

CASE RECORDS AND COMMENTARIES

IN

OBSTETRICS AND GYNAECOLOGY SUBMITTED

BY

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IN PARTIAL FULFILMENT

FOR

THE DEGREE OF MASTER OF MEDICINE

IN

OBSTETRICS AND GYNAECOLOGY

OF THE

UNIVERSITY OF NAIROBI

DR. G. NJENGA - MURAYA

APRIL, 1985.

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I wish to record my sincerest gratitude to Professor J. K. G. Mati for the invaluable help and guidance extended to me during my training. The same goes to all my Consultants and Lecturers. To Mr. F. Maina of the Department of Obstetrics and Gynaecology, thank you.

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To my fellow Senior House Officers and to those colleagues and friends who helped with suggestions and comments, I extend by gratitude.

My thanks to Mrs. F. Thandi for typing the manuscript.

To my wife Wanjiru and My son Muraya, who have been a great source of inspiration, this text is humbly dedicated.

Signature.....

DECLARATION

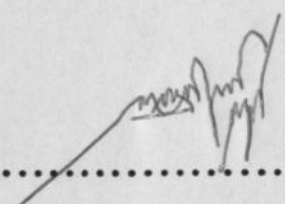
I hereby declare that the case records and commentaries presented in this dissertation are my original work under the supervision of the senior members of the Department of Obstetrics and Gynaecology of the University of Nairobi, Kenyatta National Hospital.

I further declare that this dissertation has not been submitted for a degree in any other University.

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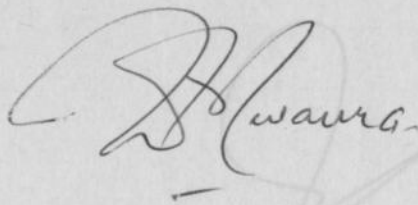
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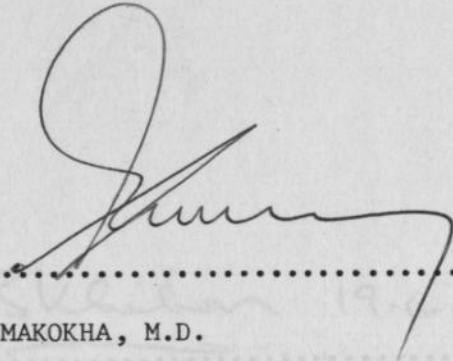
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INTRODUCTION

The Kenyatta National Hospital is situated in Nairobi. It serves as a National referral hospital, serves the city population and the surrounding areas and also receives patients from neighbouring countries.

The hospital provides primary and secondary health care, Inpatient and outpatient services are also provided. Apart from offering these services, the KNH is also a training institution for medical personnel ranging from auxillary health personnel to undergraduate and postgraduate doctors. Research facilities are also available.

The University Department of Obstetric and Gynaecology was established in 1965 with the opening of the Maternity Unit. It is divided into three firms each of which is headed by a senior member of staff i.e. Consultant. Working under the consultants in each firm are Senior Registrars. Senior House Officers rotate within the firms.

OBSTETRIC SERVICES

The Kenyatta Hospital Obstetric Unit consists of the antenatal clinic, three maternity wards and a labour ward.

Each maternity unit has 32 beds. The labour ward has 10 beds in the first stage, 6 beds in the second stage and two beds in an acute or side room which are used for the management of critically ill patients. The labour ward also has a recovery room for postoperative patients. Two theatres

are attached to the labour ward, one for obstetric operations such as emergency and elective caesarean sections, the other for postpartum tubal ligations which are done under local anaesthesia.

A newborn nursery is situated on the first floor and it is divided into nursery A, B, C and D. Babies requiring nursery care are admitted into this unit.

ANTENATAL CARE.

Booking of antenatal mothers is done once weekly on a rotational basis, each firm booking every third monday. An average of 50 new cases are booked every week and followed up by the firm concerned. Each firm has a specific antenatal clinic day once weekly,

Only high risk cases and members of staff are booked. Antenatal 36 weeks and then weekly until delivery. Patients

The indications for booking are as stated below:-

1. Medical diseases complicating pregnancy such as cardiac disease, diabetes mellitus, hypertension etc.
2. Primigravidae, teenage, elderly, short.
3. Grandmultiparity.
4. Bad obstetric history. These include abortions, caesarean stillbirths, neonatal deaths etc.
5. Previous operative deliveries e.g. Vacuum extractions and forceps deliveries.
6. Previous obstetric complications e.g. postpartum haemorrhage.
7. Previous gynaecological complications e.g. VVF repairs, infertility, myomectomy.

MANAGEMENT OF LABOUR

All those women who are not booked are directed to the City Commission Clinics or to health centres and hospitals nearest their homes. At booking, a detailed history and examination is done. Blood samples are taken on all patients for haemogram examination, grouping and rhesus and serology for syphilis. Urine is checked for sugar and protein.

ANTENATAL FOLLOW UP

The weight, blood pressure and urinalyses are done at each subsequent visit. Lectures on health education are given by the midwives and the women are seen by the doctors. At examination on each visit the uterine size, lie and presentation are determined. Frequency of visits is once every four weeks up to 28 weeks of gestation, once fortnightly until 36 weeks and then weekly until delivery. Patients with complications are seen more frequently.

At 36 weeks, clinical pelvimetry is done on all primigravidas provided a history of antepartum haemorrhage is negative. Radiological pelvic assessment in the form of erect lateral pelvimetry, in addition to clinical pelvimetry, is routinely performed on patients with a history of one previous caesarean section or instrumental delivery. Amniocentesis is done at 38 weeks for the determination of foetal lung maturity. Ferrous sulphate and folic acid are given to all mothers throughout pregnancy. All admissions from the clinic are routinely discussed with the senior.

MANAGEMENT OF LABOUR

Booked patients are admitted directly into the labour ward while unbooked or referred patients come through the casualty. Antenatal cards for the booked patients are obtained at the admission desk.

The intern at the admission desk then obtains a detailed history and performs a physical examination, The blood pressure, pulse, respiration temperature and foetal heart rate findings are recorded. Urine examination is carried out for protein and sugar.

Routine shaving of the pubic hair is done and a vaginal examination is carried out after full surgical scrubbing of the hands and gloving.

VAGINAL EXAMINATION

The procedure is explained to the patient. Scrubbing and gloving is done. With the patient in the dorsal position vulvovaginal toilet is done using 0.5% Hibitane solution. The vulva is inspected with the fingers of the left hand separating the labia majora, the right index and middle fingers are introduced into the vagina. The cervical dilatation and effacement are assessed. The presence or absence of membranes is noted and the descent of the presenting part assessed. **If** the membranes are ruptured, the presence of the umbilical cord, caput formation and moulding are sought for. Clinical pelvimetry is done at the same sitting.

If the membranes are still intact with a cervical dilatation of 4cm or more, artificial rupture of membranes is done. A Korcher's forceps is directed by the middle finger of the right hand and the membranes are grasped and then ruptured. Liquor is allowed to drain slowly, its colour being noted. A vaginal examination is done to rule out prolapse of the umbilical cord.

Speculum examination is done on patients with premature rupture of membranes or antepartum haemorrhage. The patient is prepared and positioned in lithotomy. After cleaning the vulva and perineum, a Cusco's bivalve speculum is gently introduced into the vagina and the cervix exposed. The vagina and cervix are examined and any drainage of liquor or bleeding looked for. This is done under good light. After the above is ascertained, the speculum is then gently withdrawn.

All observations made on examination are entered onto a partogram. They include:-

1. Patient's particulars and unit number.
2. Time at each observation.
3. Foetal heart rate.
4. Presence or absence of membranes.
5. Colour of the liquor.
6. Presence or absence of caput.
7. Degree of moulding if present.
8. Cervical dilatation.
9. Descent of the presenting part.

10. Infusion rate of oxytocin.
11. Other drugs administered.
12. Maternal BP, pulse and temperature.
13. Duration and frequency of contractions.
14. Urine sugar, proteins and ketones.

The above observations are recorded after each examination of the patient.

THE FIRST STAGE OF LABOUR

For each patient in the first stage of labour, half hourly observations of maternal pulse, blood pressure, temperature, uterine contractions and foetal heart rate are made and recorded on the partogram.

Vaginal assessment of the progress of labour is made every four hours or earlier if there is an indication. The descent of the presenting part is also noted. All observations are recorded on the partogram.

Labour is managed actively with the aim of achieving delivery within 12 hours of the first stage. Artificial rupture of membranes is done when the cervix is 3-4 cm dilated. Augmentation of labour with oxytocin infusion is done when indicated. In special cases e.g. pre-eclampsia, the sage infusion pump is used.

Intramuscular pethidine 100 mg for analgesia is given when labour is established.

Routine inductions of labour are started in the morning

after the patient is given an enema and a warm bath. ARM is done and oxytocin drip started. Alternatively, extramniotic prostaglandins are used.

THE SECOND STAGE OF LABOUR

The patient is now transferred from the first stage to the delivery room when she is in second stage. She is placed on the delivery couch. The person conducting the delivery wears a mask, scrubs and puts on sterile gloves. The vulva is cleaned and draped.

The patient is encouraged to bear down with each contraction and relax in between. An episiotomy is done only when indicated by a tight perineum. In preparation for this local infiltration of the mediolateral aspect of the perineum with 10-15 mls of 2% procaine hydrochloride is done.

The perineum is supported by a sterile sanitary pad and the head maintained in a state of flexion by applying pressure beneath the symphysis. As soon as the head is delivered, the mouth and nose of the baby are wiped with clean gauze, the presence of a cord around the neck is excluded and if tight, it is divided between clamps. The anterior shoulder is now delivered by forward and downward traction. The same is done for the posterior shoulder, followed by delivery of the trunk.

The umbilical cord is divided between clamps and the baby handed over to an assistant who shows it to the mother and takes it for suction and resuscitation if necessary.

Ergometrine 0.5mg is administered with delivery of the anterior shoulder, either intramuscularly or intravenously as indicated.

Babies in poor general condition are reviewed by the paediatrician and admitted into the nursery if need be. Those babies in good condition join the mothers.

CONDUCT OF THE THIRD STAGE OF LABOUR

Signs of placental separation are awaited. When the uterus becomes firm, the cord lengthens and there is a gush of blood, the placenta is delivered by controlled cord traction. After delivery of the placenta, the perineum, vagina and the cervix are inspected for tears and lacerations.

The blood loss is estimated and the placenta and membranes examined for abnormalities and completeness. The episiotomy is now sutured under local anaesthesia. The vaginal wall is retracted with two fingers and repair started at the apex. Chromic catgut 2/0 is used and the vaginal wall is repaired. Perineal muscles are then approximated and the perineal skin sutured by interrupted buried sutures.

Post delivery observations are then done and the delivery notes completed. Notification of birth is then issued.

The mothers rest in the maternity ward where they are observed. If no complications arise, they are discharged after 24 hours. All babies are routinely seen by a Paediatric Registrar in the maternity ward.

There is a mother's hostel for those mothers who are discharged from maternity ward while their babies are still in the nursery.

PERINATAL MORTALITY MEETING

A weekly perinatal mortality is compiled and discussed in conjunction with the Department of Paediatrics. During these meeting, short comings in the management of patients are critically analysed and methods of correction are discussed.

POSTNATAL CLINIC

Postnatal mothers are seen at this clinic 6 weeks postpartum, together with their babies. A routine examination is carried out and family planning is discussed.

THE GYNAECOLOGY SERVICE AT KENYATTA NATIONAL HOSPITAL

The gynaecology unit consists of the gynaecology clinic, gynaecology wards 4, 5 and 6, family planning clinics, and the Rahimtulla Wing clinic. Theatre facilities consist of cold and emergency gynaecology theatre and the laparoscopy theatre. The unit is run on similar lines to the obstetric unit. Ward 6 is the emergency gynaecology ward.

Each ward has a capacity of 32 beds. The number of patients admitted into the emergency ward are 2-3 times the bed capacity. As such the ward is normally over crowded. The majority of patients admitted into this ward are for incomplete abortion constituting up to 60%. Other cases

Other cases admitted are acute pelvic inflammatory diseases, pelvic abscesses, ectopic pregnancy and cancer of cervix. Evacuation of the uterus is done on a daily basis between 8 a.m. and 8 p.m. Cases of carcinoma of the cervix are staged once in a week.

Admissions in wards 4 and 5 are for non-emergency operative management. Chemotherapy for choriocarcinoma and ovarian tumor is also done in these wards.

Patients requiring radiotherapy treatment are referred to the Radiotherapy Unit or admitted into ward 39.

The gynaecology clinic is run on a firm basis on three afternoons weekly, each firm having a specific clinic day. Patients seen at this clinic are referrals from the filter clinic, casualty, other hospital departments and from outside hospitals. Most patients seen at this clinic present with problems of infertility, menstruation and pelvic inflammatory disease among others.

The family planning clinics are run by nurses and they offer a wide range of family planning methods. However, a senior house officer rotates at the Family Welfare Centre monthly.

The Rahimtulla Wing Clinic is run on a daily basis, five days a week. Patients for diagnostic laparoscopy, laparoscopic tubal ligations and minilaparotomy tubal ligations are seen at this clinic.

Hysterosalpingograms are done every Friday in conjunction with the Radiology Department.

The Department of Obstetrics and Gynaecology has a specialised Laboratory where procedures such as radio-immunoassay for a wide range of hormones, cytology, semen analysis, surfactant tests spectrophotometry and others are available. The department is actively engaged in a wide range of research particularly under the World Health Organisation Special Programme for research, development and research training in human reproduction.

OBSTETRIC AND GYNAECOLOGICAL OPERATIONS PREOPERATIVE MANAGEMENT

1. Patients scheduled for elective surgery are starved overnight.
2. Informed consent is obtained after discussing the nature of the operation with the patient.
3. Premedication in the form of atropine sulphate 0.6mg and pethidine 50mg intramuscularly is administered. Women undergoing Caesarean section get atropine only.
4. The patient's abdomen and pubic region are shaved and a bath given.
5. Compatible blood is made available.
6. The patient is assessed before theatre and certified fit for anaesthesia.

POSTOPERATIVE MANAGEMENT

1. Blood pressure, pulse, temperature and respiration are observed every 30 minutes until the patient is fully awake, thereafter 4 hourly.

2. Intravenous fluids are given until the bowel recovers function. An input/output chart is maintained.
3. Pethidine 100mg intramuscularly every 6 - 8 hours for 24-48 hours is given for relief of pain.
4. Prophylactic antibiotics are not given routinely.
5. Postoperative haemoglobin is checked on the third day.
6. Alternate stitches are removed on the 6th postoperative day and the rest on the 7th day.
7. All instructions and nursing procedures are recorded in the treatment chart.

PROCEDURES IN THEATRE

POSITIONING AND PREPARATION OF THE PATIENT

1. Vaginal operations are done with the patient in lithotomy position or knee-chest position in cases of repair of fistulae. Vulvovaginal toilet is done with 0.5% Hibitane lotion and the patient draped.
2. Abdominal operations are done with the patient in the supine position. The abdomen is cleaned with 0.5% Hibitane and spirit before draping.
3. A subumbilical midline incision is frequently used. Other incisions that can be used are a paramedian incision or a Pfannensteil incision.

OPENING THE ABDOMEN

An incision, either subumbilical, paramedian or Pfannensteil, is made through the skin with a scapel. A clean

scapel is now used to deepen the incision upto the rectus sheath. Bleeding is controlled by applying clamps to vessels and then coagulation. The rectus sheath is then incised in the middle and the incision extended towards both ends with a curved pair of scissors. The rectus muscle is now separated and the peritoneum grasped with two long straight artery forceps. It is lifted and then opened between the artery forceps.

CLOSING THE ABDOMEN

A swab and instrument count is done and when found correct the abdomen is closed in three layers (occasionally in four layers). The peritoneum is closed with a continuous stitch of chromic catgut No.1. The rectus sheath is then approximated using chromic catgut No. 2. on a cutting needle. If need be the fat layer is sutured with plain catgut, the sutures being interrupted and buried. The skin is then closed with nylon or silk sutures which are interrupted. The skin is then cleaned with spirit and a sterile dressing applied.

CAESAREAN SECTION

The patient is placed in the supine position, vulvo-vaginal toilet, draping and catheterisation is done.

The skin is prepared and abdomen opened as described earlier. The uterus is identified and two abdominal packs soaked in warm sterile solution are inserted on either side of the uterus.

The lower uterine segment is the standard method. The classical operation is, however, used in special circumstances. Described below is the lower segment operation.

The lower uterine segment is identified and the loose peritoneum covering the lower segment grasped with non-toothed dissecting forceps and incised. The incision is then extended in the transverse direction using a curved pair of scissors. The vesico-uterine peritoneal flap is then stripped downwards using a swab on a sponge holding forceps. The bladder is then retracted using a Doyen retractor.

An elliptical incision is then made through the entire thickness of the lower uterine segment. The index fingers are used to extend the incision laterally and the foetal membranes if present, are ruptured. Colour of the liquor is noted.

The retractor is removed and the right hand inserted between the presenting part and the lower uterine segment. The presenting part, if the head, is scooped out of the pelvis, uterus and abdomen. After delivery of the head, the anterior and posterior shoulders are delivered then the trunk. The umbilical cord is then clamped using two long straight artery forceps and cut between them. The placenta and membranes are then delivered manually.

The corners of the incision are now clamped using Green-Armytage forceps. Other bleeding points along the incision are similarly clamped and the uterus repaired in two layers using a continuous stitch of catgut No. 2. The second layer

is sutured in a way that buries the first and haemostasis is achieved. The visceral peritoneum is then approximated with a continuous stitch of chromic catgut No.1.

The abdominal packs are now removed and the abdomen cleaned of blood and clots evacuated. The uterus, fallopian tubes and ovaries are inspected. Instruments and swabs are counted and the abdomen closed in layers as described earlier.

The catheter is removed and vulvovaginal toilet is done, the vagina being evacuated of blood clots. The amount of blood loss is estimated then the postoperative management and operation notes written.

O B S T E T R I C S

The details of other operations are described in specific cases.

CASE NO. 1

CERVICAL INCOMPETENCE - A HISTORY OF TWO PREVIOUS ABORTIONS AND
NORMAL VAGINAL DELIVERY AT TERM.

NAME: [Faded] [Faded]
 UNIT: [Faded] [Faded]
 AGE: [Faded] [Faded]
 HUSB: [Faded] [Faded]
 PARITY: [Faded] [Faded]
 L.M.P.: [Faded] [Faded]
 P.D.D.: [Faded] [Faded]
 FIRST ADMISSION: **O B S T E T R I C S**
 SECOND ADMISSION: [Faded]

CASE HISTORY.

The patient was referred to the gynecological clinic for insertion of Macewan's suture because of cervical incompetence. At admission she was 36 weeks and 6 days and she did not have any complications.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

Menstruation was at 13 years. Her menstrual cycles were regular lasting 3-4 days every 28 days.

She was para 0 + 1. Her first pregnancy was in 1931 and terminated in an abortion at 4 months' gestation. The abortion

CASE No. 1.CERVICAL INCOMPETENCE : McDONALD STITCH INSERTION AND
NORMAL VAGINAL DELIVERY AT 39 WEEKS.

PAST MEDICAL HISTORY
 NAME : Z. B
 UNIT : 624698
 AGE : 28 YEARS
TRIBE AND SOCIAL HISTORY
 TRIBE : LUO
 PARITY : 0 + 2
 L M P : 26.11.83
 E D D : 3. 9. 84
 FIRST ADMISSION: 20.3. 84
 SECOND ADMISSION: 25.8. 84

CASE HISTORY.

The patient was admitted through the ante-natal clinic for insertion of MacDonal'd stitch because of cervical incompetence. At admission the gestational age was 16 weeks and she did not have any complaints.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

Menarche was at 15 years. Her menstrual cycles were regular lasting 3-4 days every 30 days.

She was para 0 + 2. Her first pregnancy was in 1981 and terminated in an abortion at 4 months' gestation. The abortion

started with drainage of liquor . In 1982, she aborted again at 4½ months in the same manner as in 1981. Evacuation of the uterine cavity was done.

PAST MEDICAL HISTORY

1. Not contributory. Haemoglobin : 12.1 gm/dl
PCV : 35.5%

FAMILY AND SOCIAL HISTORY

2. She was a married housewife. The husband was a self-employed electrician. She did not smoke or drink alcohol.

3. Serology : USR negative

PHSICAL EXAMINATION.

4. She was in good general condition. She was not anaemic or jaundiced. She had no oedema of the legs. Her blood pressure was 120/70 mm Hg, pulse rate was 80/ minute, regular and of good volume. Her temperature was 36.7°C. Cardiovascular, respiratory and central nervous systems were normal.

The abdomen was soft. There were no scars and the liver and spleen were not enlarged. The uterine size corresponded to a gestation of 16 weeks.

PELVIC EXAMINATION

The external genitalia and vagina were normal. The cervix was 1 cm long, the Os was parous and admitted one finger easily.

DIAGNOSIS

A diagnosis of cervical incompetence was made and she was admitted for insertion of MacDonald stitch.

INVESTIGATIONS

1. Haemogram : Haemoglobin : 12.1 gm/dl
PCV : 36.5%

POSTOPERATIVE CARE

2. Blood group : B Rhesus positive
3. Serology : USR negative
4. MSSU : Sugar nil, protein nil. No growth.

MANAGEMENT

The patient was prepared for theatre as described in the introduction. Premedication with 0.6 mg atropine sulphate was done.

Anaesthesia was induced and the patient placed in the lithotomy position. Vulvo-vaginal toilet with 0.5% hibitane lotion was done and she was draped. The bladder was catheterised and clear urine drained. A digital vaginal examination confirmed the above findings.

An Auvard speculum was now gently inserted into the vagina and the cervix exposed. The cervix was short and parous. The anterior and posterior lips were grasped with volsellum forceps. A purse-string suture of double strand

The patient allowed home to come back in labour, silk No. 2 on a round bodied needle was now inserted at the level of the internal os at 11,4,6 and 2 O'clock position avoiding the lateral cervical vessels. A knot was applied firmly so that the cervical Os could accomodate the tip of small finger. A marker knot was left in situ. There was no bleeding encountered.

POSTOPERATIVE CARE

The patient recovered well from anaesthesia. Routine vital signs were done half-hourly until she was fully awake and thereafter every 4 hours. She was confined in bed for the first 24 hours and subsequently allowed to get out of bed for short periods of time only. Two tablets of paracetamol three times daily were given for relief of pain.

She remained well and was discharged on the 7th post-operative day to be followed up at the antenatal clinic. She was advised to continue bed rest at home and to avoid coitus.

ANTENATAL FOLLOWUP

She attended the antenatal clinic on 12 occasions. Her antenatal period was uneventful.

She was readmitted at 38 weeks for removal of the MacDonald stitch. The stitch was removed with ease and the

the patient allowed home to come back in labour.

LABOUR AND DELIVERY

On 25.8.84, 5 days after removal of the stitch she went into labour and was admitted into the labour ward. She was found to be in good general condition and the uterine size was term. Cephalic was presenting and 4/5 was above the pelvic brim. She had 2 contractions in 10 minutes lasting 20-40 seconds.

Vaginal examinations showed a fully effaced cervix, 5 cm dilated. Membranes were intact. Artificial rupture of membranes was done and clear liquor was obtained. Labour progressed well and 4 hours after admission, she had a spontaneous vertex delivery to a male baby weighing 3010 grams and of good apgar score.

The immediate puerperium was normal, both the mother and the baby remaining well. She was discharged in good general condition on 26.8.84.

POST NATAL CLINIC

She attended the postnatal clinic 6 weeks after discharge from hospital. Her condition was satisfactory. She was breastfeeding and she had not resumed her menstrual periods. The uterus had involuted and the adnexae were clear. Contraception was discussed with her but she declined. She was discharged from the clinic.

COMMENT

Abortions due to cervical incompetence classically occur in the second trimester. They are characterised by painless dilatation of the cervix followed by rupture of membranes and subsequent expulsion of the foetus. Though a classical history may not always be present, this process may be repeated in several subsequent pregnancies (1). Our patient presented with a similar history.

During pregnancy, the cervix has the function of retaining the growing foetus within the uterus (2). Therefore any damage to the cervix may predispose to cervical incompetence. Trauma to the cervix during dilatation and curettage, amputation during repair or excessive conisation, and trauma during childbirth may lead to cervical incompetence. A few cervical incompetences may be congenital.

Cervical incompetence is rare in primigravidas who have had no cervical operations (1). This patient had not had any deliveries which could have been incriminated in the aetiology of cervical incompetence. Since 62.3% of all abortions at Kenyatta National Hospital are induced or likely to be induced (3) it is possible that she may have attempted to procure an abortion thereby causing trauma to the cervix. She, however, denied any history of dilatation and curettage.

In the non-pregnant state, a bimanual examination may reveal a cervix whose internal Os is gaping, and a cervix

that allows a No. 8 Hegar dilator without resistance is almost certainly incompetent (4).

During pregnancy, weekly vaginal examination will reveal gradual effacement of the cervix and this may be taken as a certain sign of cervical incompetence (5). Diagnostic ultrasound may be of some help in the diagnosis of the incompetent cervix in pregnancy by demonstrating a dilated cervix.

Surgery is the mainstay of treatment of cervical incompetence. Repair of the cervix in the non-pregnant state was devised in 1950 (6) and it involved repair of the isthmus and the cervix. Subsequent infertility has been a complication of this procedure and it is not used now.

Cervical cerclage developed by Shirodkar and modified by MacDonald (7) is the procedure used in our unit. It is simple and the suture is easily removed prior to delivery. The stitch is best inserted around the 14th week of pregnancy. Earlier insertion may lead to retention of an abnormal foetus. After the 14th week there is increased risk of rupturing the membranes.

The success rate is reported as 86.5% (7). At the Kenyatta National Hospital a success rate of 64.2% has been reported (8).

REFERENCES: The complications of the operation include haemorrhage, sepsis of the suture line and abscess formation, and chorioamnionitis. None of these complications occurred in our patient. *Obstetrics*

14th Edition p. 512

The stitch is routinely removed at 38 weeks in our unit and normal labour is allowed. Should signs of imminent abortion or premature labour develop or if premature rupture of membranes occurs, the stitch should be removed. Finally labour may be complicated by cervical dystocia resulting from cervical fibrosis. p 192

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Further experience with the Shirodker operation.

Am J Obstet. Gynecol 85:792, 1963.

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CASE No. 2

6. Lash, A.F.; Lash S.R.

Habitual abortion : the incompetent internal os of
the cervix

CAESAREAN SECTION - LIVE BORN

AM J Obstet. Gynaecol. 59:68, 1950.

NAME : S. R.

7. MacDonald, I. A.

AGE : 30
Incompetent cervix as a cause of recurrent abortion

TRIBE :
J. Obstet. Gynaecol. 22:313, 1979

PARITY : 3 + 0

8. Njagi, P.E.N.

L.M.P :
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S.D.O :
M. Med (Thesis) - University of Nairobi, 1978.

GESTATION : 40 WEEKS

ADMISSION : 29.7.83

DISCHARGE : 4.8.83

CHIEF COMPLAINT:

This patient was admitted through Casualty Department with a history of labour pains for an unknown duration of time.

CASE HISTORY

The patient had not attended antenatal care anywhere. She was not able to give an account of when labour started. She had ruptured membranes at the casualty department prior to admission. By dates she was 40 weeks. There was no vaginal bleeding.

CASE No. 2UMBILICAL CORD PROLAPSE

CAESAREAN SECTION - LIVE BABY

NAME : H. N.
UNIT : 570320
AGE : 29 YEARS
TRIBE : LUO
PARITY : 3 + 0
L D : 1981
L M P : 24.10.82
E D D : 31.7.83
GESTATION : 40 WEEKS
ADMISSION : 29.7.83
DISCHARGE : 4.8.83

CHIEF COMPLAINT:

This patient was admitted through Casualty Department with a history of labour pains for an unknown duration of time.

CASE HISTORY

The patient had not attended antenatal care anywhere. She was not able to give an account of when labour started. She had ruptured membranes at the casualty department prior to admission. by dates she was 40 weeks. There was no vaginal bleeding.

OBSTETRIC HISTORY

She was para 3 + 0, all babies having been born at term and all were alive and well. She had breastfed all babies. Her last delivery was in 1981.

