possible.(2)

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There are other methods that have been previously used to locate the lost IUCD.

- a) Simple uterine sound
- b) Landesman's hook which is special instrument for locating and extracting threads of missing IUCD.
- c) Dawish Beolocator - this is an audio frequency emitting metallic signals which is amplified and easily heard.
- d) Anterior and lateral film of the pelvis with a marker IUCD.
- e) Hysterosalpingogram
- f) Hysteroscopy

All these methods are likely to interfere with an early pregnancy and some which use radiation are dangerous to an early pregnancy.

Once the IUCD is found to be in the uterine cavity it is removed and a fresh one reinserted. This can be done as an out patient procedure using alligator forceps. But if it is not possible the patient has to be done under sedation in theatre as in this patient. Sharp curettege is performed. If necessary paracervical anaesthesia through paracervical block may be used.

It is much easier to remove the IUCD during the mense when the cervix is soft.(3) IUCD should not be removed at mid-cycle if a woman has had intercourse in the last 4-5 days because removal of that IUCD may result in implantation following conception that has already occurred.

The IUCD have offered contraception without substained motivation and completely independent of coital act. Ever since they were first introduced by Dr Richard Ritcher in 1019.(3) They are very popular among our clients and hence any complication arising out of their use should be tackled at once. This will encourage more acceptors.

Finally it should be re-emphasized that the disappearance of the IUCD strings from the cervical external OS may be due to unnoticed expulsion or withdrawal of the tail in the uterine cavity or translocation of the device.(5)

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LONG COMMENTARY
GYNAECOLOGICAL CASE

TITLE: CERVICAL INTRAEPITHELIAL NEOPLASIA AND HUMAN
PAPILLOMA VIRUS INFECTION:
PRELIMINARY STUDY

ABSTRACT: Colposcopically directed punch cervical biopsy were taken from 16 women with persistant Pap smear class III and Pap smear class IV. These specimens were subjected to molecular hybridization to detect the presence of human papilloma virus Deoxyribosenucleic Acid sequences, 12 (75%) were found to be positive. All the four women with Papanicolaou smear Class IV were found to be positive for human papilloma virus DNA. Whereas 8 (66.7%) of the 12 women with Pap Class III were similarly positive. These findings are in agreement with studies reported from Europe and America.

INTRODUCTION

Incidence and Importance

Carcinoma of the cervix is a common malignancy in Kenyan women.⁽¹⁾ It is the second commonest carcinoma among the malignancy of the skin in women and also the commonest gynaecological carcinoma accounting for 71.5% of all the gynaecological malignancy.⁽²⁾ The true incidence is not yet known due to several factors which include, the scarcity of health facilities, few patients reporting to hospital and few postmortems being performed. Carcinoma of the cervix occur in younger Kenyan women than is reported from more developed countries. The mean age of presentation is 44 years and the peaks between 30-50 years. But the range is from 21 years to 79 years. Most of these women still have dependent children and when one considers that 80% of the family income is generated by women⁽²⁾ then the loss of these patients is a sizeable social problem. Most of the patients report to the health facilities in the late stages of the disease. At this advanced stages surgery cannot be offered and the survival rate on radiotherapy is greatly reduced. Pain which is a late symptom is usually present at the time of presentation.

The same picture obtains in other African countries. In Uganda, cancer registrar (1970-1979) documented cases of carcinoma of the uterine cervix accounted for 67.6% of all the gynaecological carcinoma.⁽³⁾ In that Ugandan reports there was noted a variation on tribal lines. The disease is low among the Lugbari of West Nile District. In Tanzania carcinoma of the cervix accounted for 62.8% of the total female genital tracts malignant diseases at Kilimanjaro Christian Medical Centre.⁽⁴⁾ In this series there was no tribal differences noted. In Nigeria Lawson (1964) reported that Carcinoma of Cervix was found in 55%

of all patients with histologically proven malignant diseases of the female genital tract seen at Ibadan between 1953 - 1960.(5)

2. Histological Type

The majority of the carcinoma of uterine cervix are squamous cell carcinoma(4)(5). Lawson (1964) reported only 3% as adenocarcinoma in Nigeria.