GYNAECOLOGY HISTORY

She had never used any contraceptives. Prior to this pregnancy, her cycles were regular lasting 3 to 4 days every 28 days.

SOCIAL AND MEDICAL HISTORY

She was an unemployed housewife. Medical history was not contributory.

EXAMINATION

She was a healthy young lady in satisfactory general condition. She was not pale and no oedema was noted. She was afebrile. Respiratory and cardiovascular systems were essentially normal and she had a BP of 100/70.

Abdominal examination revealed a fundal height corresponding to term. The lie was longitudinal. Presentation was cephalic, the presenting part being above the pelvic brim. Foetal heart tones were heard, 120-128 per minute and irregular. There were a 2 contractions per 10 minutes each lasting 30 seconds.

PELVIC EXAMINATION

Vulvovaginal toilet was done and patient examined. She had normal external genital and vagina. The cervix was 75% effaced, Os was three centimetres dilated with cord herniating. The cord was pulsatile.

DIAGNOSIS: UMBILICAL CORD PROLAPSE.

MANAGEMENT

The foot end of the bed was elevated and with the patient lying on her back, the presenting part, ie head was held above the pelvic brim. Blood was taken for grouping and cross-matching and an intravenous line started. In the position described the patient was rushed to theatre where she was put in deep Trendelenburg position.

Induction of anaesthesia was done in the usual manner. The abdomen was cleaned and draped and rapidly opened through a midline subumbilical incision. Vesico-uterine peritoneum was incised and the bladder deflected downwards. The lower segment was well formed and an elliptical transverse lower segment incision was made in the uterus. The baby was delivered with ease. The cord was still pulsating. The placenta was delivered by cord traction. The uterus was closed in two layers, reperitonisation was done and the abdomen was closed in layers. Blood loss was estimated at 500 mls.

The baby was a male weighing 4350 gms and scored 7 at 1 minute and 10 at 5 minutes. Mucus extraction was done, oxygen given by mask and the baby reviewed by the paediatrician.

POSTOPERATIVE CARE

Routine post-operative care was instituted. Analgesia with pethidine was given 8 hourly for 48 hours. Antibiotic cover with ampicillin was started. IV fluids were discontinued on the 2nd postoperative day when bowel sounds were found to be present and the patient mobilised. Postoperatively she remained well vital signs being normal. Postoperative hemoglobin was 7.9 gms/dl with an iron deficiency picture. The patient was not transfused since blood was not available and she was started on oral ferrous sulphate 200 mg three times daily and folic acid 5 mg once daily. She was discharged on the 7th post-operative day to be seen at the postnatal clinic after 6 weeks.

FOLLOW-UP

This patient did not attend the postnatal clinic and she was lost to follow-up.

COMMENT

Prolapse of the umbilical cord is an obstetric emergency and once the diagnosis is made the patient must be managed in a way that will achieve a live and viable baby.

Having confirmed the presence of cord pulsations, the choice is between assisted vaginal delivery and caesarean section. If the cervix is not fully dilated and if there is evidence of CPD, vaginal delivery is contraindicated. To avoid further compression of the cord the patient is placed in the deep trendelenburg position and the presenting part is manually disengaged from the pelvic brim.

Umbilical cord prolapse constitutes a major problem in perinatal mortality. In Nairobi the incidence is reported as 0.8%. At the Kenyatta National Hospital cord prolapse contributes to 2.3% of the perinatal mortality.

Various terminologies are used for describing the cord in prolapse. Cord presentation is the term used when the cord lies ahead of the presenting part, membranes being intact. When membranes rupture this becomes cord prolapse. When the cord lies beside the presenting part it is termed occult cord prolapse.

Conditions predisposing to cord prolapse include malpresentations such as breech, transverse lie, brow and occipitoposterior (3). It is also found in association with cephalopelvic disproportion, prematurity, multiple pregnancy, grand multiparity and low placental implantation. The most probable reason for prolapse in this patient may have been CPD.

Cord prolapse may also be predisposed by untimely amniotomy. Therefore careful amniotomy with controlled release of liquor is important if the patient presents with a high unstable head, polyhydramnios and an unstable presenting part. It is important that an early diagnosis is made so that a vaginal examination must be performed in every patient who ruptures membranes spontaneously so as to exclude prolapse of the cord.

The rapidity with which delivery is effected is reflected by the perinatal outcome. It has been shown that perinatal mortality increases with diagnosis - delivery interval, being 37.7% when interval is less than 30 minutes and 66.7% when the interval is more than one hour (4). In this patient the outcome was good, the patient having been delivered within 30 minutes.

In this patient a postoperative haemoglobin done on the 3rd postoperative day showed that the patient had iron deficiency anaemia. This would have been diagnosed during the antenatal period had she attended an antenatal clinic. She would have benefitted from blood transfusion but given the chronic shortage of blood in this institution this was not possible. Alternatively anaemia in this particular case could have been corrected with parenteral iron therapy. The intramuscular preparations include an iron-sorbitol - citric acid complex (Jectofer) and an iron -dextran complex (Imferon). It is however, doubtful whether there is any difference in haemoglobin response to oral or parenteral treatment (5). Thus the patient was discharged home on oral haematinics.

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CASE No. 3.

RHESUS NEGATIVE MOTHER - NOT SENSITISED

NAME : H. M.
UNIT : 640034
OBS NO : 841388
AGE : 25 YEARS
PARITY : 0 + 0
L M P : 16.11.83
E D D : 23.8.84

CASE HISTORY

The patient was seen at the antenatal booking clinic on 21.5.84 and booked because she was Rhesus negative. At booking she had no complaints.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

A primigravida who had menarche at 16 years. Menstrual periods were regular, lasting 3 -4 days and coming every 28 days. There was no history of contraceptive use.

PAST MEDICAL HISTORY

Not contributory. No previous blood transfusions.

FAMILY AND SOCIAL HISTORY

She worked as a clerk. Her husband was a cashier in a Bank in town. She neither smoked nor took alcohol. There

were no familial illnesses.

PRESENT PREGNANCY

The first attendance was at 26 weeks gestation which corresponded with clinical assessment of uterine size. She attended 7 times and the antenatal period was uneventful.

The following investigations were done:

1. Haemogram : Haemoglobin : 13.7 g/dl
PCV : 41.5%
2. Blood Group: B Rhesus negative
: Possible Genotypes : D $\bar{c}e/d\bar{c}e$ or D $\bar{c}e/D\bar{c}e$.
3. Husband's Blood Group: A Rhesus Postive
4. Serology : USR Negative
5. Coomb's Test: at 26 weeks
at 30 weeks
at 34 weeks Negative
at 36 weeks
at 38 weeks

On 14.8.84 at 11 AM she was admitted into the Labour Ward with a history of lower abdominal pains and backache for for a duration of 9hours.

PHYSICAL EXAMINATION

She was in good general condition. There was no oedema of legs and she was not jaundiced. She had a blood pressure of 120/60 mm Hg and a pulse rate of 78 per minute. The cardiovascular, respiratory and central nervous systems were normal.

The abdomen was uniformly distended. The uterine size corresponded to a term pregnancy. The presentation was cephalic, with the head 4/5 above the pelvic brim. The lie was longitudinal. Foetal heart tones were heard, the foetal heart being 142 beats per minute and regular. She was getting 3 contractions in 10 minutes lasting 30 seconds. Vaginal examination revealed normal external genitalia and vagina. The cervix was fully effaced, the Os being 5 cm dilated. Membranes were intact and clinical pelvic assessment revealed an adequate pelvis. Artificial rupture of membranes was done and clear liquor drained. Partogram was then started and observations entered every 30 minutes. She was given intramuscular pethidine 100 mg for analgesia. The progress of labour was satisfactory and she proceeded to delivery at 4.20 pm on 14.8.84 to a male baby who weighed 2650 grams with APGAR score of 10 at 1 minute and 5 minutes respectively. Cord blood was taken for blood group, haemoglobin, Coomb's test and bilirubin.

The baby's blood group was 0 negative and Coomb's test was negative. The haemoglobin was 15.8 gm/dl and the PCV 47.1%. Bilirubin report was not available. The condition

of the baby and mother remained satisfactory and they were both discharged on 17.8.84 to attend post-natal clinic in 6 weeks.

POSTNATAL CLINIC

The mother attended postnatal clinic on 26.10.84. She was well and the uterus had involuted. The baby was healthy and breastfeeding..Contraception was discussed and she opted for the oral conceptive. She was discharged to the Family Planning Clinic.

COMMENT

Haemolytic disease of the newborn is comprised of two main varieties, Rhesus incompatibility and ABO incompatibility. It is the most important immunological disorder of pregnancy.

For Rhesus (Rh) incompatibility to occur the mother must be Rh-negative but the father Rh positive so that the infant can be Rh -positive. The escape of the infant's Rh-positive cells into the mother's circulation causes her to become sensitised and to form Rh antibodies which being IgG antibodies can pass back across the placenta to haemolyse some of the infant's cells. The effect on these cells depends on the quantity of the antibodies and the duration of their contact with the cells. As with all forms of antigen-antibody reaction, the more frequent the stimulus the greater the amount of antibody reaction. The dosage necessary to

initiate the primary immune response is relatively larger than the extremely small dose needed to evoke secondary reaction (1). A transfusion or intramuscular injection of Rh-positive blood to a Rh-negative mother at any time in her life acts as the same immunising stimulus as a Rh-positive baby (2).

Approximately 17% of Caucasian mothers are Rh-negative, whereas only 1% of Negro mothers are Rh-negative. The incidence of Rh-negativity in this population is about 3% whereas in Tanzania it is 2.4% (3).

The passage of foetal cells into the maternal circulation occurs throughout pregnancy with significant amounts at the time of delivery and is often associated with placental circulation. This transplacental haemorrhage is increased by manouvres such as caesarean section, manual removal of the placenta, amniocentesis, forceps delivery and external cephalic version, and by accidental haemorrhage. Red cells may also reach the mother's circulation via blood leakage into the peritoneum as occurs in a ruptured ectopic pregnancy.

First babies are seldom affected if the mother has had no previous exposure to sensitisation by blood transfusion or previous abortion. Our patient was para 0 + 0 and had not been previously exposed and, therefore, sensitization was not to be expected.

Rh-negative babies born to a Rh-negative mother are not affected. The prognosis with regard to future babies born to a Rh-negative mother with a Rh-positive husband will therefore

If he is homozygous all his babies will be Rh-positive but if heterozygous, only half will be positive (2). Other factors must be involved since only one in twenty Rh-negative mothers with a Rh-positive baby develop antibodies. This is probably due to factors preventing the passage of foetal cells across the placental barrier of causing the immediate destruction of the cells in the maternal circulation. A good such example is if the foetus is ABO incompatible with the mother, foetal cells which have entered the maternal circulation are rapidly eliminated by maternal anti-A or anti-B haemolysins. Our patient delivered a Rh-negative baby and the baby was not affected.

When a woman becomes pregnant, blood must be sent to the laboratory for ABO and Rh grouping. In our unit this is done for all mothers on the first antenatal visit. If the Rh factor is negative, Coomb's test is carried out. If there is no sensitisation the test should be repeated at 28, 34 and 36 weeks (4). Our patient's Coomb test was repeated at 30, 34, 36 and 38 weeks and it remained negative throughout pregnancy. At delivery cord blood is taken and if the baby is Coomb's negative and Rh-negative no further action is taken as was in this case. Should the baby be Rh-positive the administration of a gamma globulin containing a high titre of anti-D antibody (RhoGAM) has proved successful in preventing isoimmunisation (5). Therefore, after delivery the Rh negative must be evaluated and must receive RhoGAM within 72 hours if it is indicated. This is also true after delivery of a stillborn infant or after abortion.

In the isoimmunised mother, the aim is to achieve a live delivery during the safest period. If the antibody titres rise to above 1:6 amniocentesis is done and the foetal well-being evaluated. In our unit, estimation of delivery is done using Liley's zones (6) Bilirubin levels are estimated spectrophotometrically. The optical density value at 450 mu falling into a zone indicates delivery at a set time. Since amniocentesis is thought to increase the risks of fetomaternal haemorrhage thereby increasing antibody formation the patient should receive anti-D after the procedure. The presented patient was not sensitised at 38 weeks and amniocentesis for spectrophotometry was not considered essential.

Rhesus negative mothers should be delivered at term and should not be allowed to go beyond (7) since fetomaternal transfusion and abruptions are more common in the ageing placenta. During the time of delivery, the Paediatrician should be at hand and fresh blood compatible with the mother's serum should be kept ready in case the baby requires an exchange transfusion. Anti-D should also be available.

If the baby is Coomb's positive, the haemoglobin and bilirubin levels determine whether an immediate exchange transfusion is required to correct the anaemia or prevent Kernicterus. Each case must be treated on its own merit but in general, if the haemoglobin is less than 80% (11.9g/dl) or the bilirubin more than 5 mg/dl, an exchange transfusion with fresh blood should be carried out within the first 10 hours of life, or immediately if anaemia is severe (2).

More than one exchange transfusion may be required if the bilirubin rises again after the first transfusion. In some centres foetal transfusion is practised in instances where delivery is indicated in very premature foetuses (5).

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CASE No. 4

ELDERLY PRIMIGRAVIDA - NORMAL VAGINAL DELIVERY

NAME : M. M.
 AGE : 36 YEARS
 UNIT : 355894
 PARITY : 0 + 0 Hemoglobin 11.2 g/dl
 L M P : 20.2.81 33.7%
 E D D : 27.11.81
 D. O. A. : 15.11.81 Rhesus positive
 D. O. D. : 16.11.81

Serology : USR negative

CASE HISTORY

The patient was seen at the antenatal booking clinic on 20.8.81. She had no complaints and a diagnosis of elderly primigravida was made and she was booked. She was at 26 weeks gestation which corresponded with the clinical assessment of uterine size. She attended 9 times and the ante-natal follow up was uneventful. Clinical assessment of the pelvis was done at 36 weeks and this was adequate. On 15.11.81, at a gestation of 38 weeks, she was admitted into the labour ward with a history of backache and lower abdominal pains for one day.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

An elderly primigravida who had menarche at 16 years. Menstrual periods were regular, lasting 4-5 days and coming every 28-30 days, She had never been on any contraceptive methods and despite a long period of infertility she had

not undergone any investigations.

PAST MEDICAL HISTORY

Not contributory. Has never been admitted into hospital for any illness.

INVESTIGATIONS

1. Haemogram : Haemoglobin 11.2 g/dl
PCV 33.7%
2. Blood Group : O Rhesus positive
3. Serology : USR negative
4. Urinalysis : No sugar
No protein
No growth

FAMILY AND SOCIAL HISTORY

A married housewife. Husband is a businessman. She neither smoke nor drinks alcohol.

PHYSICAL EXAMINATION

The patient was in good general condition. There was no evidence of anaemia, oedema or jaundice. The blood pressure was 120/70 mm Hg with a pulse rate of 82/minute. There was no sugar or protein in the urine. The respiratory cardiovascular and central nervous systems were within normal. The breasts were normal.

There was globular distension of the abdomen. The uterine size corresponded to a term pregnancy. The foetus was in longitudinal lie with cephalic presentation. The head was 5/5 above the pelvic brim. Foetal heart tones were heard, the rate was 136 per minute and regular. The liver and spleen were not enlarged. She was having 2 contractions in 10 minutes lasting about 25 seconds.

Vaginal examined showed a soft cervix. 50% effaced and 2 cm dilated. The pelvis was clinically adequate and the membranes were intact. Artificial rupture of membranes was done and clear liquor obtained.

LABOUR AND DELIVERY

The partogram was marked every 30 minutes and the patient was allowed to labour. 4 hours after admission she was reviewed. She was getting 2 contractions in 10 minutes lasting 30 seconds and the cervix had dilated to 3 cm. Labour was now augmented with 2.5 units of syntocinon started at 10 drops per minute and increased by 10 drops every 30 minutes to a maximum rate of 60 drops per minutes. 2 pints of blood were ordered. Contractions picked up and she was subsequently getting 3 contractions every 10 minutes, each contraction lasting about 40 seconds. Labour progressed satisfactorily and 8 hours after commencement of syntocinon she delivered a male baby who weighed 2850 grams. The APGAR score was 9 at 1 minute and 10 at 5 minutes.

The mother and baby remained well and the periperium was normal. Having no complaints, both were discharged home on 16.11.81 to come to the postnatal clinic in 6 weeks.

POSTNATAL CLINIC

The mother attended postnatal clinic as requested. The baby was well and breastfeeding. The mother had no complaint and the uterus had involuted. She declined family planning and was discharged from the clinic.

DISCUSSION

An elderly primigravida is that woman going through her first pregnancy over the age of 35 years. Though elderly primigravidae constitute a high risk group, some run a perfectly normal obstetric course. Our patient had an uneventful antenatal period and a complication-free delivery.

A normal woman's fertility is at its maximum at about the age of 23 years, after which there is a gradual decline so that by the age of 40 years the chances of conception are greatly reduced (1)

Elderly primigravidae are likely to encounter complications as a result of the ageing process. Abortions, premature labour, placenta abruption and pre-eclampsia occur more commonly. Conception after the age of 35 years imposes an increased risk of genetic defects and is associated with an increased perinatal death rate (2)

The duration of labour is increased by 25% partly because of anxiety on the side of the patient and partly because of uterine inertia (3). In about one third of these patients labour is likely to be complicated by malpositions especially occipito-posterior positions which are very much more common. Response to induction in elderly primigravidae tends to be unsatisfactory and the caesarean section rate is increased four fold. Assisted delivery in the form of vacuum extractions and forceps is also increased, occurring two to three times as often as in young primigravidae.

The management of elderly primigravidae calls for detailed supervision both in pregnancy and during labour. Early recognition of pre-eclampsia is a must. Amniocentesis should be done to exclude chromosomal aberrations (1). The bony pelvis should be assessed and found to be adequate before contemplating vaginal delivery. In our patient pelvic assessment at 36 weeks revealed a pelvis adequate for vaginal delivery.

The elderly primigravida should not be allowed more than a week's postmaturity at the most. Age alone, however, does not justify surgical treatment and induction, if undertaken, should be followed by caesarean section within 24 hours (1). In the presence of complications such as a contracted pelvis, there is no place for trial of labour, and the patient should be managed by caesarean section.

The presented patient was 36 years old and therefore considered an elderly primigravida. Her antenatal period was uneventful and during labour she did not develop any complications and she had a normal vaginal delivery. Most elderly primigravidae, however, are likely to encounter complications during antenatal period and delivery. They therefore, must be treated as high risk.

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PREVIOUS AND GYNAECOLOGICAL HISTORY

She had menarche at 14 years. Periods were initially irregular but this subsequently settled, the periods lasting 3-4 days every 28 days. She had delivered two live babies, the last delivery being in 1981. In 1982 she aborted at 5 months. Evacuation was not done. She had never been on any contraceptives. She attended a City Council Clinic for antenatal care.

CASE No. 5INTRAUTERINE DEATH - INDUCTION WITH PROSTAGLANDINS

NAME : S. N.
 UNIT : 626274
 AGE : 22 YEARS
 TRIBE : KIKUYU
 PARITY : 2 + 1
 L M P : 20.9.83
 E. D. D. : 27.6.84
 D. O. A. : 31.5.84
 D. O. D. : 7.6.84

CASE HISTORY

This patient was admitted through Casualty department with a history of loss of movements for 2 weeks. The patient had been well prior to this. She did not complain of vaginal bleeding, drainage of liquor or fever.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had menarche at 14 years. Periods were initially irregular but this subsequently settled, the periods lasting 3 -4 days every 28 days, She had delivered two live babies, the last delivery being in 1981. In 1982 she aborted at 5 months. Evacuation was not done. She had never been on any contraceptives. She attended a City Council Clinic for antenatal care.

MEDICAL HISTORY

Not contributory.

FAMILY AND SOCIAL HISTORY

She was a married housewife who did not smoke or drink alcohol.

PHYSICAL EXAMINATION

She was a young woman in good general health. She was afebrile, not anaemic and she had no oedema, The pulse rate was 80 per minute and regular, the blood pressure 110/60 mm Hg. Cardiovascular, Central nervous and respiratory systems were normal.

The liver and spleen were not enlarged. The uterine size was 34weeks, The lie was longitudinal and presentation cephalic, 5/5 above the pelvic brim. There were no contractions and the foetal heart was not heard.

PELVIC EXAMINATION

The external genitalia were normal. The cervix was soft and closed. There was no vaginal discharge or bleeding.

DIAGNOSIS

A diagnosis of intrauterine death was made and she was admitted for investigations.

1. Haemogram : Haemoglobin 13.3 g/dl
 PCV 38%

2. Blood Group : O Rhesus negative. speculum was inserted
 into the vagina and the cervix exposed. The anterior lip

3. Serology : U. S. R. negative and a sterile
 Foley catheter No 18 inserted into the cervical canal through

4. Urinalysis : Normal findings
 The balloon was inflated with 35 ml of normal saline and the catheter

5. Coagulation : Bleeding time (IVY) 6 min.
 screen : 20 cc and 4 cc immediately injected

Prothrombin time: 14 sec. Labour was
 started on the partogram Control cc : 14 sec.

Thrombin time : 11 sec.

Control : 11 sec.

KCCT test : 34 sec.

KCCT control : 37 sec.

Platelet Count : 154,000.

Comment : No evidence of a coagulation defect.

6. Diagnostic ultrasound.
 Single foetus seen

There is scalp and body oedema

No foetal cardiac activity or foetal
 movement seen.

Intrauterine death was confirmed and induction was
 planned. She was given a bath and enema and taken to the

labour ward. loss was approximately 100 mls. Syntocinon

infusion was continued for a further one hour. Post

INDUCTION WITH PROSTAGLANDIN F₂ALPHA

The patient was put in the lithotomy position and vulval toilet done. A sterile Cusco's speculum was inserted into the vagina and the cervix exposed. The anterior lip was grasped with a sponge holding forceps and a sterile Foley catheter No 18 inserted into the cervical canal through the cervical os into the extra-amniotic space. The balloon was inflated with 35 mls of normal saline and the catheter outlet closed with a brannula bung. 5 mg of prostaglandin F₂ alpha was diluted up to 20cc and 4 cc immediately injected into the extraamniotic space via the catheter. Labour was monitored on the partogram and 1 cc of the solution was pushed every hour.

6 hours after starting the induction, the Foley catheter dropped out. 2 contractions in 10 minutes lasting between 20-40 seconds were observed. The os had dilated 4 cm and cervix was fully effaced. Pethidine 100 mg IM was given and a syntocinon infusion 5 units in 500 mls of 5% dextrose was started at 10 drops per minute everyhalf hour until 3 contractions in 10 minutes lasting 20 to 40 seconds were established.

4 hours later the patient started bearing down. The cervix was fully dilated and membranes were ruptured. She delivered a macerated female baby who weighed 2400 grams. The umbilical cord was tightly round the neck. The placenta weighed 520 grams and was complete. The uterus contracted

well and blood loss was approximately 100 mls. Syntocinon infusion was continued for a further one hour. Post delivery observations were satisfactory.

The patient was discharged home on 7.6.84 in good condition.

COMMENT

Intrauterine foetal death embraces cases before the 28th week of pregnancy and those occurring later which result in macerated stillbirth. Maceration is a destructive aseptic process which first reveals itself by blistering and peeling of the foetal skin. This appears between 12 and 24 hours after foetal death and in a case of stillbirth exculpates causes operating during labour except when labour is seriously prolonged.

Macerated stillbirth nearly always indicates foetal death in pregnancy and not in labour and in most cases is caused by anoxia. By contrast, fresh stillbirth usually indicates either death due to anoxia or trauma or both (1).

The patient presented had a macerated stillbirth, the cause of death almost certainly due to anoxia and not labour related, as the umbilical cord of the foetus was tightly around the neck. In about one fifth of cases of intrauterine death, there is no demonstrable cause. Known causes of macerated stillbirth are pre-eclampsia and eclampsia, chronic hypertension, chronic nephritis, diabetes, hyperpyrexia,

postmaturity, foetal malformations and Rhesus isoimmunisation and infections such as syphilis,

Reduction in the incidence of macerated stillbirth will therefore depend on early detection and treatment of the predisposing cause. Sound antenatal care has much to offer in prevention of macerated stillbirth but cannot prevent all causes of intra-uterine death. Despite meticulous antenatal care, our patients' pregnancy terminated with a stillbirth.

Clinical evidence of absent foetal heart tones, absent movements, cessation of uterine growth and recession of all other signs of continuing pregnancy call for definitive confirmatory investigations. In the occasional patient a positive diagnosis of foetal death can be made by palpating the collapsing skull through the partially dilated cervix or by *crepitus* on an abdominal examination. Amniotic fluid is red or brown and usually turbid rather than clear or nearly colourless. Demonstration of such amniotic fluid is not absolutely diagnostic of foetal death (2). Our patient presented with a history of disappearance of foetal movements and this caused her to seek medical attention. Clinical examination revealed a uterus which was not corresponding to dates, and absent foetal heart which further suggested intra-uterine foetal death.

Radiological and ultrasonographic examinations are of great value in making a definitive diagnosis of intrauterine

foetal death. The three principal radiologic signs of foetal death are Spalding's sign, exaggerated curvature of the foetal spine and demonstration of gas in the foetus. The latter is considered to be the most reliable of the roentgenologic signs of foetal death (2).

Ultrasonography will demonstrate presence of severe soft tissue oedema of the scalp, overlap of the foetal ovarium, marked alteration in the gross foetal appearance and lack of cardiac activity. The diagnosis of foetal death in our patient was confirmed by ultrasound.

Management of intrauterine death, once the diagnosis is confirmed, may be conservative or by medical induction of labour.

If the patient is left strictly alone, labour will start usually within a month. Prolonged retention of a death foetus in utero may interfere with the coagulation mechanisms of blood causing hypofibrinogenaemia.

After a definitive diagnosis it is unnecessary to await spontaneous labour and the modern approach is induction with extra-amniotic prostaglandin F_2 alpha (3). This was successfully done in this patient.

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OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had menarche at 14 years and had regular periods lasting 3 days every 30 days. She was para 1 + 1. She had aborted in 1981 at 3 months gestation and evacuation

CASE No. 6. this hospital. She delivered a full term

July 1982 and had no complications. There was no

RETAINED PLACENTA - MANUAL REMOVAL

NAME : T. W. N.

UNIT : 552680

TRIBE : KIKUYU

AGE : 21 YEARS

PARITY : 1 + 1 (a housewife who neither sacked or

L M P : NONE SINCE - LD (worked for Kenya Posts and

D. O. A. : 15.4.83

D. O. D. : 17.4.83

CLINICAL EXAMINATION

CASE HISTORY in good general condition. She was not

This 21 years old patient was admitted through the Casualty in established labour. The pains had started 9 hours earlier. There was no vaginal bleeding and she had not ruptured membranes. She had not resumed her menses since the last delivery in 1982. She had not attended any antenatal clinic during this pregnancy.

and cephalic was presenting, 2/5 of which was

OBSTETRIC AND GYNAECOLOGICAL HISTORY fetus was contra-

She had menarche at 14 years and had regular periods lasting 3 days every 30 days. She was para 1 + 1. She had aborted in 1981 at 3 months gestation and evacuation

was done in this hospital. She delivered a fullterm baby 1982 and had no complications. There was no history of contraceptive use.

MEDICAL HISTORY

Non contributory.

SOCIAL AND FAMILY HISTORY

She was a married housewife who neither smoked or drank alcohol. Her husband worked for Kenya Posts and Telecommunications.

PHYSICAL EXAMINATION

She was in good general condition. She was not anaemic, there was no evidence of jaundice and she did not have oedema of the legs. She had a pulse rate of 88 per minute and her blood pressure was 120/70 mm Hg. The respiratory, central nervous and cardiovascular systems were normal.

The uterine size was 38 weeks, fetal lie was longitudinal and cephalic was presenting, 2/5 of which was palpable above the pelvic brim. The uterus was contracting 3 every 10 minutes, each contraction lasting 20-40 seconds. The foetal heart tones were heard at 138 per minute and regular.

VAGINAL EXAMINATION

The external genitalia were normal. The cervix was fully effaced and 8 cm dilated. Membranes were intact. Artificial rupture of membranes was done and clear liquor drained. The presentation was vertex, right occipito-anterior. There was no cord, caput or moulding and the pelvis was adequate.