3. Aetiology

(i) Risk Factors

Several risk factors have been implicated in the aetiology of carcinoma of the cervix. These have included early age of first coitus, early age at marriage, and lack of male circumcision. However considerable epidemiological evidence has accumulated recently pointing to an infectious component in the aetiology of human genital cancer. Sexual promiscuity is a well established risk factor and there is increasing interest in the existence of marital clusters. Kessler (1977) had identified 29 such marital clusters of cervical cancer in which two women married to the same man had all developed cervical neoplasms. He concluded that the observed number of 29 clusters when compared with the expected number 11.6 offered confirmatory evidence of the possible role of venereal factors in the pathogenesis of human cervical neoplasia(6). Martinez (1969) reported from Puerto Rico that the wives of the penile carcinoma group developed 8 cases of epidermoid carcinoma of the cervix uteri in contrast to none among the control wives. Carcinomas of the cervix were diagnosed later and in earlier stages than the penile carcinomas.(7)

(ii) Viruses

A search for causative agents began sometime back and in the recent past viruses have appeared the most likely candidates. Several viruses have been shown to have a close association with the oncogenesis of the squamous carcinoma of the cervix.

These include the Herpes simplex virus type two (HSV-2) Cytomegalovirus and Human papilloma virus (HPV).(8), Cytomegalovirus has been implicated in the carcinoma of the prostate. HSV-2 has been implicated in carcinoma of the cervix because high titre of antibodies of HSV-2 have been found in these patients. Also in vitro studies HSV-2 has been known to cause mutagenic changes and transformation of cells. However several attempts have been unsuccessful to demonstrate herpes simplex type II DNA in biopsies of cervical tumors by nucleic acid hybridization thus rendering it most unlikely.(9) Present evidence seems to implicate Hpv as the most likely virus(10)(11)(12).

(iii) Human papilloma Virus Infection

The structure of Human papilloma (Hpv) a papovirus, was first described by Crawford and Crawford in 1963. They demonstrated that the four papilloma viruses found in man, cow rabbit and dog were similar to each other in most respects but differed significantly in base composition of the nucleic acid.(13) Hpv contains DNA in a double stranded circular molecule having a molecular weight of 4.9 millions. Its protein has been poorly characterized but the molecular weight is between 53,000 to 63,000 However Human papilloma virus represent very heterogeneous group. So far 24 different virus types have been identified that are found in particular lesions and whose genomes show only limited if any sequence homology with each other.(14) Human papilloma virus

are the causative agents of condyloma accuminata (genital warts) in man but so far the virus has not been grown in cell medium. There are two types of genital warts, namely:- the flat or atypical papilloma which are found in the vagina and the uterine cervix⁽¹⁵⁾ and the exophytic condyloma which are found in addition on the vulva and perineum. The flat condyloma is colposcopically aceto - white lesion which contain mild cytological atypia, and cells with densely stained irregular nuclei and perinuclear halos (koilocytotic atypia).⁽¹²⁾ These lesions were formally classified as cervical intraepithelial neoplasia grade I. Human papilloma virus type 6 and 11 are the virus common associated with exophytic condyloma (accuminata warts).⁽¹⁶⁾ The flat condyloma are associated with several Human papilloma virus including type 11, 16 and 18. Type 16 and 18 almost exclusively occur in high grade cervical intraepithelial neoplasia and invasive carcinoma.⁽¹¹⁾ Whereas the common genital wart presents no problem of identification, the flat condyloma can only be seen by use of colposcopic examination. However other methods do exist which assist to identify subclinical Human papilloma virus infection of the genital tract. These include cytology, Histology, Immunohistochemistry.⁽¹⁷⁾ Transmission electron microscopy⁽¹⁸⁾ and DNA Hybridization.⁽¹⁹⁾ In Immunohistochemical techniques the biopsy specimens of the cervix show positive immunohistochemical staining when treated with antiserum raised against an internal capsid antigen of human papilloma virus (HPV) by red coloration within the nuclei of cells confined to the upper third of the epithelium. The picture is usually diagnostic. It rests chiefly on identifying the koilocyte - the cell with the perinuclear halo that carries the viral antigen in its nucleus - but abnormal keratinisation is also a feature. The accompanying epithelial findings range from normal to cervical intraepithelial neoplasia grade III, with cytoplasmic maturation preserved to some degree but with gross nuclear atypia seen in all layers.

Pathology

Histological characteristic of the squamous cell epithelium covering condylomata accuminata of the cervix show typical koilocytic cells. These are cells with perinuclear cytoplasmic clearing or ballooning and peripheral cytoplasmic thickening. The cytoplasm may show features of parakeratosis and hyperkeratosis and evidence of abnormal keratinization. The nucleus is enlarged and has definite hyperchromasia occasionally showing bi or multinucleation. On papanicolaou smear these cells are known as halo cells and they are characteristic of koilocytotic atypia. Thus Hpv infection especially of the cervix causes an epithelial change which for many years was diagnosed as mild dysplasia until the work of Meissel's et al in 1976 who found out that most of cervical lesion that were previously diagnosed thus were in fact papilloma virus associated condyloma. Buckley et al (1982) has defined cervical intraepithelial neoplasm (CIN) as a spectrum of intraepithelial change which begins as a generally well differentiated neoplasm which has traditionally been classified as mild dysplasia and end with invasive carcinoma.(20) This definition includes dysplasia, carcinoma in situ and some lesion produce by Hpv infection of the the cervix.

Boyes et al 1962 in a statistical study showed that about 60% of the carcinoma in situ will progress to invassive carcinoma in 10 to 20 years. They also pointed out that the incidence of carcinoma of the cervix was substantially and significantly reduced by removal of the carcinoma in situ from the community (27) In another statistical model of the natural history of carcinoma of the cervix Barron et al 1968 showed that with no interference at all about 80% of dysplasia in general and 60% of the very mild dysplasia will progress to carcinoma in situ in 10 years.(28)

In defining a precursor lesion Fu et al (1981) pointed out that the presence of abnormal mitosis was the most reliable histological criterion for aneuploidy(21) and since some dysplastic lesion show aneuploidy, infection with Hpv may be regarded as a precursor. Precursor lesion should have the greatest likelihood of progressing to invasion. It should at the same time possess characteristics similar to those of their invasive counterpart. Since invasive squamous-cell carcinoma are aneuploid and contain abnormal mitotic figures (among other diagnostic features) intraepithelial lesions with these characteristics should have the greatest likelihood of progressing. Reports correlating abnormal mitotic figures and aneuploidy with the natural history of presumed precursors of cervical cancer have confirmed that aneuploid precursors with abnormal mitotic figures have the greater risk of persisting or progressing if untreated than diploid or polyploid lesion without abnormal mitotic figures(21).

That condylomata accuminata is a sexually transmitted disease in man has been known for a long time,(22) and recent studies have suggested that penile Hpv infection in male sexual partners places the woman at increased risk of cervical neoplasia.(23) Since Hpv infection of lower genital tract and cervical neoplasia are coveriable of promiscuity statistics association already exist between cervical neoplasm and all sexually transmitted diseases.