The partogram was started and progress of labour monitored. One and a half hours after admission she delivered a male baby who weighed 3500 grams with APGAR score of 10 at 1 and 5 minutes respectively. Intramuscular syntometrine was given with the delivery of the anterior shoulder.

Thirty minutes later the placenta had not separated and vaginal examination confirmed that it was all within the uterus. Blood was collected and 2 units ordered. An oxytocin infusion 20 units in 500 mls of 5% dextrose solution running at 30 drops per minute was started. The bladder was then catheterised and 100 mls of urine drained. She was not bleeding per vaginum. Syntocinon was continued and after 1 hour the placenta had not separated. A diagnosis of retained placenta was made. Decision to deliver the placenta manually in theatre was made and a consent obtained. By now 2 units of compatible blood group O positive were available, the patient was premedicated with atropine 0.6 mg IM and taken to theatre.

MANUAL REMOVAL OF PLACENTA

The patient was placed in lithotomy position after induction of anaesthesia. Vulvo-vaginal toilet was done and the patient draped with sterile towels, Bladder catheterisation was now done. The right hand was inserted into the vagina and followed the cord to its point of insertion on the placenta. The lower margin of the placenta was now located. While the left hand stabilised the fundus abdominally, the plane of cleavage was identified with the right hand and the placenta gently separated from its site of implantation on the posterior wall of the uterus. After freeing the placenta it was now delivered by controlled cord traction. The uterus contracted almost immediately and bleeding was not excessive. The cervix and vagina were now inspected for tears and none were found. The perineum was intact. Blood loss was estimated at 350 mls and the placenta weighed 670 grams. Oxytocin was continued and patient reversed from anaesthesia.

POST OPERATIVE CARE

Recovery from anaesthesia was uneventful. Vital signs were stable and the uterus remained well contracted. She was started on Oral Ampicillin 500 mg 6 hourly for seven days.

During her stay in the ward, haemoglobin estimation was done and it was 11.3 gm/dl. Serology (USR) was negative.

POST NATAL CLINIC

She was seen in the Post natal clinic 6 weeks later. She was not anaemic and the uterus had involuted. She had not resumed menses. The baby was well and was breastfeeding satisfactorily. She declined contraception.

Retention of the placenta is said to occur if, with active management of the third stage, its delivery fails. It is generally agreed that one hour is an acceptable time limit (2).

The causes of placental retention are partial separation of a normally implanted placenta or entrapment of a partially or completely separated placenta by a sterile constriction ring at the junction of the upper and lower uterine segments. An adherent placenta is due either to the absence of all or part of the normal cleavage plane at the site of placental attachment or to the actual placental invasion of the myometrial wall (placenta accreta.)

A number of factors favour placental retention.

1. Improper management of the third stage of labour
2. Impairment of the uterine contractions necessary for expulsion because of either prolonged labour, excessive medication or profound anaesthesia.
3. Tetanic uterine contractions which often produce a constriction

COMMENT

The placenta separates spontaneously from its site in most instances during the first few minutes after delivery of the infant. Spontaneous detachment of the placenta occurs in 90% of patients within 15 minutes and 95% of patients within 30 minutes (1). Retention of the placenta is said to occur if, with active management of the third stage, its delivery fails. It is generally agreed that one hour is an acceptable time limit (2).

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A number of factors favour placental retention.

These are :

1. Improper management of the third stage of labour
2. Impairment of the uterine contractions necessary for expulsion because of either prolonged labour, excessive medication or profound anaesthesia.
3. Tetanic uterine contractions which often produce a constriction

4. Uterine abnormalities particularly subseptate or bicornuate uterus.
5. Abnormalities of placentation such as cornual implantation factors that favour placental adherence include previous endometritis, submucous tumours, uterine scars, low implantation and placental malformations such as an ectachorionic placenta. Among the operative procedures that increase the risk of abnormal placental attachment are caesarean section, myomectomy, vigorous curettage and previous manual removal of a placenta.

Our patient had an evacuation in 1982 and curettage was done. This could have been a contributing factor.

The complications of retained placenta are postpartum haemorrhage and puerperal infection. Manual removal at the earliest time possible is, therefore, the management of choice. Apart from starting an oxytocin infusion, blood must be crossmatched for transfusion if indicated. The bladder must also be emptied.

An adherent or penetrating placenta cannot be readily diagnosed prior to an attempt at manual removal. The clinical picture will resemble that of a retained placenta which remains completely or partially attached. Significant haemorrhage usually does not occur prior to attempts at manual removal when haemorrhage may be severe and perforation of the uterus may occur, (3). The patient should be prepared for immediate hysterectomy which is almost always indicated (1).

MITRAL STENOSIS IN PREGNANCY - ELECTIVE VAGINAL EXTRACTIONREFERENCES

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PATIENT'S MEDICAL HISTORY

The patient had been well until 1974 when she developed
the symptoms, palpitations and swelling of legs. She was admitted
to the medical wards with mitral stenosis and congestive heart
failure. She was started on digoxin 1mg and in 1976, mitral valvulotomy
was done in this hospital. The postoperative period was unremarkable
and she subsequently attended the special cardiac clinic

CASE No. 7

CARDIAC DISEASE IN PREGNANCY - ELECTIVE VACUUM EXTRACTION

NAME : F. M. M.
 UNIT : 560261
 AGE : 26 YEARS
 TRIBE : KAMBA
 PARITY : 1 + 0
 L D : 1980
 L M P : 25.6.82
 D. O. A. : 2.4.83
 D. O. D. : 13.4.83

CASE HISTORY

The patient was admitted from the antenatal clinic at 36 weeks gestation because of occasional dyspnoea and palpitations. She was a known case of cardiac disease since 1974 and she attended the special cardiac clinic regularly. She had a mitral valvotomy done in 1976 and had been fairly well since. Her present pregnancy was uneventful until five days before admission, when she developed dyspnoea on effort and palpitations.

PAST MEDICAL HISTORY

The patient had been well until 1974 when she developed breathlessness, palpitations and swelling of legs. She was admitted into the medical wards with mitral stenosis and congestive heart failure. She was started on digoxin lasix and in 1976, mitral valvotomy was done in this hospital. The postoperative period then was uneventful and she subsequently attended the special cardiac clinic

regularly, She had not been admitted again for similar complaints or any other problem.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had menarche at 15 years of age. She had regular menstrual cycles lasting 3 days and coming every 30 days, She was para 1 + 0. The delivery was in 1930 at Kenyatta National Hospital. She had a spontaneous vertex delivery to a 3000 gram female baby. There were no puerperal problems, her cardiac status remaining stable.

She had never used any contraceptives and the last menstrual period was on 18.9.32.

SOCIAL AND FAMILY HISTORY

She was a housewife married to a teacher. She did not drink or smoke and there was no family history of heart disease, diabetes or tuberculosis.

ANTE NATAL CARE.

The patient was referred to the antenatal clinic at a gestation of 20 weeks. She was seen 9 times and at each visit her cardiac status was noted to be stable. On her 10th attendance she was at 36⁺ weeks gestation and she was admitted.

PHYSICAL EXAMINATION

She was in good general condition. She was not anemic or jaundiced and there was no lymph node enlargement. She had no oedema of legs or sacrum and she was afebrile 36.5^oC. The trachea was central, air entry was equal on both sides and there were no crepitations.

The pulse rate was 80 per minute, regular and of good volume,

The apex beat was in the 5th intercostal space and not displaced. There were no thrills palpable. The jugular venous pressure was not raised. Blood pressure was 110/60 mm Hg. Both heart sounds were heard and there was a soft mid-diastolic murmur heard at the apex. Peripheral pulses were palpable.

Abdominal examination revealed a uterine size corresponding to 36 weeks gestation. Liver and spleen were not enlarged. The lie was longitudinal, the presentation cephalic. There were no contractions and the foetal heart was heard at 140 beats per minute and regular.

PELVIC EXAMINATION

The external genitalia and vagina were normal. The cervix was soft, Os was closed. The sacral promontory was not reached and the sacral curvature was concave, The ischial spines were not prominent. The pelvis was adequate.

DIAGNOSIS AND MANAGEMENT

A diagnosis of mitral stenosis, not in failure was made. In view of having had cardiac surgery she was placed in grade IV.

The patient was admitted and put to bed in a propped-up position. Digoxin 0.25 mg, Frusemide 40 mg and tab slow K $\overline{\text{II}}$ daily were continued. She was also given haematimics. A cardiologist was consulted but the patient went into a labour before she was reviewed.

INVESTIGATIONS

- | | | | |
|--------------|---|-------------|------------|
| 1. Haemogram | : | Haemoglobin | 10.1 gm/dl |
| | | PCV | 32.9% |
| 2. Serology | : | USR | negative |

3. Blood Group : O Rhesus Positive
4. Urea / Electrolytes : Na 138 mmols /litre
K 3.0 mmols /litre
BUN 2.6 mmols/litre
5. Urinalysis : No sugar, No protein, No growth.
6. CxR : Normal
7. Stool : No Ova or Cysts
8. ECG : Sinus rythm, Left ventricular hypertrophy.

The patient went into spontaneous labour on 3.6.83. at a gestation of almost 37 completed weeks.

LABOUR AND DELIVERY

The patient was taken to the labour ward. She was not dyspnoeic and lungs were clear. Pulse rate was 80/minute. She was having 2 contractions every 10 minutes lasting 30 - 40 seconds. Uterine size corresponded to 36 weeks and foetal heart was heard at 140 beats per minute. The presentation was cephalic and the head was 3/5 above the pelvic brim. Vaginal examination showed a fully effaced cervix that was 6 cm, dilated. Membranes were intact and there was no cord presenting. The pelvis was assessed as adequate. Artificial rupture of membranes was done and clear liquor drained. The position was right occipito-anterior, There was no caput or moulding.

A diagnosis of active phase of labour was made and she was nursed in a propped-up position. Morphine 15 mg and Ampicillin 500 mg were given IM. She was given oxygen by mask p.r.n. and parenteral frusemide, aminophylline, morphine and digoxin were kept ready. She was observed every 15 minutes and labour was allowed to progress and

was monitored according to the partogram.

A repeat examination 4 hours later showed that the head was $1/5$ above the pelvic brim. Foetal heart was 140/minute and the maternal pulse 88/minute. Chest was clear. Uterine contractions were 3 in 10 minutes lasting 30-40 minutes. The cervix was 9 cm dilated and the position was right occipito-anterior. There was no caput or moulding.

45 minutes later the head was seen to distend the perineum and she was taken to the second stage room for delivery. She was placed in lithotomy position but still propped up and oxygen was given by mask. Vaginal examination confirmed second stage.

The perineum was cleaned and infiltrated with procaine hydrochloride. Bladder catheterisation was done and a left mediolateral episiotomy done. A size 5 vacuum cup was applied to the presenting part as close to the acciput as possible, care being taken to avoid any vaginal tissue within the cup margin. An assistant now created negative pressure, using a hand pump, at the rate of 0.2 kg/cm^2 every 3 minutes to a maximum of 0.8 kg/cm^2 . During the next contraction, traction was applied at right angles to the plane of the cup. The head easily descended with one pull and the cup was released and removed after delivery of the head. Delivery was then completed. Ergometrine was not given. The placenta was delivered by controlled cord traction. It was complete with the membranes and weighed 600 grams. Blood loss was estimated at 100 mls. The baby was male weighing 2740 grams and scored 10 at 1 and 5 minutes. The duration of 1st stage was 6 hours, 2nd stage 20 minutes and third stage 7 minutes.

Immediately after delivery 80 mg lasix intravenously was given and the episiotomy sutured. Antibiotics were continued.

POSTPARTUM PERIOD

Post delivery observations were normal. Lochia loss was normal and her cardiac status remained stable. Post delivery haemoglobin was 10.3 gm/dl and urine microscopy and culture were normal.

Antibiotics were continued for 7 days and the mother and baby were discharged on the 10th post delivery to attend the post natal clinic after 6 weeks.

POST NATAL CLINIC

She attended the post natal clinic as requested. She was in good general condition and had no complaints. She had attended the cardiac clinic and the baby was breastfeeding well. She declined to use any form of contraception.

COMMENT

The incidence of cardiac disease depends on the prevalence of rheumatic heart disease in a population (1). Rheumatic heart disease comprises of up to 95% (2); others being congenital heart disease and, rarely, hypertensive and thyrotoxic heart disease, coronary insufficiency and cardiomyopathies. As health standards improve, rheumatic heart disease becomes less common whereas congenital heart disease becomes more significant.

The incidence of cardiac disease in pregnancy varies from 0.5-2% and at the Kenyatta National Hospital it has been reported as 0.6% (3). In developed countries where rheumatic heart disease is less common, the incidence is lower. The commonest valve involved is the mitral valve (2,3,4), the commonest lesion being mitral stenosis (3). Our patient had mitral stenosis which had been corrected surgically.

The effects of pregnancy on circulatory and respiratory function produce both symptoms and physical signs which mimic those of heart disease. Three major burdens on the heart are associated with pregnancy: Cardiac output is increased by more than one-third; the pulse rate is accelerated by about 10 beats per minute; and the blood volume expands by about 25%. A diseased heart is put under more stress and these unavoidable stresses must be considered in an appraisal of the patients' ability to undergo pregnancy, delivery, and the puerperium.

The aim of antenatal care in the management of cardiac disease in pregnancy is to carry the patient through the pregnancy without cardiac failure. For practical purposes, the functional capacity of the heart is the best single measurement of cardiopulmonary status and grading of the disability is done according to the New York Heart Association Classification (1964) with Grade I being those cases where ordinary

where the patient is decompensated and any physical activity causes acute distress. Grade II and III disabilities fall in between. 80% of obstetric patients with heart disease have lesions which do not interfere seriously with their activities and usually do well. This classification should however be taken with caution since it does not take into consideration the haemodynamic changes and, despite the grade, every cardiac patient should be closely supervised (2). Though about 85% of deaths ascribed to heart disease complicating pregnancy occur in patients with grade III or IV lesions (5), at the Kenyatta Hospital a high mortality was reported in grades I and II where less complications were anticipated (2).

Factors that precipitate cardiac failure must be looked for at every antenatal visit and treated vigorously. These include anaemia and infections. The patient must avoid undue physical stress and be advised to rest so as to keep the workload on the heart as low as possible.

Labour, delivery, and the early puerperium impose the following physiologic burdens on the maternal heart:

- during labour and delivery; changes in the pulse rate with a rise with the beginning of each contraction are noted. There is slowing of the pulse at the end of each contraction with the pulse returning to the resting level between contractions, and

- there is an intermittent increase of oxygen consumption with uterine contractions; approaching that of moderate to severe exercise.

- during the puerperium; a slight increase in the cardiac output occurs for about one week after delivery.

Complications of labour, delivery, and the puerperium must be avoided. Analgesics should be administered as necessary and oxygen should be administered freely during labour and in the early puerperium; when tachycardia, dyspnoea, and chest pains are most severe. Prophylactic antibiotics should be given to prevent infection, particularly bacterial endocarditis. All the above were done for this patient.

The terminal stage of labour is shortened by elective vacuum extraction or low forceps delivery to spare the patient the effort of bearing down in the second stage which would tip her into failure. A well equipped resuscitation tray should be kept ready and any changes in the cardiac status must be treated promptly with oxygen, digitalis, aminophylline and diuretics. Our patients did not go into failure and hence did not require the above. The third stage of labour must be managed carefully to limit postpartum bleeding. As a rule ergot preparations should not be administered unless the patient develops postpartum haemorrhage, to avoid a drug pressor effect and cardiac failure.

The maternal and foetal prognosis in heart disease complicating pregnancy depends upon the severity of the heart disorder, the availability of medical and obstetric care, medical and surgical complications. The perinatal mortality rate largely depends on the functional severity of the mother's heart disease. These patients should be advised on family planning. Our patient was so advised but she declined any method. Since oral contraceptives increase the risk of thromboembolism and intra-uterine contraceptive devices increase the chances of infection, barrier methods should be used. Sterilisation may be advised if the couple have completed their family.

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CASE No. 8

PREGNANCY AFTER SUCCESSFUL VESICO-VAGINAL FISTULA REPAIR -
DELIVERY BY CAESAREAN SECTION

NAME : E. K.
UNIT : 552683
AGE : 17 YEARS
TRIBE : KAMBA
PARITY : 1 + 0
L.M.P. : 6.7.82
E.D.D. : 13.4.83
D.O.A. : 5.4.83
D.O.D. : 16.4.83

CASE HISTORY

* The patient was admitted from the ante-natal clinic for elective caesarean section following a positive surfactant test. She was not in labour.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had menarche at 14 years. Periods were regular lasting 3 days every 28-30 days. She was para 1 + 0. She had delivered at Kitui in 1980. The baby was a fresh stillbirth following obstructed labour. She developed urinary incontinence following delivery and a diagnosis of vesico-vaginal fistula was made. She was referred to Kenyatta National Hospital for management of the fistula which was successfully repaired in 1981. She was advised to attend antenatal clinic early and that she would be delivered by caesarean section.

PRESENT PREGNANCY

She had her last menses on 6.7.82 and her expected date of delivery was on 13.4.83. Her first antenatal attendance was on 27.11.82 at a gestation of 20 weeks. The uterine size corresponded to dates. She subsequently attended 6 times and at 38 weeks amniocentesis was done for surfactant test and was positive. She was admitted for elective caesarean section.

PAST MEDICAL HISTORY

Not contributory.

FAMILY AND SOCIAL HISTORY

She was a married housewife. Her husband was a soldier based at the Langata Army Barracks. She neither smoked nor drink alcohol.

PHYSICAL EXAMINATION

She was in good general condition. Clinically she was not anaemic or jaundiced and she did not have oedema. Her pulse rate was 84 beats per minute and regular and the blood pressure was 100/70 mm Hg. The cardiovascular and respiratory systems were within normal.

The uterine size corresponded to 38 weeks gestation. The lie was longitudinal, cephalic presentation, and the head was 5/5 above the pelvic brim. Foetal heart tones were heard, 140 per minute and regular. She was not getting any contractions.

PELVIC EXAMINATION

The external genitalia and vagina were normal. The cervix was long, soft and the os was closed.

INVESTIGATIONS

1. Haemogram : Haemoglobin : 12.6g/dl
PCV : 37.1%
2. Blood Group : O Positive
3. Serology : USR Negative
4. Urinalysis : No Sugar
No Protein
No Growth
5. Surfactant : 1:1 Positive
1:2 Positive

MANAGEMENT

The patient was scheduled for elective caesarean section which was done on 9.4.83. A consent was obtained from the husband since the patient was under-age. Two units of compatible blood were made available, On the day of surgery she was premedicated with atropine sulphate 0.6mg intramuscularly and wheeled to the maternity theatre. Aseptic bladder catheterisation was done and clear urine drained. Pelvic findings were as noted on admission.

The abdomen was cleaned and sterile drapings applied . Anaesthesia was induced with 250 mg sodium pentothal and 75 mg scoline intravenously before intubation. Maintenance was with oxygen and nitrous oxide. **Through** a midline subumbilical incision the abdomen was opened in layers.

The uterus was exposed and found to be intact. The lower uterine segment was well formed. The visceral peritoneum was incised transversely at its loose point of the vesico-uterine fold and the bladder retracted away. A similar incision was now made on the myometrium and

fluid was obtained. A male baby weighing 3020 grams was easily delivered by the head. The APGAR score was 10 at 1 and 5 minutes. The baby was resuscitated by mucus extraction and oxygen was given by mask. The placenta was then removed manually and Green-Armytage clamps applied to the edges of the incision to control bleeding. Intravenous ergometrine 0.5 mg was given at the birth of the anterior shoulder.

The uterus was now repaired in two layers using chromic catgut No. 1 and peritonisation was done, using a continuous suture of plain catgut No. 0. Both tubes and ovaries were normal. The abdomen was then closed in layers after instruments and swabs were counted and reported to be correct. Blood loss was estimated at 600 mls. Vulvovaginal toilet was done and catheter removed. Urine was clear.

POSTOPERATIVE CARE

The patient recovered well from anaesthesia. Routine observations were done and found to be stable. Intravenous fluids in the form of 5% ~~dex~~extrose 500 mls alternating with normal saline 500 mls every 6 hours were given. She received pethidine for pain and prophylactic Ampicillin was given. Bowel sounds returned on the 2nd postoperative day and oral fluids were started. Postoperative haemoglobin done on the 3rd day was 12.3g/dl. The rest of the postoperative period was normal. Alternate stitches were removed on the 6th day, all on 7th day when she was discharged home.

POSTNATAL CLINIC

She attended postnatal clinic 6 weeks later. She had no complaints and had not resumed menses. The uterus was involuted and the baby was breastfeeding well. She opted for the oral contraceptive and was referred to the Family Planning Clinic.

COMMENT

The prevalence of vesico-vaginal fistulae is unknown and the waiting list of 300 cases at Kenyatta National Hospital may underestimate its frequency. (1). The prevalence of such fistulae reflects upon the frequency of cephalo-pelvic disproportion. At the Kenyatta National Hospital an average true conjugated of less than 9 cm in 33 women with vesico-vaginal fistulae has been reported (1).

VVF may arise either as a result of pressure necrosis of the bladder neck, in which case the fistula develops about a week after delivery when the slough separates, or it may be directly caused by laceration with instruments or, in the operation of cranioclasm, by the jagged ends of skull bones. In developing countries women, usually fit young primigravida, labour for many hours at home, health centres or dispensaries, labour often terminating with a stillbirth and a fistula. Our patient was young, (17 years old), was a primigravida at the time of developing a fistula, which she developed following obstructed labour and labour terminated with a stillbirth. This is the typical presentation.

The diagnosis of VVF is not difficult. The larger fistulae can either be seen, or felt with the finger, but the instillation of methylene blue dye into the bladder may help to reveal very small lesions. Treatment is mainly surgical. Success rates vary with the different types and sizes of fistula and with surgical skill. Cure rates varying from

63% to 92.3% have been reported (2).

An important complication related to fistulae is infertility and secondary amenorrhoea. Some women experience a return of menstrual function following successful repair of VVF. In this patient the VVF was successfully repaired. She recovered her menstrual function and eventually achieved a pregnancy.

Previous injuries to the bladder, particularly Vesico-vaginal fistulae of obstetric origin which have been successfully treated demand Caesarean section rather than the risk of repeating this calamity (3), since most are secondary to obstructed labour due to cephalo-pelvic disproportion. Repeated vaginal deliveries cause larger fistulae and more extensive tissue fibrosis whose repair will be a lot more difficult. This factor, coupled with secondary amenorrhoea and infertility certainly justifies delivery by Caesarean section. It is our practice at the Kenyatta Hospital to deliver these mothers abdominally as happened in this case.

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CASE No. 9TWIN PREGNANCY - VAGINAL DELIVERY

NAME : J. W.
 UNIT : 472085
 AGE : 35 YEARS
 TRIBE : KIKUYU
 PARITY : 6 + 1
 L. D. : 1979
 L. M. P. : 14.4.81
 E. D. D. : 21.1.82
 D.O. A. : 10.1.82
 D.O.D. : 12.1.82

CASE HISTORY

This 35 years old patient was admitted via the Casualty on 10.1.82 with a history of labour pains for 4 hours. She had not drained liquor and there was no history of vaginal bleeding. She had attended antenatal care at Wangige where a diagnosis of twin pregnancy was made. She had been advised to come to Kenyatta National Hospital when labour begins.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 6 + 1. She aborted in 1972 at 2 months and uterine evacuation was done at Nazareth Hospital. She had her last delivery in 1979 at Pumwani Maternity Hospital to a female baby by normal spontaneous vertex delivery. All her babies were alive and well.

Menarche was at 15 years of age. She had normal periods lasting 4 days and coming every 30 days. She had not been on any contraceptive method.

FAMILY AND SOCIAL HISTORY

She was a housewife married to a businessman. She had a twin sister who was well. There was no family history of diabetes, tuberculosis or hypertension. She did not smoke or drink alcohol. She was educated up to Standard 4,

PHYSICAL EXAMINATION

She was in good general condition. There was no clinical evidence of anaemia or jaundice and she did not have oedema. Cardiovascular, central nervous and respiratory systems were normal. Blood pressure was 120/80 mm Hg and the pulse rate 80/min.

The abdomen was greatly distended with a uterine size corresponding to a term pregnancy. She was contracting 2 in 10 minutes lasting 30 seconds. Foetal heart tones were heard at 140 beats per minute and regular. Multiple poles were palpable. One cephalic was palpated and was 3/5 above the pelvic brim. Another cephalic was balloted at the fundus.

PELVIC EXAMINATION

External genitalia and vagina were normal. The cervix was fully effaced and the Os was 6 cm dilated. Membranes were intact and there was no cord presenting. The sacral promontory was not reached and the ischial spines were not prominent. The outlet was adequate.

Artificial rupture of membranes was done and clear liquor obtained. The position of the presenting part was determined and found to be left occiput anterior and there was no caput or moulding.

DIAGNOSIS

A diagnosis of twin pregnancy, 1st twin cephalic and the second breech, in established labour was made.

LABOUR AND DELIVERY

She was admitted into the labour ward and placed in the left lateral position. Blood was drawn for grouping and cross matching and an intravenous drip of 5% dextrose solution started. Labour progressed well and contractions increased to 3 in 10 minutes lasting 40 seconds. At 9.40 p.m. she felt like bearing down and she was transferred to the delivery room. In the lithotomy position with her legs in stirrups, vulvagenital toilet and bladder catheterisation were done. She was then draped and examined. The presenting part was distending the perineum and the mother was encouraged to bear down. At 9.47 p.m. she achieved delivery of the first baby in the usual manner. The cord was divided between clamps and the baby handed over to the paediatrician. The uterus was now stabilised by an assistant. A vaginal examination was done and the second twin found to be in complete breech presentation. The membranes were bulging. Foetal heart rate was 140 per minute and regular. A contraction was stimulated by the assistant by massaging the uterus. Artificial rupture of membranes was done and clear liquor was obtained. There was no cord presenting

and with the mother bearing down, the breech descended well and distended the perineum. An episiotomy was now done and during the next contraction the mother was requested to bear down. Delivery of the legs and trunk was achieved and the cord was visualised and found to be pulsating. The baby descended with the next contraction and the scapula was seen. Both shoulders were now delivered by gentle rotation first to the right and then to the left. The arms were flexed across the chest and were delivered by applying gentle pressure to the antecubital fossae (Lovset manouvre). The after coming head was now delivered by the Mauriceau - Smellie-Viet manouvre. With the left hand supporting the foetal chest and the middle finger on the jaw and the right hand on the foetal back fingers on the shoulders, complete flexion of the head was achieved and gentle downward traction applied. The trunk was then extended through 180° and the head delivered by gentle traction. The cord was then clamped and divided between clamps. Ergometrine 0.5mg IV. was given.

The placenta was now delivered by controlled cord traction. The uterus contracted well and inspection did not reveal any cervical lacerations. The episiotomy was then sutured in layers. Delivery of the second twin took place some 13 minutes after that of the first. Both babies were males, weighing 3350 grams and 2810 grams respectively. Apgar scores for both babies were 9 at 1 minutes and 10 at 5 minutes. The placenta was dichorionic diamniotic and weighed 1070 grams.

Postdelivery observations were normal. and the haemoglobin was 11.0 g/dl. The mother and babies were discharged on 12.1.82. The mother declined to have a tubal ligation done.

POST NATAL CLINIC

The patient attended postnatal clinic 6 weeks after delivery. The uterus had involuted and the mother had no complaints. Both babies were well and breastfeeding. She wanted injectable hormonal contraception and she was referred to the Family Welfare Centre.

It has been said to be unpredictable, those produced from separate ova being dizygotic. Factors influencing the dizygotic twinning rate include maternal age, parity and positive family history. Dizygotic pregnancy is unpredictable. Slightly more than 10% of twinning are monozygotic; nearly 70% are dizygotic. Women who have had treatment of ovulation with drugs such as clomiphene citrate and human pituitary gonadotrophins have higher chances of multiple pregnancy (2). This patient had a family history of twinning and delivered dizygotic twins.