5. Hpv Infection and Carcinoma of Cervix

As regards Hpv being suspected as a possible cause of uterine cervical cancer, no direct evidence is available. However Hpv infection has been discussed as a possible candidate for some years from the following observations: The oncogenic potential of some papilloma virus e.g Shope papilloma virus and the bovine papilloma virus is well documented.(8)An eventual malignant

conversion of certain virus induced human papilloma (laryngeal papilloma, genital warts and lesions of epidermodysplasia verruciformis in patient) has been reported⁽⁸⁾ Venerally transmitted papilloma virus infection of the genital tracts are very frequent.⁽¹⁴⁾ Five percent of carcinoma of the vulva arise within persisting genital warts⁽⁸⁾ The peak incidence of genital warts preceeds the development of cancer of the vulva on average by 30 years. The peak incidence of cervical cancer in Uganda occurred in women between 35-45 years of age and peak incidence of genital wart (10-20yrs) which preceeds the cancer by 20-30 years.⁽⁸⁾ Moreover, highly significant relationship exist between a subclinical papilloma virus infection of the lower genital tract and occurrence of cervical neoplasia⁽²⁴⁾ with the advent of DNA hybridization Human papilloma virus type 6 has been found in half of the cases with cervical intraepithelial neoplasia.

6. Papanicolaou Smears for Mass Screening

The programme for mass screening for cervical carcinoma by papanicolaou smear as a secondary preventive measure has not taken off in Kenya.⁽⁴¹⁾ However, cervical cytology is offered as routine examination for gynaecological patient at KNN. Classification of the pap smear is based on the four classes. This is modification of the five class described by papanicolaou⁽³²⁾ in which the fifth class is combined with the fourth class. Using this criteria Pap smear class III and IV denotes abnormal cervical smear with dysplastic changes. Different incidence of abnormal Pap smear have been reported from various population studied: Kirima (1981) found an incident of 20.4 per 1000 Pap smear among gynacological patients at KNH and Family Planning clients.⁽²⁹⁾ Ngotho (1982) reported an incidence of 10.0 per 1000 Pap smear among antenatal patient at KNH and Family Planning clients.⁽³⁰⁾ Muia (1984) reported an incidence of 25.6 per 1000 among the Machakos rural population.⁽³¹⁾ And Kibunguchy (1986) reported an

incidence of 14 per 1000 among patients attending special treatment clinic at Casino supposedly a high risk group.

This study was designed to investigate the presence of human papilloma virus infection among the patients with abnormal pap smear found in the local population. The authors were not aware of any similar local study undertaken previously.

METHOD AND MATERIAL

The patients were selected from women attending the Special Treatment Clinic (STC) at Casino and Pumwani Family Planning and Family Welfare clinics, and the gynaecological clinic at KNH and the University of Nairobi Health Services. The selection criteria were patients with persistent pap smear class III on two occasions and pap smear Class IV. These patients were normally referred to the Gynaecological Clinic for colposcopic examination.

The patients were interviewed at the clinic firstly to explain the purpose of the study and to obtain the informed consent. Secondly to record the personal data by completing a prepared data sheet (see the appendix)

Routine colposcopic examination was carried out using zeiss OPM11-105276 model of colposcopy made in West Germany and a report was made thereof. The presence or otherwise of the flat papilloma on cervix was noted.

Specimens were taken as follows:

One for exfoliative cytology was to be stained for pap smear. Another specimen of exfoliative cytology was prepared for immunoperoxidase. This specimen was air dried and stored at -70°C . Two colposcopically directed punch biopsies were taken. One was

placed in phosphate saline buffer this was stored at -20°C for 24 hours then transferred into deep freeze at -70°C. These biopsies and the smear for immunoperoxidase were later transported in ice bags to Antwerp Belgium. The other punch biopsy was fixed in 10% formalin for histological examination.