Twinning is associated with greatly increased perinatal mortality and morbidity rates and an early diagnosis of multiple pregnancy significantly alters the perinatal mortality. Twinning is suggested by a relatively large uterus for dates, greater-than-expected maternal weight gain, increased fetal activity, multiplicity of fetal parts, palpation of three fetal poles and more than one fetal heartbeat. When diagnosis is in doubt, multiple pregnancy may be confirmed by demonstration of two foetal electrocardiographic complexes. Ultrasonography is useful. It has the advantage of being used early in pregnancy, identifying out placenta praevia, 2 or more foetuses may be demonstrated by sonography after 24 weeks. This has the advantage of picking out skeletal abnormalities, confirming the presentation and picking out placenta praevia (3,4,5). At King's College Hospital only 10% were correctly diagnosed as twin pregnancies at delivery.

COMMENT

The incidence of multiple pregnancy varies from population to population. It is higher in Blacks, least common in Orientals, and of intermediate occurrence in whites. At the Kenyatta National Hospital an incidence of 17/1000 was found (1). Twins produced from a single ovum are said to be monozygotic, those produced from separate ova being dizygotic. Factors influencing the dizygotic twinning rate include race, maternal age, parity and positive family history whereas monozygotic pregnancy is unpredictable. Slightly more than 30% of twins are monozygotic; nearly 70% are dizygotic, Women who have had induction of ovulation with drugs such as Clomiphene citrate and human pituitary gonadotrophins have higher chances of multiple pregnancy (2). This patient had a family history of twinning and delivered dizygotic twins.

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term (1) which is regrettable because much can be done for the mother and offspring if treatment is given early. A diagnosis of twin pregnancy in this patient had been made during the antepartum period but she presented to us for the first time in labour. Diagnosis was made on clinical grounds.

Twin pregnancy is a high-risk pregnancy because of the increased frequency of maternal anaemia, preeclampsia-eclampsia, haemorrhage (before, during, and after delivery), and uterine inertia. The foetus is jeopardized by the frequency of premature delivery, abnormal presentation and position, and hydramnios. During the antenatal period, these mothers should be observed carefully and any of the above complications treated promptly and vigorously. Twins should not be allowed to go beyond term (3) because they run the risk of placental insufficiency. Induction of labour should be as that of singletons. Twin pregnancy itself is not an indication for Caesarean section which should be done only for accepted reasons.

Care must be taken during delivery of twins. The first twin is especially threatened by prolapse of the cord. The second twin may be harmed by premature separation of the placenta, hypoxia, constriction or ring dystocia, operative manipulation, or prolonged anaesthesia. It is generally accepted that the second twin is attended by a much higher risk of perinatal mortality. An assistant, scrubbed, gowned, and gloved, should always be present at the delivery of a patient with twin pregnancy. Within minutes after birth of the first twin, the second twin should be brought into longitudinal presentation, preferably cephalic, by abdominovaginal manipulation. If the second twin cannot be brought in easily as a cephalic, breech delivery is planned. This patient presented

with a breech second twin and no complications were encountered during delivery. Since these patients are bound to develop postpartum haemorrhage, third stage must be managed actively as was done in this patient.

University of Toronto, 1979.

The management of twin pregnancy, therefore, requires early diagnosis, adequate antenatal care and delivery by an experienced person.

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CASE No. 10TRIAL OF SCAR - VAGINAL DELIVERY

NAME : J. G. N.
 UNIT : 472482
 AGE : 24 YEARS
 TRIBE : KIKUYU
 PARITY : 1 + 0
 L. D. : 1979
 L. M. P. : 10.4.81
 E. D. D. : 17.1.82
 ADMISSION : 6.1.82
 DISCHARGE : 7.1.82

CASE HISTORY

The patient was admitted from home with complaints of labour pains and backache for a duration of four hours. She did not give any history of drainage of liquor or vaginal bleeding.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 1 + 0. Her last delivery was in 1979 by caesarean section due to foetal distress. She had menarche at 15 years. Her menstrual periods lasted 4 days coming every 28-30 days.

PAST MEDICAL HISTORY

Not contributory.

PHYSICAL EXAMINATION

She was in satisfactory general condition. Clinically she was not anaemic or jaundiced. There was no oedema. Her blood pressure was 110/60 mm Hg and a pulse rate of 80 per minute, regular and good volume. The cardiovascular, respiratory and central nervous systems were normal.

The abdomen was uniformly distended and the uterine size corresponded to a term pregnancy. A lower midline scar was noted. The foetus was in longitudinal lie with cephalic presenting 4/5 above the pelvic brim. Foetal heart tones were heard at 140 per minute and regular. She was having one contraction in 10 minutes lasting 30 seconds. The liver and spleen were not enlarged.

PELVIC EXAMINATION

The external genitalia were normal. The cervix was 75% effaced and 3 cm dilated. The membranes were intact and there was no vaginal bleeding. Artificial rupture of membranes was done and clear liquor was obtained. There was no cord, caput or moulding. The position was right accipitoanterior.

DIAGNOSIS AND MANAGEMENT

A diagnosis of 1st stage labour in a patient with a previous caesarean section scar was made and she was for trial of scar.

A blood sample was taken for cross-matching and an intravenous drip of 5% dextrose set up. Labour was monitored and findings recorded on the partogram.

4 hours after admission she was reviewed. She was getting 3 contractions in 10 minutes lasting 20-40 seconds and 2/5 of the head

a cervix that was 7 cm dilated and well applied to the presenting part. There was no caput or moulding and there was no vaginal bleeding.

Two hours later the patient was noted to be bearing down. She was taken to the delivery room and second stage was confirmed by vaginal examination. She had a normal vaginal delivery to a female baby weighing 3080 grams. The APGAR score was 8 at 1 minute and 10 at 5 minutes. Ergometrine was given at the birth of the anterior shoulder. The placenta was delivered by controlled cord traction and weighed 680 grams. Blood loss was estimated at 300 mls.

EXPLORATION OF SCAR

Pethidine 50 mg and diazepam 10 mg were administered intravenously. While the left hand supported the uterus, the lower uterine segment was explored using the index and middle fingers of the right hand. The uterus was well contracted and was found to be intact.

The patient was observed in the labour ward for 6 hours and vital signs were found to be stable. On 7.1.82 the mother and baby were well and both were discharged to the postnatal clinic in 6 weeks.

POSTNATAL CLINIC

The patient attended as requested. She had no complaints. The uterus was involuted. The baby was breastfeeding. She requested the oral contraceptive and she was discharged to the Family Planning Clinic.

COMMENT

The old saying "once a Caesarean always a Caesarean" no longer holds true and today a more up-to-date version of the old saying would be "twice a Caesarean always a Caesarean" (1).

The indication for Caesarean Section have changed considerably in recent times. In the past Caesarean section was done for contracted pelves but today indications include foetal distress, prolonged labour and many others. There has therefore, been an increase in Caesarean section rates. In Nairobi the Caesarean section rate varies from 17.1% at the Kenyatta National Hospital to 4.4% at the Pumwani Maternity Hospital (2).

Under favourable circumstances, a repeat Caesarean section may not be necessary. It is therefore important to select carefully, from amongst those women who were delivered by Caesarean section for a non-recurrent indication, those that can be delivered vaginally. The established criteria is followed at the K. N. H. (3)

- only one lower uterine segment scar
- true conjugate of 10.5 cm or more on radiological assessment
- no other obstetric complications such as breech, multiple pregnancy, malpresentation, grandmultiparity and others.

Using the above criteria, 73.9% had a successful trial of scar at KNH (3). Our patient satisfied the above criteria for trial of scar and achieved a vaginal delivery.

Once a decision for trial of scar is made, labour is allowed to commence spontaneously. It is thereafter monitored closely in a hospital

where operative facilities are available. A blood transfusion service must also be available. Caesarean section must however, be performed should any complication arise. These complications include failure of labour to progress, maternal tachycardia or vaginal bleeding. Exploration is mandatory to ascertain the integrity of the lower segment. In this patient exploration revealed an intact lower segment.

In conclusion, repeat Caesarean section in all cases of one previous scar is not justified and patients should be selected carefully for trial of scar. Labour should be monitored closely and in those cases where the progress is poor or complications arise, caesarean section must be performed promptly.

J. Wilton, B. M.

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S. Afr. Med. J. 55 : 1, 1978

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E. Afr. Med. J. 55 : 1, 1978

Gynaecological and Obstetrical History

She attained menarche at 15 years. Her menstrual periods were regular and lasted 4 days, coming every 28 days. Her last menstrual period was on 15.8.82 and there was no history of contraceptive use.

CASE No. 11

PREECLAMPSIA IN PREGNANCY - TRANSIENT LOSS OF SIGHT.

NAME : J.A.O.
 AGE : 21 YEARS
 TRIBE : LUO
 PARITY : 1 + 0
 UNIT : 555945
 L M P : 15.8.82
 E D D : 22.5.83
 DATE OF ADMISSION : 5.5.83
 DATE OF DISCHARGE : 11.5.83

CASE HISTORY

This 21 year old female was admitted to Kenyatta National Hospital through the Casualty Department on 5.5.83 with a one day history of loss of sight, headache and vomiting. She had attended antenatal clinic at Gichuru where she had been booked at 16 weeks gestation and had attended 6 times. The antenatal follow-up was uneventful. She remained normotensive throughout this period and urinalysis was normal. On several occasions she was treated at the Kenyatta Hospital casualty on outpatient basis mainly for lower abdominal pains for which analgesics were prescribed.

OBSTETRICS AND GYNAECOLOGICAL HISTORY

She attained menarche at 15 years. Her menstrual periods were regular and lasted 4 days, coming every 28 days. Her last menstrual period was on 15.8.82 and there was no history of contraceptive use.

She was para 1 + 0 having delivered in 1981 to a term male baby by spontaneous vertex delivery. During the previous pregnancy she did not experience any complications.

MEDICAL AND SOCIAL HISTORY

She was a married housewife who did not smoke or drink alcohol. There was no family history of diabetes, hypertension or twinning.

PHYSICAL EXAMINATION.

On admission she was noted to be in fair general condition. She had no pallor, jaundice or lymphnode enlargement, and she was afebrile. She had mild bilateral pitting oedema of the legs. The blood pressure at casualty was 150/110 mm Hg which was confirmed on admission into labour ward. The pulse rate was 80 per minute and urinalysis showed albuminuria 3+.

The respiratory system was essentially normal. Apart from the raised blood pressure the cardiovascular system was normal.

The uterine size corresponded to a gestation of 38 weeks and a single foetus in longitudinal lie with cephalic presentation, 5/5 above the pelvic brim was palpated. Foetal heart tones were 140 per minute and regular and one uterine contraction in 10 minutes lasting 30 seconds was palpated. Liver and spleen were not enlarged.

PELVIC EXAMINATION

The external genitalia and vagina were normal. The cervix was soft, 50% effaced and 4 cm dilated. Membranes were intact and cord was not palpated. The pelvis was clinically adequate.

OPHTHALMOLOGICAL EXAMINATION

Pupils were equal bilaterally and reacting to light. Fundoscopy was not done at this stage.

DIAGNOSIS

A diagnosis of pre-eclampsia with loss of sight was made and the patient was admitted into the acute ward for management.

MANAGEMENT

The patient was given intravenous bolus doses of hydralazine and diazepam, 20 mg respectively and a hydralazine infusion 40 mg in 500 mls of 5% dextrose solution was started, to be titrated against the level of blood pressure. Blood samples were taken for urea and electrolytes. Artificial rupture of membranes was done. Clear liquor was drained. There was no cord prolapse and the position was left occipitoanterior. There was no caput or moulding.

Urgent ophthalmological consultation was sought. There was bilateral ocular motility; cornea, conjunctiva and anterior chamber were normal. Pupils had a poorly sustained weak reaction to light, were round and not dilated or miosed. The lens was clear. The pupils were then dilated with homatropine to enable fundoscopy.

FUNDOSCOPY

Retinal discs were normal. There was generalised retinal oedema with oedematous maculae. Specific viewing of vessels was difficult due to the patient being restless. An ophthalmological impression of retinal oedema with no detachment was made.

FURTHER MANAGEMENT

The plan of management at this stage was to continue antihypertensives and sedation and to allow labour to proceed normally.

Contractions increased to 3 in 10 minutes and the foetal heart remained stable at 140 beats per minute. Blood pressure was maintained at diastolic 90-100 mm Hg by titrating the hydralazine drip. Sedation with diazepam 10 mg every 8 hours intramuscularly was continued. The head descended and after 3 hours it was $3/5$ above the pelvic brim. The cervix had dilated to 7 cm. 4 hours later, the head had completely descended and the cervix was fully dilated. The patient was now transferred to the delivery room.

Vacuum extraction was performed as described earlier and a male baby with APGAR score 9 at one minute and 10 at 5 minutes was delivered. The birth weight was 2600 grams. The placenta was delivered by controlled cord traction. Blood loss was estimated at 150 mls and ergometrine was not given.

Post delivery, hydralazine drip was continued for 24 hours and oral hydralazine 25 mg twice daily was started. Diazepam was converted to oral, 10 mg thrice daily. Urine output for the first 24 hours was 1350 mls and improved to 2000 mls on the 2nd day. The blood pressure remained stable after the fourth day and sedation was discontinued. By the 5th day, the patient had recovered vision fully and she was discharged on 6th day to attend renal clinic as well as the post natal clinic.

RESULTS OF INVESTIGATIONS

1. Urea and electrolytes :

Sodium : 135 mmol/litre
Potassium : 4.5 mmol/litre
EUN : 4.3 mmol/litre

2. Urinalysis : Proteinuria 3+

3. Esbach not set

4. Repeat urea and electrolytes: results not made available.

FOLLOW - UP

The patient did not attend any of the appointments and she was lost to followup.

COMMENT

Hypertension noted in pregnant patients may be a manifestation of either a preexisting hypertensive disease or a hypertensive disorder induced by or dependent on the pregnancy. Pregnancy induced hypertensive states have for many decades been called toxæmias of pregnancy. The term toxæmia is an unfortunate misnomer because it implies that a toxin circulating in the blood is the cause of these disorders, as was originally thought to be the case, but it no longer carries this implication.

Pre-eclampsia is defined as the development of hypertension, proteinuria and oedema after the 20th week of pregnancy though it may develop earlier in cases of hydatidiform mole or multiple pregnancy. If pre-eclampsia progresses unchecked, generalised convulsions occur and this is termed eclampsia. In Nairobi, incidence of hypertensive disease in pregnancy has been reported as 10.3% (1), whereas at the Kenyatta National Hospital, the maternal mortality attributable to hypertensive disease in pregnancy is 3% (2).

The aetiology of pre-eclampsia is not known. Present evidence seems to indicate that alterations in maternal - foetal immunological interaction, maternal vascular reactivity and maternal disorders of coagulation may each play a part in the aetiology of pre-eclampsia. At present no mechanism which links these three major aspects of the aetiology of preeclampsia is apparent and it is possible that pre-eclampsia represents a different disease state in different individuals. One of the major features of the syndrome, however, appears to be the alteration occurring in vascular endothelium which is

susceptible to damage by immunological mechanisms, altered coagulation and vaso-active agents, thus possibly providing a key to the aetiology of this complex syndrome (3).

Preeclampsia is predominantly a disease of primigravid patients, especially young primigravidae. When pre-eclampsia affects multiparous patients it is usually superimposed upon hypertension, or less often, is associated with twin pregnancies, hydatidiform mole and diabetes. Our patient was young, para 1 + 0 and did not have any of the above associated conditions.

The objectives of the treatment of preeclampsia are :

1. to prevent eclampsia
2. to reduce vasospasm
3. to avoid vascular accidents - central nervous system, renal, Ophthalmic.
4. to ensure delivery of a normal live baby.

Preeclampsia is to some extent a preventable disease. Careful antenatal supervision is important in that the warnings of the disease and its early physical signs will be noticed.

Fulminating pre-eclampsia exists when the following are present: headache, visual disturbances, restlessness and agitation, epigastric discomfort, nausea and vomiting and indicative of impending eclampsia. Our patient presented with loss of sight, headache and vomiting, fitting into the above picture. Rapid deterioration of pre-eclampsia, or fulminating pre-eclampsia appearing over a short time, calls for urgent and effective management. In this patient this was achieved by sedation with diazepam in order to reduce the likelihood of fits.

Adequate sedation may also be achieved by administering chlormethiazole (Heminevrin), a drug which is commonly used in our unit. Hypertension was controlled with hydralazine which has the advantage of increasing cardiac output, renal and cerebral perfusion and lowering the blood pressure by decreasing peripheral resistance. It is our practice to use 40 mg hydralazine in 500 mls. of 5% dextrose infusion and titrate against blood pressure levels (4).

The use of diuretics is questionable and usually not indicated as there is intravascular depletion. In a patient with symptoms due to pronounced leg oedema, short term therapy with diuretics may, however, be effective in relieving discomfort (5). Oliguria must be corrected by adequate hydration and a central venous catheter may be used for monitoring fluid input. Urine output must be monitored meticulously and in acute renal failure fluids should not exceed 500 mls.

In patients with fulminating pre-eclampsia delivery must be achieved as soon as a satisfactory state of sedation is achieved and blood pressure levels come down. Our patient was already in labour and this was allowed to progress. The second stage should be assisted by vacuum extraction or forceps. In this patient a vacuum extractor was used.

Foetal complications in babies of pre-eclamptic mothers are intrauterine death, poor intra-uterine growth associated with placental insufficiency, immaturity and prematurity, brain damage eg. cerebral palsy and side effects of hypotensive drugs. The baby in this case did not develop any of these complications.

Our patient had loss of sight as one of the presenting complaints.

Retinal detachment is one of the most dramatic and potentially serious ocular complications of preeclampsia. Fortunately, this is usually completely reversible, and normal vision should return in 3 weeks or less (6). Our patient did not develop retinal detachment and she recovered sight fully by the 5th postdelivery day.

Finally the recurrence of preeclampsia in a subsequent pregnancy is rare. If hypertension or renal damage persists or is diagnosed in a subsequent pregnancy, it probably is the result of a preexisting underlying vascular or renal disorder, not the episode of preeclampsia. The only continuing factor seems to be a hereditary predisposition to pre-eclampsia in daughters of women who have had the disorder.

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Ed. Benson, R.C.
Lange Medical Publications, California.

CASE No. 12

ANTEPARTUM HAEMORRHAGE : PLACENTA PRAEVIA TYPE IV :

CAESAREAN SECTION

NAME : M. K.
 UNIT : 603992
 AGE : 29 YEARS
 PARITY : 2 + 1
 TRIBE : KIKUYU
 L M P : 12.10.83
 E D D : 17. 7.84
 ADMISSION : 14. 6.84
 DISCHARGE : 10. 7.84

CASE HISTORY

This 29 year old patient was admitted through casualty on 24.6.84 with a history of painless vaginal bleeding for a duration of about 4 hours. She did not complain of drainage of liquor or lower abdominal pains.

PAST OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She had menarche at 13 years. The periods were initially irregular and painless but became regular by the age of 15 years. Menses lasted 3 days every 28 days. She had not been on contraception.

She was para 2 + 1. Both deliveries were by spontaneous vertex, the last delivery being in 1982. The children were alive and well.

She had an abortion at 3 months gestation and evacuation of the uterus was done in 1980. Her last menstrual period was on 12.10.83 giving a maturity of 35⁺ weeks. She attended antenatal clinic at Wangige.

PAST MEDICAL HISTORY

Not contributory

SOCIAL AND FAMILY HISTORY

She was a married housewife. Her husband worked for the Nairobi City Council.

PHYSICAL EXAMINATION.

She was in good general condition. There was no clinical evidence of anaemia. She was afebrile and there was no oedema. Her pulse was 80 beats per minute, regular and good volume. The blood pressure was 100/60 mm Hg.

The cardiovascular and respiratory systems were essentially normal.

The abdomen was uniformly distended and there were no areas of tenderness. The uterine size corresponded to 36 weeks. The lie was longitudinal with cephalic presenting and foetal heart tones were heard at 140 beats per minute and regular. No uterine contractions were observed.

PELCIC EXAMINATION

The pad was slightly blood stained. External genitalia appeared normal. Speculum examination revealed a normal vagina. The cervix was visualised and the Os was closed. There was some blood seen oozing through the cervical Os. There was no evidence of any local trauma.

Digital examination was not done.

DIAGNOSIS

A diagnosis of antepartum haemorrhage at 35 weeks gestation was made since the bleeding was painless and there was no abdominal tenderness or any local lesions of the lower genital tract.

MANAGEMENT

The patient was admitted to the labour ward. A blood sample was taken for cross-matching and an intravenous infusion line set up. 15 mg of morphine was given intramuscularly and oral sedation with phenobarbitone 30 mg 8 hourly started vital signs and foetal heart rate were monitored every half-hourly. 14 hours after admission there was no more active bleeding and she was transferred to the wards for bed rest, observations and further management. An ultrasound was also planned for as soon as she stabilised.

INVESTIGATIONS

1. Haemogram : Haemoglobin : 11.3 gm/dl
PCV : 34.3%
2. Blood group : A Rhesus positive:
3. Serology : Negative
4. MSSU : No growth. No protein, no sugar.
5. Ultrasound report:

Single foetus, cephalic presentation

Placenta anterior and covering the internal Os

Biparietal diameter corresponds to a gestation of 36 weeks

A diagnosis of antenatal haemorrhage due to placenta praevia type IV was made.

Conservative management was continued in the ward. Amniocentesis was planned for at 38 weeks gestation. After a positive surfactant test, she was to undergo examination under anaesthesia and delivery.

Her condition remained stable and no further vaginal bleeding occurred. At 38 completed weeks, amniocentesis was done under aseptic conditions. The foetal back was palpated and a pool of liquor identified in the para umbilical region. Clear liquor was obtained and sent for surfactant test. The foetal heart tones remained 140 per minute and regular. The result of surfactant test was positive in 1:1 and 1:2 dilutions and the patient was prepared for E.U.A. Blood was made available.

EXAMINATION UNDER ANAESTHESIA AND CAESAREAN SECTION.

A double set-up was prepared in theatre. Anaesthesia was induced and the patient placed in lithotomy position. Bladder catheterisation was done and a Sim's speculum gently introduced. The cervix was closed and there was no bleeding noted. 2 fingers were now gently introduced into the posterior fornix then laterally and anteriorly in turn. The presenting part was stabilised abdominally using the left hand. A boggy mass was palpated in all the fornices in between the presenting part and examining fingers. A diagnosis of placenta praevia type IV was made. For fear of precipitating haemorrhage, no attempt to insert a finger into the cervical canal was made.

The abdomen was prepared in the usual manner and a routine lower segment Caesarean section done as described in the introduction.

Placenta was encountered in the lower uterine segment and was incised and a female baby delivered by the cephalic. 0.5 mg ergometrine was given intravenously at the birth of the anterior shoulder and the placenta removed manually. It was found to be occupying the lower segment and obliterating the cervical Os. Some bleeding from the placental site was observed and several haemostatic sutures were applied and haemostasis achieved. Routine closure of the uterus and the abdomen was then done. The female baby weighed 3690 grams and scored 9 at 1 minute and 10 at 5 minutes. The placenta was complete and weighed 830 grams. Blood loss was estimated at 1000 mls.

The patient recovered well from anaesthesia. Routine postoperative management was done and she was transfused 2 pints of blood. On the second postoperative day, bowel sounds were present and she was started on oral fluids. Postoperative check haemoglobin was 11 gm/dl. The postoperative period was uneventful and stitches were removed on the 7th day. The wound had healed well.

The mother and baby were discharged home to come to the postnatal clinic after 6 weeks.

POSTNATAL CLINIC

She was seen at the postnatal clinic 6 weeks after discharge. She was breastfeeding and the baby was well.

The uterus was well involuted. The adnexae were free and she had no vaginal bleeding. She had not resumed menstrual function. She opted for oral contraception and was referred to the Family Welfare clinic.

COMMENT

Antepartum haemorrhage (APH) is defined as bleeding from genital tract after the 28th week.

Haemorrhage may be due to placental separation (placenta praevia or abruptio), local nonobstetric abnormalities of the lower birth canal, and indeterminate causes. Also, blood dyscrasias can contribute to either obstetric, nonobstetric or indeterminate haemorrhage (1).

The incidence of APH varies from place to place. In Nairobi APH was found to complicate 1.9% of pregnancies (2). Several factors including high parity, advanced age, large placental surface multiple gestation and tumours of the uterus are said to be associated with APH. Bleeding in our patient was due to a low-lying placenta and none of the above factors seemed to be associated.

In placenta praevia, the placenta is implanted wholly or partly in the lower uterine segment. Four degrees of the abnormality, namely placenta praevia type I to type IV are described. In cases of placenta praevia, the lower segment stretches and the cervix is taken up thereby predisposing to haemorrhage.

The diagnosis of placenta praevia is usually made from the typical history of sudden, painless, profuse bleeding and the finding of a soft, non-tender uterus, as was the case in this patient. Placenta praevia is also commonly associated with malpresentation which was not found in this case. A carefully performed speculum examination to rule out local causes of bleeding carries almost no risk of provoking further haemorrhage. This was done in our patient and blood was found to trickle through the cervical Os and further haemorrhage was not provoked.

Sonography is a safe and satisfactory method of placental localisation and an accuracy of 93% has been reported in experienced hands (3). Soft tissue placentography is reported to have an accuracy of 85% but at Kenyatta National Hospital a false negative rate of 30% was reported (4). Other methods of placental location are radioisotope localisation, amniography or arteriography. In our patient, placental localisation was done by using ultrasonography.

Management of placenta praevia is conservative. Delivery is only indicated if life threatening haemorrhage occurs, if there is premature labour or when the baby attains 38 weeks gestation and foetal maturity is confirmed by surfactant test. EUA is then done and Caesarean section performed for placenta praevia type II posterior, III and IV. In our unit vaginal delivery is allowed for placenta praevia type I and type II anterior. This patient had a major degree of placenta praevia (type IV) and Caesarean section was indicated.

During Caesarean section, if the placenta is encountered in the lower uterine segment, it is advisable to cut through it and deliver the baby as quickly as possible since going round the placenta causes it to separate and thereby jeopardise the baby.

Expectant therapy with liberal use of Caesarean section has considerably reduced foetal and maternal mortality but placenta praevia remains a dangerous complication which can be potentially lethal.

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CASE No, 13BREECH PRESENTATION -VAGINAL BREECH DELIVERY.

NAME : J. W.
 UNIT : 562730
 PARITY : 6 + 1
 AGE : 40 YEARS
 L M P : 26.10.82
 E D.D : 2. 8. 83
 ADMISSION : 22.7. 83
 DISCHARGE : 23.7. 82

CASE HISTORY

This 40 year old patient was admitted through Casualty department with a history of labour pains for 7 hours. She had ruptured membranes. at about the same time she went into labour. She was at a gestation of 38 weeks.

OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche was at 15 years. Her menstrual cycles were regular, flow lasting for 4 days and coming every 30 days. She had an abortion in 1960 at a gestation of 6 months. Evacuation of the uterus was not done.

All her babies were born spontaneous vertex and were alive and well. She had not attended antenatal care for this pregnancy.

SOCIAL AND MEDICAL HISTORY

She was single and lived in Mathare Valley. There was no history of any medical illness.

PHYSICAL EXAMINATION

She was in good general condition. Clinically there was no evidence of anaemia, jaundice or lymphadenopathy. Blood pressure was 110/70 mm Hg, pulse rate 80 per minute and regular. Cardiovascular and respiratory systems were essentially normal.

There was globular distension of the abdomen corresponding to 38 weeks gestation. The lie was longitudinal and presentation breech which was engaged at the pelvic brim. 3 contractions in 10 minutes lasting 30 seconds were palpated. Foetal heart tones were heard, 140 per minutes and regular.

PELVIC EXAMINATION

The external genitalia were normal and clear liquor was draining. The cervix was 6 cm dilated and fully effaced. It was well applied to the presenting part. The presentation was by breech which was complete and in full flexion at the hips and knees. The position was left sacroanterior. Clinically the pelvis was roomy.

MANAGEMENT

Blood was taken for cross-matching and pethidine 100 mg intramuscularly given for relief of pain. She was nursed in the left lateral position and all observations were recorded on the partogram. 3 hours after admission, she felt like bearing down. Examination

revealed the breech at the introitus. She was now transferred to the second stage room for delivery.