Molecular Hybridization were performed. In this technique radio labelled HPV 16 DNA which had been cloned into the bacterial plasmid vector was used. Cellular DNA was extracted from the specimen, digested with endonuclease enzymes, denatured by alkaline PH and electrophoresed on agarose gels. The DNA was transferred to cellulose nitrate membrane. The membranes were baked in vacuum at 50°C and incubated in normal solution. The labeled HPV-DNA was then added to the treated specimen DNA in an appropriate solution. After extensive wash out of excess labelled HPV DNA the membranes were exposed to X-Ray film for auto radiography for three weeks. Positive reports show radio activity spots on the X-Ray film. Details of the technique was described by Southern M.(40) and have been improved on by Wickenden et al (19) AND Lancaster et al.(33)

RESULTS

Sixteen consecutive patients were recruited in the study over a period of four and half months. Table 1 below shows the results of the test done on all the patients. All the patients were married parous women. Case number 1,3 and 8 were secretaries, whereas case number 14 was a business woman, and case number 16 was a nurse. The rest of the women were housewives.

Twelve women were referred from Family Planning Clinics. Four came from the gynaecological clinic at Kenyatta National Hospital. No patient was recruited from the University of Nairobi Health Services and Special Treatment Clinics (STC) at Casino and Pumwani.

Histological reports were received in five patients. Case numbers 1, 3 and 4 showed moderate dysplasia whereas cases number 2 and 12 reported severe dysplasia with strong suggestion to carcinoma in situ. These last two patients have had extended abdominal hysterectomy. Those with moderate dysplasia were offered cryotherapy and were on follow up.

TABLE 1 . Cases and Results of the test

CASE No	AGE IN YRS	PARITY	PAP-SMEAR IN CLASS	COLOPOSCOPY CIN GRADE	DNA HPV HYBRIDIZATION
1	28	3+1	III	II	+ve
2	30	3+3	IV	III	+ve
3	24	0+1	III	I	+ve
4	28	7+1	IV	III	+ve
5	23	3+0	III	I	-ve
6	41	10+0	III	II	+ve
7	50	5+0	III	I	+ve
8	26	2+1	III	I	+ve
9	30	5+0	IV	III	+ve
10	26	5+0	III	II	+ve
11	35	4+2	III	II	+ve
12	27	1+0	IV	III	+ve
13	35	7+0	III	I	-ve
14	24	5+0	III	I	-ve
15	38	9+0	III	I	-ve
16	34	4+0	III	I	+ve

Table 1 shows the characteristics of the patients studied. These included the age, the parity, the laboratory report of the pap smear and DNA. H.P.V. hybridization for each patient are tableted. Colposcopic estimation of the cervical intraepithelial neoplasia is also included in each case.

Contraceptive Use

Five of the women were using or had used the coil alone. Whereas three of the women had used depo provera. Two women had used both the coil and depo provera. One patient had used the pill but had later opted for tubal ligation. Four women had not used any contraceptive at all of which one was menopause. All the patients knew about contraceptive. Overall contraceptive use in the group was 80%.

Hpv-DNA Hybridization

Screening for human papilloma virus (Hpv) - Deoxyribose-nucleic acid (DNA) was performed in the specimen from all the patients. Twelve (75%) of the 16 patients were positive for Hpv-DNA.

Table two shows that 8 (66.7%) of 12 patients with positive DNA-Hpv were aged between 20-30 years. In the age group between 31-40 years two were positive and two were negative whereas over 40 years both the patients were positive. Table 3 shows that among the 12 patients with pap smear III 8(66.7%) were positive for Hpv-DNA whereas all the 4 patients with pap smear IV were positive for Hpv-DNA.

The investigators were unable to detect the presence of Human Papilloma Virus infection by either colposcopy or on cytology.

Table 2. Distribution by Age

AGE IN YEARS	HUMAN PAPILOMA VIRUS		TOTALS
	POSITIVE	NEGATIVE	
21-30	8	2	10
31-40	2	2	4
OVER 40	2	0	2
TOTAL	12	4	16

Table 3. PAP Smear Classification and the Presence of HPV

PAP SMEAR	HUMAN PAPILOMA VIRUS		TOTAL
	POSITIVE	NEGATIVE	
CLASS III	8	4	12
CLASS IV	4	0	4
TOTAL	12	4	16

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	POSITIVE	NEGATIVE	
CLASS III	8	4	12
CLASS IV	4	0	4
TOTAL	12	4	16

Table 4. The Distribution Of Human Papilloma Virus Infection in Relation to the Colposcopic Estimation of the Lesion

COLPOSCOPY REPORT	HUMAN PAPILLOMA VIRUS INFECTION		TOTAL
	POSITIVE	NEGATIVE	
CIN I	4	4	8
CIN II	4	0	4
CIN III	4	0	4
TOTAL	12	4	16

Table 4 compares the report of colposcopic assessment of the cervical lesion and the presence or otherwise of Human papilloma virus infections. It is then depicted that whereas half patients with CIN I were positive for Hpv all patients with CIN II and III were positive for Hpv. Two of the patients with colposcopic estimation of the lesion as CIN III had invassive disease. The pap smear report had been class III.

The immunoperidoxase test was not done because the laboratory team felt that since the molecular hybridization had shown high rate of positivity and had higher sensitivity it was enough to establish the presence of Human Papilloma virus.

DISCUSSION

Carcinoma of the cervix continues to take its toll on the Kenyan woman unabated. It is the second commonest carcinoma among the malignancies in women and also the commonest gynaecological carcinoma⁽²⁾. The aetiology of the carcinoma of the cervix and other malignancies in general is still elusive. Risk factors associated with cancer of the uterine cervix have been investigated almost exclusively in the Western world. These include early age at onset of coitus, promiscuity, lack of male circumcision and parity among others and these have provided the epidemiological evidence pointing to a venereal factor in the aetiology of uterine cervical carcinoma⁽⁶⁾⁽²³⁾.

Evidence for a link between human papilloma virus infection and cancer of the uterine cervix is now in an abundance. ⁽³⁵⁾Koilocytes which are cells with morphological changes diagnostic of Human Papilloma virus (Hpv) infection have been seen in abnormal cervical smears.⁽¹⁷⁾ Human Papilloma Virus particles have been demonstrated by Transmission Electron Microscope in cervical biopsy specimen showing changes indicative of cervical intraepithelial neoplasia.⁽¹⁸⁾ Deoxyribosenuclie acid (DNA) Hybridization studies have demonstrated Hpv type 6 and HPV type 16 in approximately 60 per cent of biopsy taken from cervical intraepithelial ⁽²⁵⁾⁽¹¹⁾More recently using the same DNA hybridization Hpv type 16 and 18 have been found in invasive cervical carcinoma. In one study conducted by Lancaster et al (1986) in Lima, Peru, similar human papillomavirus deoxyribonucleic acid sequence were found in metastatic lymph nodes and the corresponding biopsy from primary cancer of the cervix.⁽³³⁾ This matching Hpv-DNA sequence from the primary cancer and from the metastatic lymphnodes demonstrated the Hpv is not a contaminant, but rather might play a role in the cancer processes. All these findings provide further evidence implicating Human papilloma virus in the oncogenesis of cervical carcinoma at least the squamous cell carcinoma.

In this study Human Papilloma virus Deoxyribosenucleic acid sequences (Hpv-DNA) have been demonstrated in 12(75%) of the 16 colposcopically directed punch biopsy. The molecular Deoxyribonucleic acid hibridization technique that was used in this study has been reported to have sensitivity in pg/ml. The finding of HPV-DNA in these patients with cervical intraepithelial neoplasia is in agreement with reports from Europe and America. Approximately 80% of both intraepithelial and invassive cervical neoplasms have been shown to contain Hpv-DNA sequences from reports originating from these countries.(34)