ASSISTED BREECH DELIVERY

The patient was placed in lithotomy position. Vulval toilet was done and she was draped. The cervix was fully dilated. Bladder was catheterised and a left mediolateral episiotomy performed after infiltrating the perineum with local procaine hydrochloride. The patient was encouraged to bear down and during the next contraction the buttocks were delivered together with the flexed legs. The baby descended and the umbilicus was now born. A loop of cord was brought down and found to be pulsating. The baby was grasped at the pelvic girdle with a sterile towel. During the next contraction the baby was lifted slightly to cause lateral flexion and then rotated through 180° thereby causing the posterior scapula to become anterior. The anterior shoulder was delivered followed by delivery of the posterior shoulder - Lovset's Manouvre. The arms were now flexed across the chest of the baby and the head delivered by the Mauriceau- Smellie - Veit technique. The middle finger of the left hand was placed on the babies suboccipital region and the ring and index fingers of the left hand placed over the shoulders. The baby's trunk was made to lie on the right arm and the middle finger placed in the mouth and another on the malar bone. Flexion was maintained with the right hand, traction applied just downwards and backwards then forwards in an arch and delivery of the head achieved. The baby's face and mouth were wiped by an assistant and the cord clamped and cut.

The placenta was now delivered by controlled cord traction and

was complete. Ergometrine was given and the uterus contracted well, Cervix and vagina were then explored and no tears were noted. The episiotomy was sutured.

The baby was male and scored 8 at 1 minute and 10 at 5 minutes. He weighed 3230 grams. On 23.7.83 the mother and baby were discharged home in good general condition. She refused to have sterilisation done.

POSTNATAL CLINIC

She did not come to the postnatal clinic.

COMMENT

A breech presentation is one in which the caudal pole of the foetus is the presenting part. Three types of breech are described i.e. frank breech when thighs are acutely flexed and the legs extended upward along the anterior aspect of the baby's trunk; full or complete breech when thighs are flexed on the abdomen but the knees are also flexed so that the baby assumes a cross-legged sitting posture; and footling or incomplete breech where one or both feet are lowermost, designated, respectively, as single or double footling breech.

In Nairobi the incidence of breech presentation is 2.7% (1). Breech presentation is more common in prematurity. Between 30 and 40% of singletons present by breech between 20-25 weeks and 15% at 32 weeks, but by week 34 most have undergone spontaneous version to a head presentation (2).

Other conditions which favour breech presentation include multiple pregnancy, poly hydramnios, advanced multiparity, placenta praevia, foetal abnormalities, uterine malformations and pelvic tumours. Our patient was highly parous and this could have been a contributing factor.

There are no symptoms that may lead one to suspect breech presentation, nor are there any characteristic signs on inspection. Nonetheless, a breech presentation may be confirmed in the following ways: Palpation revealing the hard, round, ballotable head occupying the funds uteri; foetal heart tones which are best heard over the back or above the level of the umbilicus; vaginal examination reveals a presenting part that is irregular and lacks the hard, rounded symmetry of vertex presentation, X-ray pelvimetry will confirm a breech presentation and also provide the information needed to complete the diagnosis i.e. the size and attitude of

the baby, the position of the legs, and the type and size of maternal pelvis, ultrasonography which will also exclude placenta praevia and multiple pregnancy and will estimate the biparietal diameter of the head in breech presentation. The diagnosis of breech presentation in our patient was made by palpation and on vaginal examination.

Early diagnosis of breech presentation allows time for adequate assessment and delivery under optimal conditions. External cephalic version (E.C.V.) offers some hope of correcting the presentation. It is, however, contraindicated in patients with antepartum haemorrhage, multiple pregnancy, hypertensive disease, Caesarean section scars or ruptured membranes. E. C. V. has its complications such as abruption placenta, cord prolapse, premature rupture of membranes and preterm labour. A foetal mortality rate of 0.9% attributable to this procedure has been reported. (3).

Risks of breech delivery to the mother include sepsis, tears of vagina, cervix, perineum and uterus. The main risks are to the child in form of birth anoxia and trauma. The criteria by which vaginal delivery may be tried are gestation over 36 weeks, estimated weight between 2500 -3500 grams, flexed foetal head and a true conjugate of 11.5 cm (4). Our patient came in established labour, was at 38 weeks gestation and the baby felt average - sized. She was allowed a vaginal breech delivery which was successful. No complications to the mother or baby occurred.

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SOCIAL AND MEDICAL HISTORY

There was no history of any major illness. She was a housewife
and her husband was employed as a driver.

CASE No. 14BREECH WITH HYDROCEPHALUS: DECOMPRESSION AND DELIVERY

NAME : R. N.
UNIT : 662226
AGE : 30 YEARS
PARITY : 5+0
L M P : 5.5.84
E D D : 12.2.85
ADMISSION: 3.1.85
DISCHARGE: 5.1.85

CASE HISTORY

The patient was admitted into the labour ward through casualty department on 3.1.85 with a history of labour pains for 5 hours. She had not ruptured membranes and she was at a maturity of 35 weeks gestation.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

Menarche was at 15 years. She was para 5+0 and her periods had been regular. During this pregnancy she had not experienced any major problems apart from a feeling of excessive weight which she thought was normal and for which she had not attended any hospital. During her antenatal period she had not taken any drugs.

SOCIAL AND MEDICAL HISTORY

There was no history of any major illness. She was a housewife and her husband was employed as a driver.

PHYSICAL EXAMINATION

She was in satisfactory general condition. She was not pale and there was no jaundice or oedema. Temperature was 36.4°C. Her blood pressure was 110/70 mm Hg and the pulse 80 per minute and regular. Cardiovascular and respiratory systems were essentially normal.

The abdomen was grossly distended and tense. Foetal parts were not palpable and foetal heart tones were not heard. No uterine contractions were palpated.

PELVIC EXAMINATION

External genitalia and vagina were normal. The cervix was 50% effaced and 2 cm dilated. Membranes were intact and foetal parts were not felt.

DIAGNOSIS

A diagnosis of polyhydramnios due to multiple pregnancy or foetal abnormality was made and the patient was sent for a plain abdominal X-ray because ultrasonography could not be done at that time.

Abdominal X-ray report: single foetus, breech presentation with hydrocephalus. A final diagnosis of breech presentation with hydrocephalus was made and the patient admitted to the maternity ward.

On the same day she went into labour and membranes ruptured spontaneously. A lot of liquor, estimated at 1700cc drained. She was taken to the labour ward for further management.

FURTHER MANAGEMENT

In the labour ward she was put in lithotomy position and examined. She was draining clear liquor and the cervix was fully effaced and dilated 4 cm. She was then nursed in the left lateral position. Observations were recorded on the partogram. 4 hours later she was getting 3 contractions in 10 minutes lasting 30 seconds and the breech had descended. The cervix was 8 cm dilated. An hour and a half after the last examination the breech was seen to distend the perineum and she was taken to the second stage room.

DECOMPRESSION OF AFTERCOMING HEAD AND DELIVERY.

The vulva was cleaned and draped. During the next contraction the breech together with the legs were delivered followed by delivery of the trunk. There was no spina bifida. The arms were delivered and the breech left hanging. The abdomen was then cleaned and draped and palpation revealed that the whole head was above the pelvic brim. The suprapubic region was now infiltrated with local procaine hydrochloride. Foetal suture lines were palpated and a wide bore needle inserted through the suture lines via the maternal abdomen. 1500 cc of cerebrospinal fluid was drained and the foetus easily delivered after the decompression. The placenta was delivered by controlled cord traction and appeared complete. The baby was a male stillbirth which weighed 2400 gms. The placental weight was 850 gms. Cervix, vagina and perineum were explored and found intact. Blood loss was estimated at 150 mls..

The patient was observed in the labour ward and she remained stable. After 6 hours she was discharged to the wards. Blood was taken for serology and was negative.

On 5.1.85, she was discharged home and advised to consent for sterilisation and to attend the postnatal clinic after 6 weeks. Postmortem on the foetus was not done since the mother declined to give consent.

POSTNATAL CLINIC

The patient attended as requested. She did not have any complications. The uterus was well involuted. She and her husband consented to tubal ligation and she was referred to Rahimtulla Wing Clinic.

COMMENT

Hydrocephalus is a disorder due to excess of cerebrospinal fluid under pressure. It is said to occur in about 1 foetus in 2,000, accounting for about 12% of all malformations found at birth (1).

The majority of cases of congenital origin are due to a malformation of the brain causing blockage to the flow of the fluid. Some are due to blockage from bleeding following intracranial birth injury. Occasionally, intrauterine toxoplasmosis or syphilis may cause the condition and every case should be investigated from this aspect. Associated defects are common, spina bifida occurring in about one third of the cases.

Antenatal diagnosis of hydrocephaly is not difficult clinically. There is obvious disproportion between uterine size and dates. In vertex presentations abdominal palpation reveals a broad, hard mass above the symphysis; the thickness of the abdominal wall usually prevents detection of the thin, elastic, hydrocephalic cranium. In breech presentations, the diagnosis is usually overlooked until it is found that the head cannot be extracted. The incidence of hydramnios associated with foetal malformations, especially these of the central nervous system, is extremely high.

The diagnosis of hydrocephalus is confirmed by ultrasonic examination which will confirm an abnormally large biparietal diameter. On plain abdominal X-ray film, outlines of the head with the foetus in breech position may be misleading unless distortion is corrected. The mistake may be avoided by particular attention to the following criteria (2) - the hydrocephalic cranium tends to be globular, whereas the normal head is ovoid;

- the face of the hydrocephalic infant is very small in relation to the large head; and
- the shadow of the hydrocephalic cranium is often very thin or scarcely visible.

Our patient presented with a uterine size that was larger than dates, and with polyhydramnios and a diagnosis of polyhydramnios due to multiple pregnancy or foetal abnormality was entertained. The diagnosis of foetal abnormality (hydrocephalus) was confirmed roentgenologically.

Whenever the diagnosis of hydrocephalus is confirmed an appropriate form of management has to be considered. The patient should be allowed to continue with the pregnancy until it seems certain that induction of labour can be achieved successfully (3). Our patient went into labour spontaneously and the question of induction did not arise.

The progress of labour should be followed with utmost care, always considering the possibility of rupture of uterus. In cephalic presentations, drainage of excess cerebrospinal fluid is easily accomplished by simple puncture of the head with a spinal needle (4). The great advantage of this method is that it can be done early in labour when the cervix is only 3 cm dilated and the lower segment has not thinned to the point of rupture. The hydrocephalic aftercoming head of a breech presentation is ideally treated by decompression with a metal catheter through the spinal canal. Insertion of a wide bore needle through the suture lines via the maternal abdomen, is the alternative technique. This technique was used for decompression of the aftercoming head in our patient. With release of cerebrospinal fluid the foetal skull collapses and rapid delivery follows.

Hydrocephalus predisposes to uterine rupture and obstructed labour. None of these complications occurred in our patient.

Because foetal hydrocephalus is frequently overlooked, the maternal mortality has been high (1). The infant mortality in hydrocephalus, including the mildest forms of the disorder, is 70%. Syphilis may be associated with hydrocephaly. Our patient had serology done before discharge and it was negative.

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CASE No. 15

SOCIAL HISTORY

POST PARTUM HAEMORRHAGE :

UTERINE ATONY

NAME : S. W.
 UNIT : 424792
 AGE : 37 YEARS
 TRIBE : KIKUYU
 PARITY : 6 + 0
 LMP : 1. 7. 80
 E.D.D : 8. 4. 81
 DATE OF ADMISSION : 28.3.81
 DATE OF DISCHARGE : 30.3.81

CASE HISTORY

This patient was admitted from home into the labour ward on 28.3.81 with a 4 hour history of labour pains. She did not give a history of vaginal bleeding or drainage of liquor. She booked at Kenyatta National Hospital at 24 weeks gestation because of high parity. She attended 4 times, the last attendance being at 36 weeks gestation. The antenatal follow-up was uneventful.

OBSTETRIC AND GYNAECOLOGICAL HISTORY.

Menarche was at 16 years and she had regular menstrual periods. She was para 6+0, all babies being born spontaneously in 1963,1965, 1967,1973,1974 and 1977. All were term deliveries and she did not have any complications during these deliveries.

MEDICAL AND SOCIAL HISTORY

She was a married housewife and lived in Thika with her family. Her husband was a businessman. She neither smoked nor drank alcohol.

She had been admitted into Mater Hospital in 1978 with gall bladder disease for which a laparotomy was done.

INVESTIGATIONS

1. Haemogram : Haemoglobin : 10.3 gm/dl
PCV : 31.9%
2. Blood group : B Rhesus positive
3. Serology : USR Negative

PHYSICAL FINDINGS

She was in good general condition. She was not pale or febrile and there was no oedema. The pulse rate was 80 per minute and regular and her blood pressure was 120/70 mm Hg. Cardiovascular and respiratory systems were normal.

The abdomen was uniformly distended and there was a right paramedian scar. The uterine size corresponded to a 38 week gestation. The lie was longitudinal, cephalic presentation, with the head 5/5 above the pelvic brim. Foetal heart tones were heard, 136 per minute and regular. Mild uterine contractions were noted.

PELVIC EXAMINATION

The external genitalia and vagina were normal. There was no vaginal bleeding or drainage of liquor. The cervix was parous and membranes were intact.

DIAGNOSIS

A diagnosis of early labour in a grandmultipara was made and she was admitted into first stage.

LABOUR AND DELIVERY

Three hours after admission, she was noted to be getting good contractions, 2 every 10 minutes lasting 20-40 seconds. The head had descended and was now $\frac{3}{5}$ above the pelvic brim. The cervix was fully effaced, 4 cm dilated and well applied to the presenting part. Artificial rupture of membranes was done and clear liquor drained. The cord was not palpable, there was no caput or moulding and the position was right occipitoanterior. She was given pethidine 100 mg intramuscularly and started on an intravenous infusion of 5% dextrose.

Labour was monitored half-hourly and the findings recorded on the partogram. Labour proceeded well and 4 hours after the last review she was getting 3 contractions in 10 minutes lasting 20-40 seconds. The presenting part was $\frac{1}{5}$ above the pelvic brim and the cervix 9 cm dilated. The foetal heart rate was stable at 140 beats per minute.

The partogram was continued and 40 minutes later, the patient felt like hearing down. The head was seen to distend the perineum and she was taken to the delivery room where she had a spontaneous vertex delivery to a male baby who weighed 3120 gms and scored 10 at 1 minute and 10 at 5 minutes.

Ergometrine 0.5 mg was given intramuscularly with delivery of the anterior shoulder and the placenta then delivered by controlled cord traction. It weighed 495 grams and was inspected and found to be

complete with membranes.

After delivery of the placenta, the patient was noted to be bleeding. Ergometrine 0.5 mg intravenously was given and the patient now started on an infusion of 20 units of syntocinon in 500 mls of 5% dextrose solution and the drip was allowed to run fast. Blood was taken for urgent group and cross-match and 3 pints of blood requested. Despite the ergometrine and syntocinon the patient continued to bleed. The patient was then placed in the lithotomy position and a Sim's speculum inserted into the vagina. No tears or lacerations of the vagina or the cervix were seen and blood was seen to ooze through the cervix which was 5 cm dilated. The uterine cavity was then explored after administering intravenous pethidine 100 mg, and found to be empty and intact. It was, however, not well contracted.

The fundus of the uterus was sought and the uterus briskly massaged through the abdominal wall until it hardened with a contraction, then firmly squeezed. Blood clots within its cavity were expelled and bleeding gradually controlled. Syntocinon drip was continued.

Blood loss was estimated to be 1000 mls and patient was observed in the labour ward. No further bleeding occurred and 12 hours later her blood pressure was 110/60 mm Hg. The pulse rate was stable, 84 per minute and regular. She was transfused two pints of whole blood and transferred to the maternity ward for further observations.

The post-transfusion haemoglobin was 10.4 gm/dl. She was discharged on 30.3.81 to be seen at the postnatal clinic after 6 weeks.

POST NATAL CLINIC

She attended post natal clinic after 6 weeks as requested. Her general condition was satisfactory and she was not anaemic. The uterus was well involuted and the baby was breast feeding satisfactorily.

Sterilisation was discussed but she refused and opted for injectable hormonal contraception for which she was referred to the Family Welfare Centre.

It is not wholly satisfactory, for the danger of postpartum haemorrhage depends more upon the rate at which blood is lost than upon its actual amount, and the patient's ability to withstand haemorrhage has also to be taken into account (1). It has, indeed, been noted that blood loss in excess of 500 ml following vaginal delivery is frequent (2) and that in those women who are already anaemic or of small stature, a figure of 500 ml may be too high (3).

The 3 most common causes of postpartum haemorrhage are uterine atony, laceration of the birth canal and retained placental fragments or membranes. Other causes include ruptured uterus, mismanagement of the third stage of labour due to prolapse of the uterus in the birth canal or even uterine inversion. Another consideration is disseminated intravascular coagulation with depletion of fibrinogen and platelets commonly predisposed by premature separation of the placenta, severe eclamptic toxæmia, meningitis, and amniotic fluid embolism. Less common causes of haemorrhage include ruptured varices, inadequate haemostasis of an episiotomy repair, placenta accreta or increta and haematological disorders such as thrombocytopenia.

Factors which predispose to uterine atony are high parity, overdistension of the uterus (large foetus, multiple pregnancy, hydramnios);

COMMENT

Post partum haemorrhage has been defined as blood loss in excess of 500 mls, whether it comes from the placental site or from laceration of the genital tract. Haemorrhage occurring within the first 24 hours is termed early or primary, thereafter bleeding is designated late or secondary post partum haemorrhage. This definition of postpartum haemorrhage is not wholly satisfactory, for the danger of postpartum haemorrhage depends more upon the rate at which blood is lost than upon its actual amount, and the patient's ability to withstand haemorrhage has also to be taken into account (1). It has, indeed, been noted that blood loss in excess of 500 mls following vaginal delivery is frequent (2) and that in those women who are already anaemic or of small stature, a figure of 500 mls may be too high (3).

The 3 most common causes of postpartum haemorrhage are uterine atony, laceration of the birth canal and retained placental fragments or membranes. Other causes include ruptured uterus, mismanagement of the third stage of labour due to prolapse of the uterus in the birth canal or even uterine inversion. Another consideration is disseminated intravascular coagulation with depletion of fibrinogen and platelets commonly predisposed by premature separation of the placenta, severe eclamptogenic toxæmia, amionitis, and amniotic fluid embolism. Less common causes of haemorrhage include ruptured varices, inadequate haemostasis of an episiotomy repair, placenta accreta or increta and haematological disorders such as thrombocytopenia.

Factors which predispose to uterine atony are high parity, overdistension of the uterus (large foetus, multiple pregnancy, hydramnios),

uterine exhaustion following a prolonged, inert labour; induced labour, retention of placental tissue, and general anaesthetics, especially halothane. Our patient had primary postpartum haemorrhage due to uterine atony and high parity was most probably the predisposing factor.

About 5-8% of obstetric patients suffer serious postpartum blood loss, and postpartum haemorrhage is a leading cause of maternal death. At Kenyatta National Hospital, postpartum haemorrhage was found to account for 15.2% of maternal deaths (4).

In modern obstetrics, with blood readily available for transfusion, no woman should die from postpartum haemorrhage. In the management of postpartum haemorrhage two important principles apply i.e. arresting the haemorrhage and restoring the circulating blood volume.

If the haemorrhage is due to atony of the uterus, oxytocic agents such as syntocinon are used. If atony persists, uterine massage and bimanual compression of the uterus are immediately proceeded to. If these measures fail then hysterectomy should be considered. If further childbearing is an important consideration, such measures as ligation of the uterine or hypogastric arteries should be considered as an alternative to hysterectomy. The use of 1mg of Prostaglandin F_2 alpha given transabdominally into the myometrium has been reported to be very effective without producing significant side effects(5).

In our patient haemorrhage was arrested by using oxytocic agents and by massaging the uterus and the above measures were not restored to. She received 2 pints of blood thereby restoring the circulating blood volume.

Postpartum haemorrhage can be prevented by proper management of labour, especially the third stage. The use of ergometrine with the delivery of the anterior shoulder will shorten the third stage and reduce the risk of haemorrhage. Predisposing factors to placental haemorrhage require vigilance and the placenta should always be examined carefully since retained placental tissue may precipitate severe haemorrhage.

The prognosis depends upon the amount of blood lost, the rapidity with which it is lost, the patient's general health and the choice, speed, and completeness of therapy. Apart from endangering the life of the woman, postpartum haemorrhage may, on rare occasions, result in hypopituitarism, a condition commonly known as Sheehan's syndrome.

Our patient was managed successfully and fortunately she did not develop this complication.

4. Makokha, A.E.

Maternal Mortality at Kenyatta National Hospital, 1972-1977

E. Afr. Med. J. 57:451, 1980.

5. Jacobs, H. M.

Intramyometrial prostaglandin F₂ Alpha in the treatment of severe postpartum haemorrhage.

Obstet. Gynaecol. 55: 665, 1980.

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severe postpartum haemorrhage.
Obstet. Gynecol. 55: 665, 1980.

OBSTETRIC LONG COMMENTARY

TITLE :

TEENAGE PREGNANCY IN RURAL KENYA.

SUMMARY

Data on teenage pregnancy collected in the North Division of Machakos District between October 1981 and December 1983 is presented. The incidence of teenage pregnancy in this society has already been reported.

Higher incidences of hypertensive disease in pregnancy were found. Anaemia and syphilis rates were lower in the teenage mothers than in a control group aged 20-24 years. Perinatal mortality was higher for teenagers than control group being 47.4 per thousand and 38.4 per thousand respectively.

INTRODUCTION

The problems of teenage pregnancy have been well documented. (1,2,3). The fact that age at menarche is decreasing suggests that pregnancy is possible at earlier ages. Puberty arrives at different ages for different youth. Available evidence suggests that the age at puberty has been lowering over the past several decades. In Europe it has been reported that the mean age at menarche decreased by 10 months each generation and 50% of girls were menstruating by the age of 15 years in 1845 while in 1962, 50% were menstruating by 12 years (4). The age at menarche in Kenya is being determined (5) but in Nairobi well nourished adolescents reach menarche at the mean age of 13.2 ± 1.5 years (6).

Women in the teenage are now engaging in sexual activity with resultant increase in teenage pregnancies. The Kenya Fertility Survey of 1977 reported that of all women in the age group 15 to 19, 28% were currently married and that 7.6% in this age group were currently pregnant (7). In developing countries, the problem is similar. In the United States for instance it has been reported that more than 50% of 19 year old girls had engaged in sexual activity and that their fertility was comparable to women in their twenties (8).

At the Kenyatta National Hospital, an incidence of teenage pregnancy was found to be 11.1% (1). In this study an increase in pre-eclampsia, anaemia and perinatal mortality was demonstrated. In another study carried out in the same institution (2) 28% of all abortions were found to occur in teenage mothers and 43% of all procured abortions were in teenagers. Data on outcome of pregnancy

RESULTS AND METHODS

in teenage mothers in the City of Nairobi has been published (3).

This study was carried out in the Northern Division of Nairobi District, the study area being 80km and is located in the east of Nairobi. A longitudinal population-based multi-disciplinary research programme has been in progress since 1981 under the Medical Research Centre. In 1981 the Nairobi Centre for Research in Human Reproduction (Department of Obstetrics and Gynaecology) started a project on impact of integrated family planning clinics on acceptance and continuation in a rural area in Kenya. Maternal, Child Health and Family Planning Services are provided in four of clinics, namely Kinyui, Katwanya, Katsika and Katsika, once per week.

Teenage mothers were also found to have a high incidence of low birth weight babies. This study concluded that the proportion of teenage pregnancy is achieving such alarming proportions that many teenagers will opt to get illegal abortions and that for those who decide to carry the pregnancy to delivery, apart from antenatal care being of poor quality, they face more antenatal and intrapartum problems.

The majority of our population lives in rural areas and it is, therefore, important that we have an idea of the magnitude of health problems in rural areas. Since the incidence of teenage pregnancy in this rural area has been reported as 10% (9), this study aimed at analysing the obstetric outcome of teenage pregnancy in the same rural area.

A total of 211 teenage mothers were delivered in the study area during the period October 1981 to December, 1983. This number constitutes the study group. In the analysis, where possible, control of pregnancy is compared to a control group age 30 to 34 years which comprised of 417 mothers.

Table 1 shows the place of antenatal care. Katsika clinic

accounted for 10% of antenatal visits, 210 (31) closely followed

MATERIALS AND METHODS

This study was carried out in the Northern Division of Machakos District, the study area being 85km² and is located 80 km east of Nairobi. A longitudinal population-based multidisciplinary research programme has been in progress since 1974 under the Medical Research Centre. In 1981 the Nairobi Centre for Research in Human Reproduction (Department of Obstetrics and Gynaecology) started a project on impact of integrated family planning clinics on acceptance and continuation in a rural area in Kenya. Maternal, Child Health and Family Planning Services are provided in four of clinics, namely Kinyui, Katwanyaa, Katheka and Kathama, once per week.

Data on teenage mothers was obtained from antenatal records already existing and updated at every demographic round. A teenage mother was defined as any mother aged below 20 years, an adolescent mother being 17 years and below.

Details of the main study have been reported from time to time since the inception of the study (10).

RESULTS

A total of 211 teenage mothers were delivered in the study area during the period October 1981 to December, 1983. This number constitutes the study group. In the analysis, where possible, outcome of pregnancy is compared to a control group age 20 to 24 years which comprised of 417 mothers.

Table 1 shows the place of antenatal care. Katheka clinic handled the bulk of antenatal mothers, 220 (35%) closely followed

the study area which is more arid and less productive. Katwanyaa Clinic had the least number of mothers, 55(8.7%) whereas 165(26.3%) were seen at the Kinyui clinic.

Table II shows the age distribution. The youngest mother was 14 years at the time of delivery. The adolescent rate was 21.3% (45 subjects aged 17 years and below), the rest being older teenagers, 86 (40.6%) being 18 years and 80 (37.9%) being 19 years.

	TEENAGERS	(%)	CONTROLS	(%)	TOTAL	(%)
KATWANYAA	13	6.1	42	10.1	55	8.7
KINYUI	78	37.0	142	34.1	220	35.0
KATRANA	58	27.5	130	31.1	188	30.0
TOTAL	211	100%	417	100%	628	100%

(T + C) = Teenagers + Controls.

TABLE I : PLACE OF ANTENATAL CARE.

CLINIC	TEENAGERS		CONTROLS		TOTAL (T+C)	%
	No.	%	No.	%		
KINYUI	62	29.4	103	24.7	165	26.3
KATWANYAA	13	6.1	42	10.1	55	8.7
KATHEKA	78	37.0	142	34.1	220	35.0
KATHAMA	58	27.5	130	31.1	188	30.0
TOTAL	211	100%	417	100%	628	100%

(T + C) = Teenagers + Controls.

Table II: AGE DISTRIBUTION IN TEENAGERS.

YEARS	No.	%
14	1	0.5
15	4	1.9
16	13	6.2
17	27	12.9
18	86	40.9
19	80	37.9
	211	100%

TABLE III. AGE - PARITY DISTRIBUTION

Table III shows the age - parity distribution. 156 (73.8%) were multiparous whereas 55 (26.2%) had one or more previous pregnancies.

1 case was recorded as para 6 in a 19 year old mother. In comparison, 43 (10.3%) of the control mothers were multiparous, the highest parity in this group being 5 (1.2%) . Amongst the parous teenagers, 63 previous pregnancies were recorded. Of these, 80 were abortions, giving an abortion rate of 12.7%.

Age	1	2	3	4	5	6	TOTAL	%
16	11	2	0	0	0	0	13	6.2
17	24	3	0	0	0	0	27	12.9
18	63	18	2	1	1	0	86	40.6
19	54	23	3	0	0	0	80	37.9
TOTAL	156	47	5	1	1	0	211	
%	73.8	22.3	2.4	0.5	0.5	0	0.5	100

TABLE III : AGE - PARITY DISTRIBUTION

AGE	PREVIOUS PREGNANCIES							TOTAL	%
	0	1	2	3	4	5	6		
14	1	0	0	0	0	0	0	1	0.5
15	3	1	0	0	0	0	0	4	1.9
16	11	2	0	0	0	0	0	13	6.2
17	24	3	0	0	0	0	0	27	12.9
18	63	18	2	1	1	0	1	86	40.6
19	54	23	3	0	0	0	0	80	37.9
TOTAL	156	47	5	1	1	0	1	211	
%	73.8	22.3	2.4	0.5	0.5	0	0.5		100%

Table IV shows the educational status of the teenage mothers compared to the control group. 6.5% of teenage mothers had no education at all compared to 11% in the age group 20-24 years. The majority of teenage mothers, 66.4% became pregnant while in primary school. This figure is considerably higher than the 54.8% reported in the Nairobi Birth Survey (3).

TABLE IV : EDUCATIONAL STATUS.

YEARS AT SCHOOL	TEENAGERS		CONTROL	
	No.	%	No.	%
NONE	13	6.5	44	11.0
1-4	14	7.0	48	12.0
5-7	123	61.5	206	51.3
8-11	49	24.5	99	24.7
12-15	1	0.5	4	1.0
TOTAL	200	100%	401	100%

NOT RECORDED: Teenagers = 11

Control = 16

Table VI shows the quality of antenatal care. During the first attendance, haemoglobin, serology and blood pressures are routinely done. Urinalysis, however, is not a routine examination.

During the study period, 91% of haemoglobin results were available for teenagers and 92.6% for the control group. 95.3% and 95.7% serology results were available for teenagers and control mothers respectively. 17.1% of teenage mothers booked early ie before 20 weeks gestation as evidenced by early blood pressure measurements as opposed to 13.4% for control population. 82% teenage mothers and 85.6% older mothers booked late ie after 20 weeks gestation. It is evident from this table that antenatal investigations were recovered within reasonable limits.

Among the teenage mothers, the incidence of anaemia ie haemoglobin below 10 gm dl^{-1} was 1.5% compared to 3.8% amongst the control group. This incidence is very much lower than that reported in the City of Nairobi (17.6%). The older mothers, therefore, had a higher anaemia rate agreeing with the findings that the incidence of anaemia in this population increases with age (11). This could be due to repeated pregnancies.

Positive serological test for syphilis was found in 3 cases out of the 201 whose results were available, giving an incidence of 1.5%. The control group exhibited a higher incidence of 2%.

High systolic blood pressure (140 mm Hg or more) was found in 0.5% of cases compared to 0.75% in controls. High diastolic blood pressure (90 mm Hg or more) was found in 2.5% of teenagers compared to 0.5% in controls. Since the diastolic blood pressure is probably the more significant parameter, based on the above findings, hypertensive disease was more common in teenage mothers.

Maternal height is a most valuable index of reproductive efficiency, as in any community the shortest height group has the highest perinatal mortality and the highest prematurity rate. In this study, the heights of a total of 299 mothers were measured from two clinics. 111 were teenage mothers and their mean height was 155.3 ± 6.4 cm as compared to the mean height of the 188 control mothers which was found to be 156.4 ± 6.1 cm. There was no significant difference, at $P > 0.5$, in the mean heights from the two groups of mothers.

An attempt to determine the frequency of antenatal complications was made but, by and large, this information was lacking.

INVESTIGATION	TEENAGERS		CONTROLS	
	No.	%	No.	%
EARLY BP	36	17.1	56	13.4
LATE B P	173	82.0	357	85.6

NOT DONE / LOST

	TEENAGERS	CONTROLS
BP	19(9%)	31(7.4%)
SEROLOGY:	10(4.7%)	18(4.3%)
BP	2(0.9%)	4(1.0%)

TABLE VI QUALITY OF ANTENATAL CARE.

INVESTIGATION	TEENAGERS		CONTROLS	
	No.	%	No.	%
HAEMOGLOBIN	192	91.0	386	92.6
SEROLOGY	201	95.3	399	95.7
EARLY BP	36	17.1	56	13.4
LATE B P	173	82.0	357	85.6

NOT DONE / LOST

	TEENAGERS	CONTROLS
Hb	: 19(9%)	31(7.4%)
SEROLOGY:	10(4.7%)	18(4.3%)
BP	: 2(0.9%)	4(1.0%)

Table VII shows the place of delivery. 80% of mothers were delivered at home whereas only 20% delivered in hospital. This is a reflection of availability of delivery services in rural areas where delivery points are few and widely scattered. Coupled with poverty, poor transportation and communication systems, the majority of mothers would, therefore, prefer to deliver at home.

The method of delivery in this study was very difficult to ascertain. 4 cases of caesarean section and 1 case of breech delivery were reported in the control group. No operative deliveries were reported in the teenage group. Likewise, information on the person who conducted the delivery was missing. By deduction, therefore, it would appear that those mothers delivering in hospital were attended by trained medical personnel ie midwife or doctor, and those delivering at home by a traditional birth attendant, an elder member of the community or the patient herself.

TEENAGERS	=	1 (0.5%)
CONTROLS	=	3 (0.7%)

TABLE VII : PLACE OF DELIVERY

	TEENAGERS	%	CONTROLS	%
HOME	169	80.1	334	80.1
HOSPITAL	41	19.4	80	19.2
TOTAL	210	99.5	414	99.3

NOT RECORDED : TEENATERS = 1, (0.5%)

CONTROLS = 3 (0.7%)

TABLE VIII FOETAL OUTCOME

Table VIII shows the foetal outcome in teenage pregnancy and control mothers. Deaths occurring within 7 days of life are considered.

	TEENAGERS	CONTROL
Mortality rate per thousand	47.4	38.4
Stillbirths	6	12
Neonatal deaths	4	4

The mortality rate for teenage mothers was 47.4 per thousand which was higher than 38.4 per thousand for the control group. The mortality was composed of 6 stillbirths and 4 neonatal deaths for teenagers and 12 stillbirths and 4 neonatal deaths for the control mothers. Therefore it can be concluded that the perinatal mortality was increased in teenage mothers.

NEONATAL DEATHS	4	1.9	4	1.0
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As stated above, the majority of mothers delivered at home. Therefore birth weights were not known and they are not included in this report.

TEENAGERS = 6 (2.8%)

CONTROL = 3 (0.7%)

TABLE VIII FOETAL OUTCOME

	TEENAGERS		CONTROL	
	No.	%	No.	%
TOTAL No. BORN	211		417	
STILLBIRTHS	6	2.8	12	2.9
NEONATAL DEATHS	4	1.9	4	1.0

NOT RECORDED :

TEENAGERS = 6 (2.8%)

CONTROL = 3 (0.7%)

DISCUSSION

A 17 year old girl dies trying to abort a six-month foetus by inserting a plastic straw into her vagina and asking a friend to blow into it. The cries of children delivering children. The cries are not new. They have been heard the world over.

These are the problems of teenage pregnancy.

Teenage pregnancy is not a phenomenon of modern times, being as old as it is widespread. Many young women greet their 17th year with a pregnancy and many of these will have one or two more before they are twenty (12).

Statistics from around the world indicate that the incidence of teenage pregnancy varies greatly. In Africa, the rate of adolescent fertility is as high as 130 per 1000 with higher figures for individual countries like the Cameroons where it is reported to be 226 per 1000. In Asia, levels of teenage fertility are generally high reaching a peak in Bangladesh of 240 per 1000. In Indonesia it is reported that 41 per cent of all women have their first birth before they are 17(12) In the developed world, the problem of teenage pregnancy is of a similar magnitude. In the United States, a recent study argues that between 1971 and 1979 white teenage pregnancy increased from 5.6% to 13.5%, an increase that bears direct relation to the fact that sexual activity among white teenagers doubled during this period (13).

The incidence of teenage pregnancy in this rural area has been reported as 10% (9), which is lower than the 18.6% reported in the City of Nairobi (3). In many developing countries, young people are pulled away from the hold of traditional family and kinship units and released into urban areas with all the independence, freedom, advent-

are caught within the grip of traditional values and the lure of greater opportunities for individual expression. Many become pregnant as a result. This probably explains the higher incidence of teenage pregnancy in urban areas as compared to rural areas.

The age distribution in this study shows that most of the subjects were older teenagers whereas an appreciable number were young. The adolescence rate was 21.3%, comparing favourably with other studies (3). Anna Freud, daughter of Sigmund Freud, wrote: The sexual instincts of man do not suddenly awaken at puberty, but operate from the outset of the child's development, change gradually from one form to another, until at last adult sexual life is achieved as the final result from this long series of developments (14). The adolescent period is a transitional period between childhood and adulthood and it is characterised by physical maturation and uncertainty in the adolescent's role in an essentially adult-dominated world. The adolescent should be viewed as a child and menarche itself should not signify maturity.

The fact that 26.2% of teenage mothers had one or more previous pregnancies is in keeping with other studies. In Nairobi, 26% of cases were reported to have already had one or more pregnancies (3). Internationally, rates vary from as high as 25% in some Latin American countries to as low 1% in Japan (14). In this study the abortion rate was 12.7%. The increase in the number of abortions in the last couple of years has been alarming and have shown an upward trend. In Nairobi an incidence of 12.7% has been reported (3). Elsewhere incidences vary widely. In Sweden, an incidence of teenage abortion of 29.7% has been reported; 26.6% in Hungary; 21.2% in Finland; 16.2% in England

and Wales; 11% in Czechoslovakia and 7.5% in Singapore (15). These figures are most probably on the lower side because a good number of abortions, induced or spontaneous, go unreported but they certainly indicate the high risk nature of teenage pregnancies.

In this study, 66.4% of teenage mothers had 7 or less years of formal education (primary school grades). More the rule than the exception, pregnant schoolgirls are expelled from school. They lose out on their education and careers which are often halted, and the adverse economic circumstances of having to raise an unplanned baby further complicates the situation. A typical problem for children nearing the pubertal age and those who have entered puberty is that they face physical and emotional changes and experiences for which they receive no explanation. Unless these young people receive proper guidance with regard to handling their sexuality, more incidences of sexual behaviour unacceptable to the adult world will occur. It is therefore, important to educate teenagers and discourage them from early parenthood and this should be started in primary school.

The birth of children to teenage mothers does not necessarily mean, of course, that all such births result from premarital pregnancies since in many developing countries, there is still a high proportion of teenagers who are married already. This is well illustrated in this study where 53.3% of all teenagers were married. In Africa it is generally believed that 40% of girls between 15 and 19 years old are married, and in Asia 30% (14). Though the age at marriage in Kenya is showing a rising trend (7), the overall population

increase has remained at 4.1% with teenagers contributing a great deal. This has adverse demographic effects and the importance of this on an ailing economy cannot be overemphasized. General measures to correct poverty, ignorance, provision of health and sex education may help improve the situation.

The recovery rate of basic investigations done was very reasonable. Haemoglobin estimation revealed anaemia in only 1.5% in teenagers and 3.8% in the control group. These figures are for too small for comparison with other larger series which have reported higher rates. Though anaemia has been shown to result in higher rates of low birth weight babies, this was not correlated because there was no information on birth weights. Syphilis rates were lower in the teenagers (1.5%) than the control group (2%). Again the effects of syphilis on outcome of pregnancy were not possible to determine because of lack of information on birth weights.

Hypertensive disease in pregnancy was found in 2.5% as compared to 0.5% in controls. This higher incidence is in keeping with other reported studies (1,3) Incidences of other antenatal complications such as threatened abortion, antepartum haemorrhage, premature rupture of membranes were not known because this information was lacking. On the whole then, hypertensive disease was more common in teenage mothers whereas the reverse was true for anaemia and syphilis. Corrective measures of complications lie in provision of quality antenatal care and followup with advice on postnatal contraception. Pregnancy makes certain demands on the mother, be it a normal or an abnormal one. Pregnant teenagers have added risk - age.

The pregnant teenager requires adequate nutrition in addition to psychological preparation for motherhood. These advices must be included in antenatal care.

As is the case with other rural areas, most of the mothers delivered at home, probably attended to by traditional birth attendants. The confidence these rural mothers have in traditional birth attendants is an important factor that must be taken into consideration in the planning and provision of ovstetric services to rural areas. These attendants must be regarded as an integral part of obstetric care providers and attempts to train them in modern obstetrics must be made at all costs.

As stated earlier, the mode of delivery was very difficult to ascertain, as most mothers delivered at home. This very well illustrates the difficulties in gathering correct data in rural areas as opposed to hospital set-ups where correct records are available.

This study showed a mortality rate for teenage mothers of 47.4 per thousand compared to 38.4 per thousand in the control mothers. This is in keeping with other reports which have shown that perinatal mortality is higher in teenagers. One point must be emphasized: if a teenager has her first child at an early age, the chances of her getting pregnant again within the remaining years as a teenager is highly likely. This is true even in places where health facilities and social facilities are available to them. Such multiple pregnancies among very young mothers are associated with a substantial increase of neonatal mortality, infant mortality and maternal mortality with every subsequent pregnancy.

7

In conclusion, an early reproductive debut in the midteens, often with repeated pregnancies before the age of 20 constitutes an important general health problem causing higher foetal and infant mortality rates than if the mothers had been in their twenties. The number of teenage pregnancies and abortions are only symptoms of a deeper malaise, the causes for which, if not detected and checked as early as possible, could result in more of such symptoms in the future. The costs of teenage pregnancy in terms of the necessary social services to be rendered to these "problem" adolescents and their offspring are very painful. Teenage mothers gain neither the social status of young mothers in traditional societies, nor the benefit of the institutional supports provided their counterparts in developed countries. Teenage pregnancies should be considered as high risk pregnancies calling for special attention in the organisation of maternal and child health and contraceptive services including sex education. The task of promoting population programmes cannot, therefore, be over emphasised.

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REPRODUCTION

G Y N A E C O L O G Y

CASE No. 1

BARTHOLIN ABSCESS - MARSUPIALIZATION

NAME : F. N.
AGE : 28 YEARS
TRIBE : UGANDAN
PAITY : 3 + 0
UNIT No. ; 597605
ADMITTED : 27.12.83
DISCHARGE : 27.12.83

CHIEF COMPLAINT

This 28 year old Ugandan lady was admitted via the Casualty Department with a history of right vulval swelling for four days.

CASE HISTORY

The patient had been well previously. The swelling was painful and gradually increasing in size. There was no history of trauma and the onset was spontaneous. She gave no history of discharge per vaginum and there was no vaginal bleeding. On admission the pain was so intense that she was walking with difficulty.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had three previous normal vaginal deliveries, the last being in 1976. All children were alive and she was not on any contraceptives. She had menarche

the last being on 20.12.83 for four days. There was no period of amenorrhoea.

MEDICAL HISTORY

Not contributory.

SOCIAL AND FAMILY HISTORY

She was single and worked as a barmaid in a downtown bar. She did not smoke but took alcohol. There was no history of any familial illnesses.

PHYSICAL EXAMINATION

She was healthy looking. There was no clinical evidence of anaemia, jaundice or oedema. She was afebrile. The cardiovascular, respiratory and central nervous systems were normal. The abdomen was soft and scaphoid. There were no palpable masses.

PELVIC EXAMINATION

The right vulva was swollen, more so in the posterior $\frac{1}{3}$ rd. The swelling was warm, tender, cystic and there was marked induration. It was restricted only to the vulva. The vagina was normal, the cervix long and firm with a parous Os. The uterus was normal size, anteverted, anteflexed and immobile. There were no palpable masses in the adnexa and the Pouch of Douglas was empty.

DIAGNOSIS

Right Bartholin's Abscess.

MANAGEMENT

The patient was prepared for theatre and put in the morning emergency list for marsupialization on 27.12.84. Informed consent was obtained. She was premedicated with atropine sulphate 0.6 mg intramuscularly and taken to theatre for operation.

MARSUPIALIZATION.

Under general anaesthesia, the patient was placed in the lithotomy position. Vulvovaginal toilet and draping were done and the patient catheterised. Clear urine was drained. EUA was now done and the earlier findings confirmed.

The gland was now exposed by lateral retraction of the labia majora and an incision was made into the gland at the inferior level of the vestibule. Smelly purulent pus material was obtained. A circular area of the abscess wall and the overlying skin was now excised and the abscess wall sutured open by uniting the cyst wall with the skin edge using catgut No. 2. There was no haemorrhage and she was taken back to the ward after recovering from anaesthesia.

FURTHER MANAGEMENT

She recovered uneventfully and she was discharged home on the same day on Paracetamol 2 tablets thrice a day and Ampicillin 500 mg 6 hourly for one week, orally

several cells. Each gland is drained by a duct 1.25-2 cm in length, the duct being lined by multi-layered columnar cells and not by transitional epithelium as is usually stated. (1). The duct opening is normally not visualised unless it is inflamed.

The secretion of the gland is colourless and mucoid and has a characteristic odour which is thought to provide a continuous lubrication for the vestibular surface.

Obstruction of the main duct of Bartholin's gland results in retention of secretions and cystic dilation. The gonococcus is an important cause of obstruction, though other organisms such as staphylococcus may be the cause (2). However, inspissated mucus and congenital narrowing of the duct may also be causes. (3). As the cyst grows or is infected it becomes uncomfortable, reduces inclination to coitus and may interfere with walking and sitting. A purulent exudate is present within the lumen of the abscess wall which has become thick and friable and the surrounding tissue oedematous.

Our patient had a typical presentation of a painful swelling, gradually increasing in size, the pain being so intense that she had difficulty in walking.

COMMENT

Bartholin glands are two in number and lie postero-laterally to the vaginal orifice, one on each side. They are lobulated and racemose, the acini being lined by a single layer of low columnar or cuboidal cells. Each gland is drained by a duct 1.25-2 cm in length, the duct being lined by multi-layered columnar cells and not by transitional epithelium as is usually stated. (1). The duct opening is normally not visualised unless it is inflamed.

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Our patient had a typical presentation of a painful swelling, gradually increasing in size, the pain being so intense that she had difficulty in walking.

If the distension and infection are not released, the abscess may rupture beneath or through the skin and in either event immediate operation is imperative (2). Marsupialisation is the standard method of treatment at the KNH although incision and drainage may be done. It is the procedure of choice since it preserves the function of the gland. It consists of making another meatus for the duct by creating a new mucocutaneous junction. The cyst or the abscess collapses discharging its contents and resumes the contours of the duct. This new aperture provides an outlet for the secretion of the gland. Culture of the contents of the abscess should be done so as to isolate the causative organism. This, however was not done in our patient because of inability of pus swabs.

If infection subsides without abscess formation or becomes chronic in nature, this results in chronic Bartholin adenitis and unless a permanent opening for drainage is established, recurrent infection resulting in cystic dilatation of the duct is the rule.

In the management of recurrent Bartholin cysts or infection one should be alert to the possibility of cancer and it is recommended that surgical excision and careful histological examination of the tissues

adjacent to cyst structure be done to rule out the possibility of carcinoma in patients over 40 years. Since our patient was 28 years old, this was not done.

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CASE HISTORY

This patient was admitted into ward 5 via the Casualty Department where she presented with the above complaints. The symptoms were of sudden onset. She started experiencing severe backache followed by lower abdominal pains and then vaginal bleeding. The bleeding initially was of bright red blood but later with clots. She had been seen at a dispensary on the first day of illness but did not improve so she came to the Casualty. There was no history of interferences.

CASE No. 2

INCOMPLETE ABORTION WITH PERFORATION OF THE UTERUS

NAME : J. W.
UNIT : 629121
AGE : 22 YEARS
PARITY : 1 + 0
TRIBE : KIKUYU
L M P : 26. 2. 84
AMENORRHOEA: 16 WEEKS
D. O. A. : 19 .6. 84
D. O. D. : 26. 6. 84

CHIEF COMPLAINTS

The patient complained of severe backache, lower abdominal pains and vaginal bleeding with clots for a duration of two days.

CASE HISTORY

This patient was admitted into ward 6 via the Casualty Department where she presented with the above complaints. The symptoms were of sudden onset. She started experiencing severe backache followed by lower abdominal pains and then vaginal bleeding. The bleeding initially was of bright red blood but later with clots. She had been seen at a dispensary on the first day of illness but did not improve so she came to the Casualty. She denied any history of interference.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

Para 1 + 0 Last delivery was in 1982 by spontaneous vertex delivery. The baby is alive and well. Menarche was at 15 years and her periods were regular lasting 3 - 4 days. She had not been on any contraception.

PAST MEDICAL HISTORY

No previous hospitalisations or ailments of any significance.

SOCIAL HISTORY

She was single, living alone and working as a clerk.

PHYSICAL EXAMINATION

The patient was sick-looking and in pain. She was not pale, jaundiced and she did not have oedema. She was febrile clinically. The BP was 100/70 mm Hg, the pulse 100/min, regular and of good volume and temperature 37.2⁰C. The respiratory cardiovascular and central nervous systems were normal.

ABDOMINAL EXAMINATION

The abdomen was scaphoid. The liver, spleen and kidneys were not palpable. There was tenderness in the lower abdomen with guarding and it was difficult to

delineate any mass.

VAGINAL EXAMINATION

The external genitalia were normal. There were few blood clots felt in the introitus and they were evacuated. The cervical os admitted a tip of the finger. She was very tender in both adnexae and boggy was felt in the right side. The uterine size was difficult to assess due to tenderness. There was a foul-smelling bloody vaginal discharge.

DIAGNOSIS

A diagnosis of incomplete abortion with possible pelvic abscess was made and the patient prepared for evacuation of the uterus under a general anaesthetic. Meantime she was started on intravenous fluids normal saline to alternate with 5% dextrose solution 6 hourly, Intramuscular Ampicillin 500 mg 6 hourly and Clindamycin Sulphate 300 mg 8 hourly were also started.

EXAMINATION UNDER ANAESTHESIA (EUA)

The patient was anaesthetised and placed in the lithotomy position. The vulva and vagina were cleaned and patient draped. A urinary catheter was introduced aseptically and the bladder emptied. Examination under anaesthesia was then performed.

The cervical Os was dilated, the uterus was 14 weeks size and there was some bleeding. Products of conception were felt and digital evacuation done. An ovum forceps was then introduced into the uterine cavity and a lot of products of conception were evacuated. A defect in the right posterolateral aspect of the uterus was detected. A diagnosis of perforated uterus was made and the abdomen cleaned and draped for laparotomy. The abdomen was opened through a subumbilical midline incision in layers as described earlier.

FINDINGS

No haemoperitoneum was encountered. Omentum and gut were adherent to the posterior uterine wall and they were separated by blunt dissection. The foetal head and trunk were found protruding into the peritoneal cavity through a rent in the prosterolateral aspect of the uterus on the right side. The rent measured 4X4 Cm. The encountered foetal parts were removed and digital evacuation of the uterus done through the perforation followed by curettement all under direct vision. The perforation was repaired in two layers and haemostasis achieved. Both tubes and ovaries were inspected and they appeared normal. The peritoneal cavity was then irrigated with rifocin, peritonisation was done and the abdomen closed in layers after swabs and instruments were reported as correct. Anaesthesia was then reversed.

POSTOPERATIVE CARE :

Blood pressure, Temperature, Pulse rate and respiratory rate were monitored half-hourly until the patient was fully conscious; thereafter 4 hourly. Intravenous fluids normal saline 500 mls alternating with 5% dextrose 500 mls every 6 hours were given until the patient could take orally. Intramuscular pethidine 100 mg every 8 hours for 48 hours was given for postoperative pain. Intramuscular Ampicillin 500 mg 6 hourly and intramuscular Clindamycin 300 mg 8 hourly were given for seven days. The patient developed a fever of 39°C on the 2nd postoperative day but by the 4th postoperative day the fever had subsided. Alternate stitches were removed on the 6th postoperative day and the remaining stitches on the 7th postoperative day when the patient was discharged home.

FOLLOW UP

The patient was seen at the outpatient gynaecology clinic 6 weeks after the operation (7.8.84). She was found to be in good general condition. The operation site was well healed. She was advised on family planning the oral contraceptive being recommended and also advised to attend antenatal clinic during subsequent pregnancies.

COMMENT

Abortion is defined as the termination of pregnancy, whether spontaneous or induced, when that pregnancy is less than or equal to 28 weeks gestation or when the foetus is born dead and weighs 500 gms or less (where the patient is not sure of her dates).

A major cause of death among women of reproductive age in developing countries is illegally induced abortion. The incidence of abortion seems to be increasing as more women try to avoid unwanted births and keep their families small. At the Kenyatta National Hospital, abortion is one of the commonest gynaecological problems constituting approximately 60% of the total gynaecological emergency admissions (1, 2).

The characteristics of women having abortions differ from place to place. In Asia and the Middle East, she is usually an old married woman of high parity who does not want to have any more children. In parts of Africa, by contrast she is often a young unmarried student without children who turns to abortion because contraceptives are not easily accessible to an unmarried woman and because pregnancy is grounds for expulsion from school.

(3). The Kenyatta Hospital study reported that 16% of the total abortions admissions were septic with 10% of the patients volunteering a history of interference with the pregnancy, the majority of whom being between 14 and 20 years. A high proportion of them were school girls with little or no knowledge of contraception. (1)

Our patient was 22 years old, para 1 to and she was unmarried. Though she denied a history of interference, she presented with features of incomplete abortion and examination under anaesthesia revealed a perforation in the uterus which was very suggestive of deliberate interference with the pregnancy with the aim of terminating it. Approximately 62.3% of the total abortion admissions at K.N.H. are induced or likely to be induced (2).

Abortion is one of the oldest methods of preventing unwanted births. When performed by competent providers in aseptic conditions, abortion is a relatively safe procedure. When performed by inexperienced people or under unhygienic conditions, as is of the case with illegal abortion, then the mortality, morbidity and long-term complications are much greater. In a review of 99 maternal deaths at KNH over the period 1972-1977 43% of the total deaths were due to infection and more than half of these women died from post abortal sepsis. 86.4% of the deaths from post-abortal sepsis were unmarried, agreeing with the criminal nature of these abortions (4)

Haemorrhage, infection and shock are the major complications of abortion. In cases of illegal abortion trauma to the pelvic organs - cervical lacerations, uterine perforation and damage to the bladder and intestines - is a very frequently reported complication (3, 5)

The management of incomplete abortion is directed toward the control of haemorrhage and prevention of infection by evacuation of the uterus. Abortion is considered to be septic when there is a fever of at least 38°C for 24 hours or more, foul smelling or purulent vaginal or cervical discharge and other evidence of pelvic infection such as lower abdominal pain and rebound. Our patient did not have a fever but the other signs of sepsis were elicited. She had been started on antibiotic therapy routinely on admission.

At evacuation a perforation of the uterus was found and an emergency laparotomy confirmed the diagnosis. The perforation was repaired. In cases where uterine perforation has occurred there may be internal haemorrhage. There was no haemoperitoneum in this patient, neither was there injury to the visceral organs. On the 2nd postoperative day she developed a fever of 39°C which subsided by the 4th day on antibiotics and on discharge she was in good general condition. She was advised on family planning and to attend antenatal clinic during subsequent pregnancies.

Apart from the immediate complications, patients later present with an increasing risk of premature deliveries and spontaneous abortion as a result of lacerated cervix low birth weight infants and chronic pelvic infection leading to tubal blockage, infertility and ectopic pregnancies (2, 3).

Maternal morbidity and mortality due to abortion is high and can be reduced by encouraging use of contraception instead of abortion, legalising abortion, allowing medically trained practitioners to perform abortions for health reasons and improving clinical management of abortion complications. For septic abortions, optimum treatment requires immediate evacuation of the uterus, large doses of antibiotics and close monitoring of fluid balance.

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CASE No. 3

OBSTETRIC AND GYNAECOLOGICAL HISTORY

RUPTURED TUBAL PREGNANCY - PARTIAL SALPINGECTOMY

3 and 4 days and coming regularly every 30 days. She had
 NAME was normal ve J. M. deliveries and both children were
 AGE and well, 26 YEARS delivery being in 1981. She had
 UNIT No. on : 615165 ptives and her last menstrual period
 TRIBE : LUHYA an amenorrhoea of 6 weeks.
 PARA : 2 + 0
 L M P : 24. 2. 84
 D. O. A. : 3. 4. 84
 D. O. D. : 10. 4. 84

CHIEF COMPLAINTS

This patient was admitted via the casualty with a history of sudden onset of lower abdominal pains and vaginal bleeding.