The women in this study group were a highly selected group. They all had an abnormal pap smear. (i.e. pap Class III or IV). In case of pap Class III it had to be repeated and remain Class III before they were admitted in the study. These were therefore believed to have cervical intraepithelial neoplasia. Some of them had the histological report received and showed CIN at various grades. In case 2 and 12 it was reported as severe dysplasia tending to carcinoma in situ and cases 1,2 and 4 revealed moderate dysplasia; It is interesting to note that all these patients with histological proven cases of dysplasia (CIN) were all positive for Hpv-DNA sequences. The 75 percent positivity found in this study is close to that reported by Lancaster et al (1983), whereby, molecular hybridization studies HPV deoxyribonucleic acid (DNA) sequences were reported in 73% of all grades of Dysplasia.(33)

All patients with pap smear IV were positive for HPV-DNA whereas only 8 (66.7%) of patients who had pap smear Class III were positive. This does indicate that HPV might not be the only causative agent of the dysplasia.

The inability to detect the subclinical Hpv virus on pap smear and colposcopic examination among this patient is conspicuous. This might be that these methods are not sensitive enough to detect the infection in its early stages or it might mean that the author was not experienced enough to detect the flat condyloma. However Dyson et al (1984) has described the colposcopic and histological appearance of the Hpv lesions on the cervix.(17) But Wickenden et al (1985) has demonstrated Hpv-DNA in patients who had cytologically and colposcopically normal cervix.(19)

The numbers in this study are small but the high rate of positivity does compare favourably with other reported studies. This incidence of abnormal pap smear in the reported studies range from 14 to 25.6 per 1000 patients.(26)(29)(30)(31) More and more abnormal Pap smear are likely to be found when the proposed screening programme takes off.(41)

High contraceptive use in study group indicates that these are sexually active women but non-the-less promiscuous. All those patient whose histological report had not been received are being followed up and will be offered cryotherapy or extended hysterectomy depending on the report. Except for those offered extended hysterectomy the other patients will still remain under surveillance because Hpv has been known to persist in histologically normal tissue obtained from within 2 to 5 cm from the tumor edge.(39)This course recurrency at a later date.

CONCLUSION

Human papilloma virus infection of the uterine cervix was found in 12 (75%) of the 16 patients with abnormal pap smear.

RECOMMENDATION

- (1) This preliminary study needs to be followed up with case controlled study so as to establish the significance of the findings.
- (2) There is urgent need for training for colposcopy and cytotechnician to acquaint with identification of Human papilloma virus infection.
- (3) Molecular DNA Hybridization technique was performed in laboratories in Antwerp, Belgium. For continued research on this subject the possibility of introducing the technique here in the University should be explored.

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APPENDIX

C O N F I D E N T I A L D A T A

STUDY OF CERVICAL INTRAEPITHELIAL NEOPLASIA AND HUMAN
PAPILLIOMA VIRUS INFECTION

1. Patient's Name: -----
Age : ---- Parity:----- Clinic No: ----- Study No. -----
Age at Menarche -----Marital Status: -----
Age at 1st intercourse: ----- Occupation -----
L.M.P. ----- L.D. -----
Use of Contraceptives: ----- Yes/No Type (1) -----
date ----- (2) ----- (3) ----- Date -----
Number of sexual partners in last three months -----

2. Contact Address -----
Road ----- House No.----- House Telephone -----
office: Telephone: -----

3. Type of Std confirmed (Where applicable).
 1. Gonorrhoea ----- Date: -----
 2. Syphilis -----Kahn ----- Rpt ----- Date ----
 3. Chancroid ----- Date: -----
 4. Chlamydia ----- Date: -----
 5. Condylomata accuminata ----- Date ----- Location ----

4. Pap Smear Report Class ----- Date: -----
Comment: -----

5. Colposcopic Report: General Report: -----

Specific for H.P.V. -----

6. Histological Report: -----

C.I.N. grade: -----

7. Presence of H.P.V.
 - (1) By Immunoperidoxidase -----
 - (2) By DNAN Hybridization -----