CASE HISTORY

The patient was well until 3 days ago when she started having low backache and lower abdominal discomfort. She did not seek medical attention. On the day of admission however, she experienced severe lower abdominal pains and nausea and she vomitted 4 times. At the same time she started having vaginal bleeding. The symptoms were so severe that she decided to seek medical advice.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had normal menstrual periods lasting between 3 and 4 days and coming regularly every 30 days. She had had two normal vertex deliveries and both children were alive and well, the last delivery being in 1981. She had not been on any contraceptives and her last menstrual period was on 24.2.84, giving an amenorrhoea of 6 weeks.

SOCIAL AND FAMILY HISTORY

She was a married housewife, She did not smoke or drink.

PAST MEDICAL HISTORY

Not contributory.

PHYSICAL EXAMINATION

On admission, she was found to be in fair general condition. Clinically she was anaemic. She was not febrile. The pulse was 88 per minute and the blood pressure was 100/70 mm Hg. The cardiovascular and respiratory systems were normal.

The abdomen was tender in the hypogastrium, more so on the right side. There was guarding and rebound tenderness and the presence of free fluid was demonstrable by shifting dullness. Bowel sounds were heard.

PELVIC EXAMINATION

The external genitalia were normal. There was bright red blood on the vulva. The vagina was normal. The cervix was soft and the os was closed. There was marked cervical excitation pain. The uterine size was not assessable due to tenderness and guarding. The right adnexa felt full but no definite mass was delineated. No fullness was elicited in the left adnexa and the Pouch of Douglas was full.

The patient was then placed in the right semi-prone position and abdominal paracentesis done with a wide-bore needle. 10 mls of unclotting blood was obtained.

DIAGNOSIS AND MANAGEMENT.

A diagnosis of ruptured ectopic pregnancy was made and immediate preparations to take the patient to theatre were made. Blood was taken for immediate grouping and cross-matching. An intravenous infusion was started and a consent obtained. The patient was then premedicated with atropine sulphate 0.6 mg IM and wheeled to theatre.

THE OPERATION

The patient was put under general anaesthesia and bladder catheterisation was done. 150 mls of clear urine was drained. Examination under anaesthesia was performed. The uterus was bulky and a right adnexal mass about 3cm X3cm was felt. Other findings were as described earlier.

The abdomen was cleaned and draped and opened in layers through a subumbilical midline incision as described in the introduction.

A haemoperitoneum of about 2 litres with blood clots was found. The right fallopian tube was ruptured at the ampullary region and blood was oozing from the site of rupture. The interstitial portion of the tube was thickened and involved in adhesions. The fimbrial end was distorted and also involved in adhesions. The left tube and both ovaries were normal. The uterus was bulky. Clamps were applied on to the tube leaving about 4 cm from the cornu and a partial salpingectomy done. The cut end was ligated with chromic catgut No.1 and haemostasis achieved. The free blood was now sucked out, the blood clots evacuated and peritoneal cavity cleaned. The abdomen was then closed in layers using catgut No.1 for peritoneum, catgut No.2 for the rectus sheath and interrupted silk sutures applied to skin.

The excised segment of the fallopian tube was sent for histology.

POSTOPERATIVE CARE

The patient recovered from anaesthesia uneventfully and she was returned to the ward. She was transfused 2 pints of fresh blood and thereafter received intravenous fluids for 48 hours. Prophylactic Ampicillin was given 500 mg 6 hourly, initially 1M then orally. Bowel sounds were present on the 3rd post operative day when intravenous fluids were discontinued and oral sips started. The patient was then mobilised, post-operative haemoglobin was done on the 3rd postoperative day and it was 10.8 mg/dl. The patient remained well. Alternative stitches were removed on the 6th day, the remaining stitches on the 7th day. The wound was clean and had healed well and she was discharged.

HISTOLOGY REPORT NO.2911

This is a 15 mm segment of fallopian tube with decidua and blood on surface. Although there are no chorionic villi seen, this is most likely a tubal pregnancy.

FOLLOW UP

She was seen 6 weeks later in the gynaecology clinic. She had not resumed her menstrual periods and she did not complain of any problem.

Ectopic pregnancy is influenced by many factors as socio-economic status, race and the prevalence of pelvic inflammatory disease. Conditions that prevent or retard the passage of the fertilised ovum into the uterine cavity or increase in the reactivity of the tubal mucosa to the fertilised ovum have been implicated in the cause of ectopic pregnancy (2) Chronic salpingitis is the most significant factor, Others being peritubal adhesions subsequent to postabortal or puerperal sepsis. In Nairobi the incidence of ectopic pregnancy was found to be 1 : 131.9 total births (3) and evidence of salpingitis was found in 69% of tubal pregnancies at the Kenyatta National Hospital (4). A high incidence of ectopic pregnancy associated with the intrauterine contraceptive device has been shown (5,6) and IUCD users are 4.5 times more prone to get pelvic inflammatory disease thereby predisposing to ectopic pregnancy.

Ectopic pregnancy is also associated with infertility.

COMMENT

Ectopic pregnancy is one in which a fertilised ovum implants in an area other than the uterine cavity. It is the commonest acute gynaecological emergency met with at the Kenyatta National Hospital. At least 95% of ectopic pregnancies occur in a uterine tube, the other sites of implantation being the ovaries, the abdominal cavity, cornu uteri, cervix and broad ligament (1).

The incidence of ectopic pregnancy is influenced by such factors as socio-economic status, race and the prevalence of pelvic inflammatory disease. Conditions that prevent or retard the passage of the fertilised ovum into the uterine cavity or increase in the receptivity of the tubal mucosa to the fertilised ovum have been implicated in the cause of ectopic pregnancy (2) Chronic salpingitis is the most significant factor, Others being peritubal adhesions subsequent to postabortal or puerperal sepsis. In Nairobi the incidence of ectopic pregnancy was found to be 1 : 131.9 total births (3) and evidence of salpingitis was found in 69% of tubal pregnancies at the Kenyatta National Hospital (4). A high incidence of ectopic pregnancy associated with the intrauterine contraceptive device has been shown (5,6) and IUCD users are 4.5. times more prone to get pelvic inflammatory disease thereby predisposing to ectopic pregnancy. Pregnancy tests are not useful in ectopic pregnancy.

Ectopic pregnancy is also associated with infertility.

In our patient, chronic inflammatory pelvic disease was evident.

No specific symptoms or signs are pathognomonic of ectopic pregnancy, but a combination of findings may be suggestive. Ectopic pregnancy should be suspected when bleeding or pain occurs within the first 1 to 8 weeks after the missed period. Our patient had an amenorrhoea of 6 weeks and the suspicion of ectopic pregnancy was therefore, justified. Regardless of the site, the ectopic pregnancy may be acute (ruptured), Chronic (threatened or atypical) or unruptured. The acute type is said to occur in 40% of tubal ectopic pregnancies (8) and presents no diagnostic problems. Sharp abdominal or pelvic pain is present, an adnexal mass is felt and signs of peritoneal irritation with shoulder pain and backache are found. There is a falling blood pressure and classical symptoms of haemorrhagic shock with weakness, thirst, profuse perspiration, air hunger and oliguria. Coma and narrowing pulse pressure are ominous signs. Complication of acute tubal rupture may be life-threatening. The chronic and unruptured varieties may create great diagnostic problems in that the symptoms generally are vague and inconclusive. (9) and they may be confused with threatened abortion and pelvic inflammatory disease.

Pregnancy tests are not useful in ectopic pregnancy because they are positive in only 35-40% of cases and, in

any event, do not identify the site of the pregnancy.

Culdocentesis and paracentesis may reveal free blood in the cut de - sac and abdominal cavity and are of value in the diagnosis of acute pregnancy. A false positive result may be obtained if blood is tapped from a haemorrhagic corpus luteum. Ultrasonography is often successful in identifying ectopic pregnancy but the findings may resemble those due to pelvic inflammatory disease. Laparoscopy, which permits inspection and even biopsy offers the best aid in the diagnosis of an unruptured or an early aborting tubal pregnancy, but large collections of blood often renders these procedures useless or hazardous.

Immediate surgery is indicated when the diagnosis of ectopic pregnancy is made. Transfusion with whole blood as soon as possible is indicated and if blood is not available, autotransfusion may be resorted to. The patient discussed had lost about 2 litres of blood and she was transfused with 2 units of fresh blood. Rapid entry into the abdomen should be accomplished since control of haemorrhage can be lifesaving. The risk of a repeat tubal pregnancy is high despite the presence of a normal - appearing contralateral tube. Infertility develops in approximately half of patients who have undergone surgery for the treatment of an ectopic pregnancy, and of these about 30% become sterile. Normal pregnancies can, however, be achieved in about half of patients who have had an ectopic pregnancy.

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 started experiencing low backache and intermittent lower
 abdominal pains. She then started getting an odd feeling of
 something coming down the birth canal especially on straining.
 She also noticed that she was unable to accommodate an intra-
 uterine contraceptive device. This gradually worsened and she
 eventually had spontaneous expulsion of three IUCDs.

CASE No. 4

SECOND DEGREE UTERINE PROLAPSE - MANCHESTER REPAIR.

NAME : M. W. M.
 UNIT : 549225
 TRIBE : KIKUYU
 AGE : 40 YEARS
 PARITY : 4 + 0
 D. O. A. : 19.7.83
 D. O. D. : 30.8.83

CHIEF COMPLAINT

This 40 year old kikuyu lady presented to outpatient Gynaecology Clinic with a history of feeling something coming down the birth canal and inability to accommodate an intra-uterine contraceptive device.

CASE HISTORY

The patient was well until ten years ago when she started experiencing low backache and intermittent lower abdominal pains. She then started getting an odd feeling of something coming down the birth canal especially on straining. She also noticed that she was unable to accommodate an intra-uterine contraceptive device. This gradually worsened and she eventually had spontaneous expulsion of three IUCDs.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She was para 4 + 0. The first two deliveries were SVD the third by caesarean section in 1966 and the last delivery in 1968 when she had a symphysiotomy performed. Menarche was at 15 years, periods were regular and painless with a flow of 5 days every 30 days. She did not have dysuria but had experienced micturation frequency. She had been on the coil for contraception. LMP was on 22. 7.83.

SOCIAL AND MEDICAL HISTORY

She was a married school teacher. There was no history of major illness neither did she complain of chronic cough.

PHYSICAL EXAMINATION:

She was in satisfactory general condition. She was not pale febrile or jaundiced and no oedema was noted. She was obese, Breasts were normal and there was no galactorrhoea. Lungs were clear, the heart was normal. Blood pressure was 110/80 mm Hg. The abdomen was soft. She had a subumbilical midline scar. No masses were palpable and there was no organomegaly.

PELVIC EXAMINATION

External genitalia and vagina were normal. The cervix was seen at the introitus. It was easily prolapsing on cough reflex and was easily replaceable. Uterus was bulky, adnexae free and she had a cystocoele and a rectocoele.

DIAGNOSIS

Second degree uterine prolapse.

INVESTIGATIONS.

1. Pap Smear: Class II moniliasis. Treated with
canestene pessaries one nocte for 6 days.

2. Haemogram: Haemoglobin : 14.8 gm/dl
PCV : 42.9
WBC : 4900/mm³

3. Electrolytes Sodium : 138 mmol/litre
Potassium : 4.6 mmol/litre
BUN : 2.8 mmol/litre
Creatinine : 98 mmol/litre

4. Urinalysis Glucose : Nil
Protein : Nil
Culture : No growth.

MANAGEMENT

The patient was scheduled for Manchester repair which was done on 18.8.83. Informed consent was obtained and patient was starved overnight. On the day of operation premedication was given in the form of atropine and pethidine.

The patient recovered uneventfully from anaesthesia, and she was treated with pethidine 100 mg every eight hours for 48 hours. Prophylactic septrin (co-trimoxazole) was also given.

Anaesthesia was induced in the usual manner and the patient placed in lithotomy position.

Vulvovaginal toilet was done and the patient was draped. Catheterisation was then done and clear urine was drained. An Auvard speculum was inserted into the vagina and the posterior vaginal wall retracted. The cervix was grasped by a volsellum forceps and the cervical canal dilated up to Hegar 7. The vaginal wall was dissected free from bladder and urethra, the median cervico-vesical ligament was divided and the bladder dislocated upwards. The pubo-cervico-vesical fascia was then tightened by a series of interrupted sutures of chronic catgut No. 0 thus making a continuous musculofascial buttress thereby controlling the whole anterior prolapse. The redundant vaginal tissue was excised. This was followed by amputation of the cervix after ligation of the cervical branch of the uterine artery. A triangular portion of the posterior vaginal wall was excised thereby exposing the rectocele which was pushed upwards. The underlying rectovaginal fascia was sutured and the edges of the levatores approximated in the midline. The vaginal wall was then sutured and finally the superficial perineal muscles and skin. An indwelling catheter was left in situ and reversal of anaesthesia done.

POSTOPERATIVE MANAGEMENT

The patient recovered uneventfully from anaesthesia, and she was sedated with pethidine 100 mg every eight hours for 48 hours. Prophylactic septrin (co-trimoxazole) was also given.

POSTOPERATIVE INVESTIGATIONS:

- | | | | | | |
|----|------------|---|-------------|---|----------------------|
| 1. | Haemogram | : | Haemoglobin | : | 12.7 mg/dl |
| | | : | PCV | : | 37.8% |
| | | : | WBC | : | 3700/mm ³ |
| 2. | Urinalysis | : | Protein | : | NIL |
| | | : | Glucose | : | Nil |
| | | : | Culture | : | not indicated. |

The patient remained well and she was eventually discharged home on the 12th postoperative day and requested to attend the outpatient gynaecology clinic for follow-up.

FOLLOW UP

She was seen at the outpatient gynaecology clinic 6 weeks after discharge. She did not have any complaints. *The operation site was well healed and she had menstruated once (5.10.83). There was no evidence of either cystocele or rectocele and* she enjoyed normal coitus and she did not complain of dyspareunia.

COMMENT

Uterine prolapse is abnormal protrusion of the uterus through a pelvic floor aperture or genital hiatus. It is usually associated with cystocele, rectocele and enterocele two of which were found in this patient. It occurs most commonly in multiparous women as a gradually progressive result of child-birth injuries to the endopelvic fascia (and its condensation,

the uterosacral and cardinal ligaments) and lacerations of muscle especially the levator muscles and those of the perineal body. The symphysiotomy performed on this patient in 1968 could have resulted in damage to the endopelvic fascia with resultant genital prolapse. Uterine prolapse may also be the result of pelvic tumour; sacral nerve disorders, especially injury to S1 - S4; diabetic neuropathy; caudal anaesthesia accidents; and presacral tumour. Additional factors promoting uterine prolapse are systemic conditions such as obesity, asthma, chronic bronchitis and bronchiectasis and local conditions such as ascites and large uterine and ovarian tumours. In this patient, obesity was probably a contributing factor.

Various methods have been employed for treatment of genital prolapse. In the ancient times fumigation and application of honey and medicated pads were used. During the nineteenth century vaginal pessaries were introduced. Though pessaries have not been found to be effective or safe, their use has persisted up to the present day. The current view is that vaginal pessaries have very little place in the treatment of prolapse, as prolonged use has been shown to cause severe genital tract lacerations infections and even malignancies (1).

Surgery is the mainstay of treatment and that age is no barrier to the surgical treatment of prolapse has been demonstrated (2). The Manchester - Fothergill operation, as was performed in this patient, and vaginal hysterectomy

with pelvic floor repair are the two main operations performed for treatment of genital prolapse. The Manchester operation is mainly employed on women below the age of 45 years the advantages being that it offers a reasonable chance of cure while preserving childbearing functions whereas the advantage of removing the uterus in the postmenopausal women and in those women not desiring further childbearing is that apart from cure of the prolapse the possibility of future organic disease such as abnormal uterine bleeding and carcinoma is eliminated. Vaginal hysterectomy was not done on this patient because she had a previous caesarean scar which was considered a contraindication. Shaw (3) however states that vaginal hysterectomy has no place in the treatment of genital prolapse whereas Hawksworth (4) has reported that vaginal hysterectomy combined with pelvic floor repair is more definitive treatment.

Am. J. Obstet Gynec. 26:567, 1933.

The complications of surgical treatment of genital prolapse are divided into immediate and late. The immediate complications include post-operative pyrexia, wound infection, breakdown of suture lines, urinary retention, urinary tract infection and vault haematoma, none of which were present in this patient. The late complications none of which occurred in this patient included recurrence of uterovaginal prolapse, persistent stress incontinence, vaginal fistulae, dyspareunia.

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CASE No. 5

ANAMNESTIC HISTORYINFERTILITYTUBERCULOUS ENDOMETRITIS.

NAME : F. N.
 UNIT : 398693
 AGE : 26 YEARS
 TRIBE : LUHYA
 PARITY : 1 + 0
 D. O. A. : 21. 1. 82
 D. O. D. : 21. 1. 82

CHIEF COMPLAINT

This patient presented at the Out-patient Gynaecology Clinic with a history of inability to conceive.

CASE HISTORY

She was married for $3\frac{1}{2}$ years and despite regular sexual intercourse she failed to conceive prompting her husband to marry a second wife. She had one child, born in 1971 and fathered by a different man. Prior to this appointment at the gynaecology clinic, she had not undergone any investigations for infertility.

OBSTETRICS AND GYNAECOLOGICAL HISTORY

Pubertal years were uneventful having had menarche at 14 years and by 15 years periods were already established. Her cycles were regular lasting 3 days every 28 days. She had conceived once in 1971. She had never used contraceptives and there was no history suggestive of pelvic inflammatory disease.

SOCIAL AND MEDICAL HISTORY

She was a married housewife. Medical history was not contributory. There was no history of chronic illness like diabetes, tuberculosis or hypertension or any other illness.

PHYSICAL EXAMINATION.

She was healthy and in good general condition. There was no pallor, oedema, cyanosis or lymphadenopathy. She was afebrile. The cardiovascular and respiratory systems were within normal. Breasts were well formed and there was no galactorrhoea. The abdomen was soft and non-tender. No masses were palpable and liver, spleen and kidneys were not enlarged.

PELVIC EXAMINATION.

The external genitalia and vagina were normal. The cervix was healthy, Os was closed. The uterus was normal size, retroverted and fixed. The adnexa were not tender and no masses were felt. No discharge was present and an

endocervical smear was taken.

INVESTIGATIONS.

1. Pap smear ; Class I
2. Semen analysis : (on consort)
 - Volume : 3.3 mls.
 - Count : 81.6 million /ml
 - Motility : 40% mobile at 30 min
 - Vitality : 80% living at 35 min.
 - Round cells : 1.6 million /ml
 - Morphology: 40% ideal forms
 - Fructose : 496 mg/ml
 - Prostatic acid : 753 X10³KA/100 mls.
3. HYSTEROSALPHINGOGRAM (OCTOBER 1981)

Uterine cavity normal. No terminal dilatations seen. No peritoneal spill.
4. HAEMOGRAM

HAEMOGLOBIN 12.4 g/dl
5. URINALYSIS

No protein, no sugar

DIAGNOSTIC LAPAROSCOPY AND CURRETTAGE (21.1.82)

She was seen at the gynaecology clinic three days prior to the procedure. Informed consent was obtained and

patient certified fit for general anaesthesia. The procedure was done on the twelfth day of her cycle. On the day of operation the patient presented early and she was starved overnight. Anaesthesia was induced and the patient placed in the lithotomy position. In this position pelvic examination was done and found to be normal. A uterine cannula, also used as elevator, was introduced. Through a stab subumbilical incision, Veres needle was introduced and a pneumoperitoneum of 2 litres carbon dioxide was created. Trocar and cannula were then introduced and a good view obtained through the laparoscope.

There were plenty of adhesions in the pelvis. The uterus was normal size but retroverted due to the adhesions. Both tubes were distended and thickened. ovaries were partially visualised, being buried in adhesions and appeared normal. Methylene Blue dye was now introduced. The left tube distended with dye and peritoneal spill was noted. The right tube distended with dye, too, but was blocked terminally. The pneumoperitoneum was released and a routine dilatation and curettage done. Curettings were sent for culture for acid-fast bacilli and for histology.

The findings at laparoscopy indicated that the patient would probably benefit from tubal surgery.

streptomycin 1gm daily intramuscularly and oral isoniazid/
thioacetazone (Thiazina) for 18 months.

FOLLOW UP

She was seen again at the gynaecology clinic 6 weeks later. She did not have any complaints and the laparoscopy scar had healed well.

HISTOLOGY

The specimen sent for histology never reached the laboratory.

CULTURE REPORT (26.4.82).

TB culture report	:	
Number of colonies	:	30
Smear	:	AFB Positive
Screening -tests	:	Cultural characters of tubercle bacilli.
C X R :		Normal chest.

FINAL DIAGNOSIS

Secondary infertility with tuberculous endometritis.

TREATMENT

The patient was referred to the Infectious Diseases Hospital where she was started on a 3 month course of streptomycin 1gm daily intramuscularly and oral isoniazid/thiacetazone (Thiazina) for 18 months.

Treatment continues. She is for a repeat diagnostic D x C at the end of anti-TB therapy.

COMMENT

Tuberculosis is an infective condition caused by the *Mycobacterium tuberculosis*. This is an acid fast bacillus which invokes a granulomatous reaction with subsequent caseation.

M. tuberculosis is an intracellular organism although it is capable of extracellular multiplication. Primary infection in man is commonly pulmonary and the mode of spread is by simple extension to contiguous structures; by lymphatic dissemination whereby cells containing bacilli are carried by the lymphatic channel to the regional lymph nodes which become a seat of active infection. Since chains of lymph nodes may be affected in this fashion, material containing bacilli may enter the thoracic duct and thus the blood stream. The third route of spread is by the bloodstream itself whereby a caseous lymph node or other lesion ruptures into a vein discharging its content of bacilli into the circulation.

It is believed that soon after the primary lung infection, the bacilli multiply and reach the general circulation and thence to distant sites such as the genitalia (1)

In all the cases of genital tuberculosis fallopian tubes are involved most probably due to their high vascularity. Other genital organs involved include the endometrium

in 50 - 60% ovaries in 20 - 30%, the cervix in 5 - 15% and vagina and vulva in 1% of cases (2).

Genital tuberculosis may remain symptomless for even up to twenty or more years without producing any symptoms, the woman remaining in apparently excellent health. The presence of pelvic tuberculosis is most often revealed in the course of investigations for infertility (3).

In a prospective study of 200 cases of infertility, an incidence of 1.5% was reported in 1970 in Nairobi (4).

In a review of all cases of tuberculosis at Kenyatta National Hospital 1973 - 1980, genital tuberculosis was found to constitute 0.3% of all cases (5). Therefore genital tuberculosis accounts for a small but significant factor in aetiology of infertility.

Advanced tuberculosis endometritis may present with poor health, menstrual irregularities such as oligomenorrhoea and amenorrhoea, dysmenorrhoea and lower abdominal pains with vaginal discharge. Tubal and endometrial damage is due to the tubercular process leading to caseation and when curettage is performed, curettings should be subjected to histological examination which shows evidence of granulomatous reaction. This reaction may, however, be similar to other granulomatous lesions such as syphilis and schistosomiasis, and can be differentiated from TB by performing the Ziehl-Nelson stain to demonstrate acid fast bacilli. Cultures and inoculations into guinea pigs are both widely used but have the disadvantage that an answer may not be available for 4 to 6 weeks with the first method and 4-12 weeks with the second.

Treatment is medical over a long duration of time.

Streptomycin is given systemically for 3 months and thiazina

(Isoniazid/thiacetazone) orally for 18 months. A curettage should be repeated at the end of treatment and curettings subjected to the above laboratory tests.

Surgery should be resorted to if there is persistence of active disease despite adequate medical treatment or if inflammatory masses persist. Salpingectomy may be performed in cases of tuberculous salpingitis in the hope that this will prevent both recurrence and spread of the infection.

Infertility is an important sequelae of tuberculous endometritis. Tubal surgery for restoration of patency is useless. Though the lumen may remain patent after adequate treatment, ectopic pregnancy may occur. In our patient there was gross pathology at laparoscopy that chances of her achieving a normal pregnancy are low.

Otiene L.S.

Genital - urinary tuberculosis at Kenyatta National Hospital 1973-1980. E. Afr. Med J 60:212, 1983.

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CASE HISTORY

The patient was well until 2 years ago when she noticed a swelling in the lower abdomen which gradually increased in size. At this time the swelling produced no symptoms. Over the past six months, she had been experiencing heavy menstrual periods which were prolonged and painful.

CASE No. 6.

MULTIPLE UTERINE FIBROIDS

TOTAL ABDOMINAL HYSTERECTOMY

NAME : M. A.
 UNIT : 559146
 TRIBE : LUO
 PARITY : 0 + 1
 AGE : 27 YEARS
 L M P : 10.5. 84
 D. O. A. : 21. 5. 84
 D. O. D. : 31. 5. 84

CHIEF COMPLAINT

This patient presented at the Outpatient Gynaecology Clinic with a 2 year history of a gradually growing abdominal swelling and heavy menstruation accompanied by lower abdominal pains.

CASE HISTORY

The patient was well until 2 years ago when she noticed a swelling in the lower abdomen which gradually increased in size. At this time the swelling produced no symptoms. Over the past six months, she had been experiencing heavy menstrual periods which were prolonged and painful.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

Her menarche was at 16 years. She had conceived once in 1980 but aborted at 2 months. She had not conceived again and she had not attended any hospital for investigations and opinion for her secondary infertility. Her menstrual periods lasted between 7 and 8 days every 30 days and they were heavy and accompanied with pain and backache. She had not been on any contraceptives.

MEDICAL HISTORY

She had been admitted 3 times into the emergency gynaecology ward for the same complaints. She had never been operated.

PHYSICAL EXAMINATION.

She was in good general condition. There was no clinical evidence of anaemia, pallor, jaundice or dehydration. She was afebrile. The pulse rate was 72/min and the blood pressure 120/70 mm Hg. Respiratory and cardiovascular systems were normal. There was a firm, irregular and nodular mass arising from the pelvis. This mass was freely mobile and corresponded to a 16 week pregnancy.

PELVIC EXAMINATION

The external genitalia were normal. The cervix was healthy, closed, long and firm. The uterus was enlarged 16 weeks, firm and nodular. There were no adnexal masses

and the fornices were slightly tender. The uterus was mobile. There was no vaginal bleeding. A cervical smear was taken from the cervix.

DIAGNOSIS

Multiple uterine fibroids

INVESTIGATIONS

1. Pap smear : Class II
2. Haemogram : Haemoglobin : 13.4 g/dl
PCV : 42.5%
3. MSSU : No growth
: No sugar, no protein.

MANAGEMENT

Total abdominal hysterectomy was planned after the couple consented. 3 units of compatible blood were made available for the surgery.

TOTAL ABDOMINAL HYSTERECTOMY

The patient was premedicated with atropine sulphate and pethidine. Anaesthesia was induced, vulvovaginal toilet done and bladder catheterised. The cervix and vaginal vault were then painted with Methylene Blue dye. The abdomen was cleaned and draped and opened through a subumbilical midline incision in layers. The uterus was

found to be 16 weeks size and had multiple fibroids on it. A lot of adhesions on the posterior aspect of the uterus were encountered. The tubes were thickened and involved in adhesions. The right ovary was firmly adherent to the uterus but looked normal. The left ovary was normal. Bowels were packed away with abdominal packs and a self retaining retractor inserted. Good exposure was obtained, and the adhesions carefully released.

Clamps were now placed on each round ligament which was divided and ligated with chronic catgut No. 2. The tuboovarian ligament on each side was clamped, divided and ligated. The left ovary was preserved. Peritoneum at the level of the utero-vesical reflection was now incised and the bladder displaced downwards. The same was done to the posterior peritoneum. The uterine vessels were now clamped with angled Kocher clamps, divided and doubly ligated with catgut No.2. The uterosacral ligaments and transcervical ligaments were then clamped, divided and ligated. The cervix was palpated and the vaginal vault identified. The vault edge was held with little woods clamps anteriorly and the vault opened below the level of the cervix and incised all round, the angles being held with long antery forceps. The uterus with both tubes and the right ovary was now delivered out of the abdomen. The vault angles were ligated with chronic catgut No. 2 and the vault adges sutured with continous locking stitches. Haemostasis was achieved and the peritoneum closed over

the vault with a continuous suture which included the ligated round ligaments.

Abdominal packs were then removed and the abdomen closed in layers. The blood loss was estimated at 500 mls. The patient was not transfused. Anaesthesia was then reversed and recovery was uneventful. She was then returned back to the ward.

POSTOPERATIVE MANAGEMENT

Routine postoperative management was instituted. Pethidine was given for pain for 48 hours. Prophylactic Ampicillin IM was given for 48 hours, thereafter orally. Intravenous fluids were discontinued after 48 hours and oral sips started. On the 3rd postoperative day she was mobilised. Postoperative haemoglobin was 13.2 gm/dl. The patient did well postoperatively. Alternate stitches were removed on the sixth day and all on the seventh. The wound had healed well and she was discharged to the gynaecology clinic.

HISTOLOGY

Cut section shows intramural fibroids.

On histology uterus shows intramural leiomyomata.

Cervix is normal.

FOLLOW UP

She attended the gynaecology clinic 6 weeks after

discharge. She had no complaints. The wound was

well healed and so was the vaginal vault. She was discharged from the clinic.

COMMENT
Uterine fibroids (myomas) are the most common benign tumours of women, developing in about 1 in 5 women during reproductive life (1). Their presence does not necessarily produce symptoms and the majority are often quite small to be recognized clinically.

The aetiology of fibroids is obscure. Most investigators accept the view that the source is not from mature muscle elements but from immature cells. They seem to be estrogen dependent as evidenced by their rapid growth during pregnancy and tendency to regress after the menopause although about 10% are said to continue growth. It has also been observed that oestrogen containing contraceptive pills lead to increase in size of fibroids. The incidence of fibroids is much higher in the Black than the white race thus indicating a racial factor (2). At the Kenyatta National Hospital 66.7% of all hysterectomies done during the period 1975-1978 were for uterine fibroids. (3).

Uterine fibroids are often asymptomatic and are discovered on routine examination. They usually occur as multiple, firm masses varying in size; they may be of microscopic size or of mammoth proportions that may simulate a pregnant uterus. Most women present with a history of a swelling in the lower abdomen which gradually increases in size as happened in this patient. The main symptom, not always present, is excessive or prolonged menstruation which may be due to the generally increased vascularity of the uterus.

COMMENT

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The myoma most likely to cause bleeding is the submucous as opposed to the interstitial and subserous growths. Pain is not a characteristic symptom of fibroids and when present it is indicative of infection or degenerative changes within the fibroid such as hyaline, cystic, necrobiosis, or calcification. Concurrent pelvic inflammation was found in this patient. Sarcomatous degeneration is a rare event and is thought to occur in less than 0.5% of all myomas (2). Despite this low incidence of transformation, any rapidly growing fibroid associated with irregular bleeding should have a fractional curettage to rule out sarcomatous change. In our patient this complication did not arise and a fractional curettage was therefore not done.

Uterine fibroids are commonly associated with infertility and relative infertility. At Kenyatta National Hospital, 70% of patients with fibroids are infertile (3). They are also associated with repeated abortions. Our patient had an abortion in 1980 followed by a period of infertility. The association between infertility and uterine fibroids is not established though an association of anovulation with fibroids (3) is quite high and it is believed that it is the anovulation other than the fibroids that causes the infertility. (4).

REFERENCES

Not all myomas call for surgery and where the tumours are small, asymptomatic and the diagnosis certain, conservative management under regular supervision has a place (1). In those patients with large myomas causing symptoms, surgery is indicated. Myomectomy is the operation of choice in young women where the preservation of reproductiveness is of importance if tubal patency is confirmed. Hysterectomy is reserved for those patients with large, symptomatic fibroids, for those not desiring children and for the old. Our patient presented with menorrhagia and multiple uterine fibroids corresponding to a pregnancy of 16 weeks and this made hysterectomy the operation of choice. In view of her age, one ovary was preserved.

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CASE No. 7

MALIGNANT TERATOMA -LAPAROTOMY AND CHEMOTHERAPY

NAME : A. S. H
 UNIT : 625016
 AGE : 19 YEARS
 PARITY : 1 + 0
 TRIBE : SOMALI
 D. O. A. : 25.6.84
 D. O. D. : 24.9.84

CHIEF COMPLAINTS

The patient complained of progressive right abdominal swelling for 4 months.

CASE HISTORY

This 19 years old patient was admitted to the gynaecology Ward 4 from the Outpatient Gynaecology Clinic where she had presented with the above complaint. The patient had been well prior to the onset of the above complaint. The swelling was painless and progressively increase in size.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

Menarche occurred at 15 years of age. Her cycles were lasting 3-6 days and came every 21-28 days. Menses were painless. She was para 1 +0 having delivered in February 1984. The baby died immediately after delivery due to prematurity. The last menstrual period was on 11.6.84 and she had not been on any method of contraception.

SOCIAL HISTORY

The patient was a married housewife. She did not smoke or drink.

PAST MEDICAL HISTORY

Not contributory.

PHYSICAL EXAMINATION

On admission she was in good general condition. She was not pale and she was afebrile, temp 36.8°C. The blood pressure was 110/60 mm Hg, pulse 80/min regular. Cardiovascular and respiratory systems were normal. The abdomen was uniformly distended. Liver and spleen were not palpable and she had a mass about 34 weeks size which was firm, non-tender, irregular and relatively mobile.

PELVIC EXAMINATION

The external genitalia and vagina were normal. The cervix was firm and closed. The uterus was normal size and deviated to the right. There was no right adnexal mass. The Pouch of Douglas was empty. There was a very large cystic irregular mass lying in the left adnexa. The size of the mass was indeterminate.

There was no vaginal discharge or bleeding.

THE LAPAROTOMY

Under general anaesthesia, the bladder was catheterized and the patient examined. The findings were the same as described.

DIAGNOSIS

A diagnosis of left ovarian cyst was made and the following investigations were carried out.

1. Haemoglobin : 14.3 gm/dl
2. Urea/Electrolytes: BUN 3.8 mmol/litre
: Na⁺ 138 mmol/litre
: K⁺ 4.5 mmol/litre
3. MSSU : Normal. No growth obtained.
4. Plain Abdominal X-ray : Soft tissue haziness around the umbilicus extending to the pelvic region
5. Ultrasound : Large multiseptate abdominal mass arising from the pelvis. Diagnosis:- Ovarian tumour.

POSTOPERATIVE CARE.MANAGEMENT

The patient was scheduled for a laparotomy which was done on 13.7.84. The nature of operation was explained to the patient and a consent obtained. She was prepared in the usual manner, starved overnight and premedication consisting of 0.6 mg atropine sulphate and 50 mg pethidine intramuscularly given thirty minutes before operation. Two pints of compatible blood were made available and the patient kept in the ward to await histology report.

THE LAPAROTOMY

Under general anaesthesia, the bladder was catheterised and the patient examined. The findings were the same as described,

The abdomen was opened by a right paramedian incision as described in the introduction. A large multiloculated left ovarian mass with the left fallopian tube attached loosely to it and drawing a blood supply from the omentum was found. There was haemorrhagic ascites, about 200 cc. The uterus was normal size. The right ovary and tube were grossly normal. There was no normal ovarian tissue identified on the left.

The mass was lifted out of the abdomen. The left fallopian tube was then separated from the cyst and a left oophorectomy done. Haemostasis was ensured and the abdomen closed in layers.

The mass was then opened up by incising its membrane. Dark brown fluid oozed out and multiloculations were found, partially cystic and partially solid.

POSTOPERATIVE CARE.

Anaesthesia was reversed and the patient allowed to regain consciousness in the recovery room then returned to the ward and routine postoperative observations done. She remained on IV fluids for 48 hours. Pethidine 100 mg 6 hourly for pain relief was given for 48 hours. Prophylactic Ampicillin was also given. She remained well throughout the postoperative period. Post-operative Hb check was 14.4 gm/dl. Stitches were removed by the seventh day and the patient kept in the ward to await histology report.

HISTOLOGY REPORT (No. 6145).Left Ovarian Cyst

Gross : A multiloculated encapsulated cystic mass 190 X 170 X 140 mm. The cut surface is predominantly solid yellowish white tumour with cysts containing haemorrhagic material. A single cyst 20 mm diameter and near the capsule contains hair and sebaceous material. At one point tumour has invaded the capsule and is seen externally.

HISTOLOGY

The tumour consists of solid mature elements infiltrated by adenocarcinoma. The mature elements included ciliated columnar epithelium nervous tissue, smooth and skeletal muscle, cartilage, fat, squamous cell epithelial pearls and vascular channels, with interstitial cells. There is extensive necrosis.

The features are suggestive of malignant transformation in a mature cystic teratoma.

FINAL DIAGNOSIS

A final diagnosis of malignant teratoma was made.

FURTHER MANAGEMENT

The patient was prepared for a second laparotomy whose aim was to clear the pelvis ie a complete hysterectomy and adnexectomy.

Informed consent was obtained, and three pints of blood were made available for the surgery.

She was premedicated with atropine and pethidine. Anaesthesia was induced. Valvovaginal toilet was done and the bladder catheterised. Methylene Blue dye was painted to the cervix and vaginal vault.

The abdomen was cleaned and draped and opened through the same incision in layers after excision of scar tissue. The pelvis was fairly clean. The right tube and ovary were normal. The left tube was fibrosed terminally. There was no ascites. The uterus was normal sized.

A total hysterectomy with bilateral salpingectomy and removal of the remaining ovary were done as described in gynaecology case No. 6. The abdomen was then closed in layers. The blood loss was estimated at 200 mls and she was not transfused. Anaesthesia was reversed and the patient was returned to the ward after an uneventful recovery.

POSTOPERATIVE CARE

Routine postoperative care was instituted as described above. The postoperative Hb was 14.3 gm/dl. Alternate stitches were removed on the sixth day and all on seventh.

CHEMOTHERAPY

She was now given chemotherapy in the form of intravenous melphelan (Alkeran). The patient was weighed and a full hemogram and platelet count ordered.

1. Haemoglobin 14.3 gm/dl
Total WBC count - 7.4×10^3 /cc
Platelet count - 207,000/cc.

2. Wt - 42 kg

She received an intravenous total dose of 42 mg of alkeran in 500 ml 5% dextrose given over 12 hours and she was subsequently discharged home, to be seen at the gynaecology clinic in 3 weeks time for admission for chemotherapy.

FOLLOW UP

She is still under follow up.

COMMENT

Teratoma of the ovary may be cystic or solid. The cystic form is represented by the benign teratoma (or dermoid) which is by far the most common of germ cell tumours and probably of all ovarian tumours. The solid teratoma differs from the benign teratoma not only in that it is a solid tumour but also because it is malignant.

The true incidence of ovarian teratomas in Kenya is not known. In a study of 174 primary ovarian neoplasms seen over a 3 year period at the Kenyatta National Hospital 43.6% were benign teratomas (1)

No cases of malignant teratomas were reported. In a similar study carried out at the Peterborough District Hospital in the United Kingdom, the incidence of benign teratoma was 27.4%, that of malignant teratoma being 1.6% (1). The high incidence of benign teratoma and low incidence of malignant teratoma was also illustrated in Uganda (2) who reported incidences of 23.2% and 3.5% respectively.

A teratoma is a neoplasm consisting of tissues derived from at least two of three embryonic germ layers with malignant teratoma containing elements from all three of the foetal layers i.e. ectoderm, mesoderm and endoderm as was seen in this case. The histogenesis of teratoma is not clearly known. They are thought to arise from the ovum by a process of parthenogenesis where there is an attempt to produce an embryo without fertilisation, thus arising from a single germ cell after the first meiotic division. Teratomas have a homozygous chromosome makeup i.e. a normal 46XX Karyotype, whereas normal tissue is heterozygous (3).

The totipotency of teratoma may give rise to many bizarre arrangements of the tissues. The appearance of sets of teeth inserted in firm bone, thick matted hair, cartilage, occasionally thyroid tissue and almost any other structure may be noted.

The reported incidence of malignant transformation is surprisingly low. About 3% dermoids undergo malignant change and when this happens the prognosis is extremely poor (4) and it seems to depend more on whether the cyst wall has been penetrated by the malignancy (5) In this patient the capsule was breached and poor prognosis was expected. While practically all malignancies arising in benign cystic teratoma are squamous cell carcinoma (80%). other varieties have been described, such as adenocarcinoma (7%) sarcoma and choriocarcinoma (6).

Teratoma may occur at any age, but is more common in younger individuals. As is true of most ovarian neoplasms, the teratoma is usually asymptomatic, being discovered on routine examination. It may become large enough to cause the patient to seek medical attention as happened in this case. There may be occasional slight bleeding and ascites is not infrequent in which case the course is definitely malignant and metastases occur not only in various abdominal locations but also in distant organs even where there is an intact capsule and no gross extension (6). There does not seem to be any particular predilection for one side or the other, malignancies are seen occur on each side with equal frequency (5). The natural course of disease seems to be uninfluenced by pregnancy (7) and in our case the recent pregnancy was most probably not a contributing factor to the rate of growth of the tumour.

The treatment of these tumours is surgical even though the prognosis is unfavourable in most cases. Radiotherapy appears to be of little or no value. A unilateral ovariectomy is the best therapy if the tumour is confined to one gonad. Obviously if the capsule has been breached and more widespread disease exists, every effort should be made to remove as much of the tumour as possible. Complete hysterectomy and adnexectomy as was done in this case, has been suggested. Nevertheless, if the lesion is localised to one ovary, removal of the opposite gonad and uterus has not improved the salvage rate. It is in this type of tumour that adjunctive chemotherapy may be beneficial (8).

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A 25-year-old patient presented at the Outpatient
Clinic with a history of irregular periods. When
she came to the clinic she had not had her periods for 3 months.

REVIEW OF PRESENT MEDICAL HISTORY

She is 25 years old. Her periods were initially
regular, coming 4 days and coming every 30 days. They were painful
and she had to stop work for 3 days. She has been married for 2 years. She has
not had any children for investigations and management for
her periods. She is not on any contraceptives.

CASE No. 8.

STEIN LEVENTHAL SYNDROME - WEDGE RESECTION

PATIENT HISTORY

NAME : D. N.
 UNIT : 450393
 AGE : 23 YEARS
 PARITY : 0 + 0
 TRIBE : LUHYA
 D. O. A. : 26. 12. 83
 D. O. D. : 3. 1. 84

CHIEF COMPLAINTS

This 23 year old patient presented at the Outpatient Gynaecology Clinic with a history of irregular periods. When first seen at the clinic she had not had her periods for 3 months.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

Menarche was at 16 years. Her periods were initially regular lasting 3 days and coming every 30 days. They were painless. She was para 0 + 0 despite having been married for 2 years. She had not attended any clinic for investigations and management for infertility and she was not on any contraceptives.

SOCIAL AND MEDICAL HISTORY

She was a married housewife. Her husband worked as a teacher. She did not smoke or drink.

PAST MEDICAL HISTORY

Not contributory.

PHYSICAL EXAMINATION

She was in good general condition. Clinically she was not anaemic. There was no evidence of jaundice and she had no oedema. There was no hair in the chin neither did she have acne. Breasts were normal and well formed. Her blood pressure was 130/70 mm Hg with a pulse rate of 84 per minute, regular and good volume.. The respiratory and cardiovascular systems were essentially normal. The abdomen was soft and there were no masses. The liver, spleen and kidneys were not enlarged.

PELVIC EXAMINATION

External genitalia were normal. The cervix was firm and closed and appeared healthy. The uterus was normal size, anteverted and anteflexed. A right adnexal mass, cystic and non-tender measuring about 5cm X 5cm was palpated. There were no masses in the left adnexa and the Pouch of Douglas was empty. There was no vaginal discharge or bleeding.

A cervical smear was taken.

DIAGNOSIS

A diagnosis of right ovarian cyst was made and the following investigations were carried out.

1. Pap smear ; Class II
2. Pregnancy test: Negative
3. Haemogram : Haemoglobin : 10.0 gm/dl
PCV : 30.4%
WBC : 8.9×10^3 per cm^3
4. Ultrasound : Uterus normal size. Small right adnexal mass attached to the uterus and resembles a gestational sac but no products of conception. within.

MANAGEMENT

The patient was admitted for a Laparotomy which was done on 27.1.83. The nature of the operation was explained to her, a consent obtained and 2 units of compatible blood group O positive made available. She was prepared in the usual manner and premedicated with atropine and pethidine.

Anaesthesia was induced, the bladder catheterised and the patient examined. The earlier findings were confirmed. The abdomen was then cleaned, draped and opened through a subumbilical midline incision in layers. The uterus was normal size. The left ovary was enlarged to the size of a hen's egg with a thickened creamy white capsule and multiple cysts on its surface. The right

ovary was slightly larger than the left, with an unruptured cyst containing straw coloured fluid. It was creamy white and had a thickened capsule. Both tubes were normal. A right cystectomy and a wedge resection was done from both ovaries including the capsule and medulla. Haemostasis was achieved and the abdomen closed in layers.

POSTOPERATIVE CARE

The patient recovered well from anaesthesia and routine post-operative observations were done. She was given intramuscular pethidine 100 mg 6 hourly for analgesia for 24 hours. Intravenous fluids were discontinued after 36 hours and the patient started on oral sips. She did well and on the 6th day alternate stitches were removed. The remaining stitches were removed on the 7th day and the wound had healed well.

A repeat hemogram and a hormonal profile were done before the patient was discharged home. She was discharged on oral haematinics.

1. Haemogram : Haemoglobin : 10.1 gm/dl
: PCV : 32%
2. Hormonal Profile :
Prolactin : 425 mlu/L
FSH : 10.2 lu/L
LH : 3.86 lu/L
Testosterone : 2.19 nmol/L

FOLLOW UP

She was seen again in the clinic on 6.4.83 and she did not have any complaints. She had menstruated in February and her LMP was on 31.3.83, periods lasting 4 days. Since she desired a pregnancy, hysterosalpingogram and seminal analysis were done.

HSG : Normal findings.

Seminal analysis : Normal findings.

HISTOLOGY REPORT

Two wedges of ovarian tissue. One measuring 60 X 40 X 10 mm the other 45 X 25 X 10 mm. Histology shows ovarian tissue with no evidence of recent ovulation.

FINAL DIAGNOSIS

Stein - Leventhal Syndrome.

FURTHER FOLLOW UP

At a subsequent visit on 19.10.83 she reported that she had missed her menses. The LMP was 23.8.84. Vaginal examination revealed a soft enlarged uterus corresponding to 8 weeks pregnancy. She was referred to the antenatal clinic for followup.

COMMENT.

The Stein-Leventhal Syndrome was first described by Stein and Leventhal in 1935. They described a clinical picture comprising of infertility, oligomenorrhoea or amenorrhoea, hirsutism, hypertension and obesity, associated with enlarged ovaries. Because of the diversity seen with this syndrome, there is good reason to doubt its being a clinical entity and workers have, therefore, referred to it as polycystic ovarian disease. (1). The syndrome affects females between the ages of 10-30 years (2,3,). Our patient was within the common age group of this syndrome, being 23 years old. The frequency of symptoms varies and it has been reported that 74% are infertile, 69% present with hirsutism, 51% amenorrhoea, 41% obesity and 29% dysfunctional uterine bleeding. Our patient presented with menstrual irregularities and infertility was a later complaint.

The disorder is presumably of endocrine origin, representing a spectrum of malfunction in the hypothalamic-pituitary-ovarian axis because of the bilateral nature of the condition resulting in temporary or persistent anovulation. In the patient with chronic anovulation, the average daily production of oestrogen is increased and the circulating levels of oestrogen are relatively constant. This results in slightly depressed levels of FSH and

slightly elevated levels of LH. Because FSH levels are not eliminated, new follicular growth is continuously stimulated but not to the point of full maturation and ovulation. Despite the fact that full growth potential is not realized, follicular lifespan may extend several months in the form of multiple follicular cysts. As various follicles undergo atresia, they are immediately replaced by new follicles of similar growth potential, hence the polycystic appearance. The thickening of the ovarian capsule may be due to androgens and it has been demonstrated that stromal tissue is capable of secreting significant amounts of androstenedione and testosterone (4) and that women with anovulation and hirsutism have elevated androgen production rates.

Once the clinical diagnosis of Stein - Leventhal Syndrome has been made it must be confirmed by hormonal studies and ovarian biopsy or by laparoscopic examination of the ovaries. On biopsy there are no specific histological features but macroscopic examination reveals slightly enlarged and polycystic ovaries with a smooth pearly white and thickened capsule. FSH levels may be depressed and LH levels slightly elevated. 17 Ketosteroids are minimally elevated and testosterone may be high. Basal body temperature records and endometrial biopsies confirm anovulation. In this patient the hormonal levels were within normal, BBT records and endometrial biopsy were not done.

The management of these patients depends on their complaints and desires. If the patient desires pregnancy, she is a candidate for medical induction of ovulation with clomiphene citrate. If this fails then human menopausal gonadotropins (HMG) may be tried. Even though the introduction of clomiphene has revolutionised the treatment of Stein-Leventhal syndrome, there is still a place for wedge resection in well selected patients, or in those patients where clomiphene has failed (5). Our patient had a wedge resection done and this was followed by ovulation and pregnancy. The mode of action of wedge resection is mainly mechanical.

In the patient with hirsutism, the aim of the work up is to determine the source of excess androgen, and when such conditions as Cushing's syndrome are ruled out, the contraceptive pill may be used. For the patient who does not wish to become pregnant but is anovulatory and has irregular bleeding, the use of Provera 10 mg daily for 5 days every 2 months is favoured to ensure complete withdrawal bleeding. Spacing of the progestational medication in this fashion will allow the patient to be aware of spontaneous bleeding due to the onset of ovulatory cycles.

Finally if left unattended, these patients with anovulation develop two clinical problems i.e. oestrogen breakthrough bleeding which may at least be inconvenient and at the worst be irregular and very heavy and endometrial cellular changes progressing to atypical hyperplasia

and even early carcinoma.

The patient discussed presented with infertility and irregular menstrual periods. After wedge resection she resumed her periods, started ovulating and achieved a pregnancy.

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CASE No. 9.

VESICO-VAGINAL FISTULA - SUCCESSFUL REPAIR

NAME : K. Y.
 UNIT : 584825
 AGE : 25 YEARS
 TRIBE : SOMALI
 D. O. A. : 16.10.83
 D. O. D. : 14.12.83
 PARITY : 5 + 0

CHIEF COMPLAINTS

The patient complained of urinary incontinence since her last delivery in March 1983.

CASE HISTORY

This patient was admitted through the Gynaecology Outpatient Department on 16th of October 1983 as a referral from Garissa Provincial Hospital with a history of leakage of urine and dysuria since March 1983 following a difficult delivery. She had laboured at home for three days. Examination under anaesthesia at Garissa showed four vesico-vaginal fistulae which could not have been repaired there, hence the referral.

Due to communication barrier, the history given by the patient was sketchy, but similar to that given on the referral letter.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 5 +0 having delivered lastly in March 1983 to a stillbirth. However, she had no menses since her last delivery.

MEDICAL HISTORY

Not contributory. No previous hospitalisation or ailments of any significance.

PHYSICAL EXAMINATION

On admission, she was in good general condition. There was no clinical evidence of anemia, dehydration, oedema or jaundice. She was not febrile and she was smelling urine. The respiratory, central nervous and cardiovascular systems were normal. She had a BP of 120/70 mm Hg and a pulse of 78/Min. The abdomen was scaphoid, soft and non-tender. There were no palpable masses.

PELVIC EXAMINATION

She had a circumcision scar. There was no vulval excretion. She dribbled urine out of the vagina continuously. The cervix and anterior vaginal wall were exposed using a Sims, speculum after placing the patient in Sims position.

Two midvaginal fistulae were noted and the cervix appeared fibrotic. A bimanual examination was done in lithotomy position and this revealed a normal sized uterus which was mobile.

DIAGNOSIS

A diagnosis of two mid-vaginal fistulae was made and the patient was prepared for examination under anaesthesia and repair.

INVESTIGATIONS

:- Haemogram : Haemoglobin 13.7gm/dl
 : Haematocrit 39.6%
 : W.B.C. 5000/cc

- Urea/electrolytes: Sodium : 140 mmol/litre
 Potassium: 3.6 mmol/litre
 BUN : 4.8 mmol/litre

PRE - OPERATIVE EUA

This was done on 27.10.83.

Under general anaesthesia, the patient was placed in lithotomy position. Vulvovaginal toilet was done and she was draped. There was no vulval excoriation. Urine was dribbling freely out of the vagina. A circumcision scar was noted. Auvard's speculum was inserted into the vagina and two fistulae were seen : a urethrovaginal fistula about 1.5 cm in diameter and a midvaginal fistula about 1 cm in diameter. The anterior lip of the cervix was deficient. Tissues around the fistulae were quite free.

A catheter was then introduced through the urethra and into the bladder. Methylene blue was instilled and leaked through the fistulae.

It was recommended that both fistulae be repaired in the knee-chest position.

After reversal of anaesthesia the patient was sent back to the ward. Repair was scheduled for 4th November and two units of blood were made available. She was premedicated in the usual manner.

REPAIR OF VVF (4.11.83)

The patient was placed in the knee chest position and her legs made to hang over the lithotomy poles. They were secured with a crepe bandage. To allow easy abdominal respiratory movements sandbags were placed under the symphysis pubis and the chest. The operating table was then manipulated in a way that allowed a head-down tilt.

The labia majora were stitched to the medial aspect of the high thigh. With the posterior wall of the vagina retracted with a modified Currie vaginal speculum and the lateral wall with a Langenbeck retractor, good view was obtained. The fistulae were as described earlier.

A metal catheter was introduced into the urethra and the fibrotic ends of the first fistula dissected and edges freshened. The fistula was then repaired in three layers ie firstly the bladder mucosa, then the bladder

wall and finally the vaginal flap.

The margins of the second fistula were now dissected and the fibrotic areas excised as much as possible. The fistula was then repaired in three layers. Repair of this particular fistula was difficult because the tissues were not very freely mobile. A nelaton catheter was then inserted into the bladder through the urethra and clear urine was drained. The stitch retracting the labia was removed and the catheter transfixed and sutured to the labia. A sterile urine bag was attached to the catheter, the patient was turned to the supine position and anaesthesia reversed.

POSTOPERATIVE MANAGEMENT

The patient had observations for blood pressure, temperature respiration and pulse taken $\frac{1}{2}$ hourly until she recovered from anaesthesia, thereafter 4 hourly. Intravenous fluids were given, 3 litres per day and a strict input-output chart maintained. Pethidine was given for postoperative pain and prophylactic ampicillin, later changed to cotrimoxazole, was given.

The patient did well postoperatively, remaining dry and output was satisfactory. On the 3rd post-operative day, a catheter specimen of urine was taken for culture and sensitivity and a postoperative haemoglobin was done on the same day. The haemoglobin was 10.7gm/dl and 10^5 organisms/ml of proteus, sensitive to nitrofurantoin sodium, was isolated from the urine. She was started on nitrofurantoin 100 mg three times daily orally. The patient remained

dry and the catheter was removed on the 14th post-operative day.

On the 15th post-operative day, she developed urinary retention. This was relieved by catheterisation and a urine culture was requested. This time Klebsiella species 10^5 organisms/ml, sensitive to gentamycin, was isolated. She was now started on intramuscular gentamycin 80 mg twice daily.

The urinary tract infection healed and on the 26th postoperative day the patient was still dry.

On 5.12.83 examination without anaesthesia (EWA) was done.

Vulvovaginal toilet and draping were done and three sterile cotton swabs were introduced into the vagina, one after the other.

A nelaton catheter (No. 8) was gently introduced into the bladder and clear urine was drained. Sterile methylene blue was now introduced into the bladder through the catheter. The swabs were removed and inspected one by one. They all showed no dye. There was no leakage from the incision. The patient was subsequently discharged home on the 40th postoperative day (14.12.83) with advise to abstain from sexual intercourse for 3 months. She was

also advised that any future deliveries would have to be by caesarean section.

FOLLOW UP

She was seen in the gynaecology clinic 6 weeks later and was found to be well. She had not had any menses since repair and did not have any complaints.

COMMENT

Vesico-vaginal fistula is a most distressing condition resulting in continuous urinary incontinence. Those women suffering from this condition are treated as social outcasts and they very commonly suffer from depression.

The various causes of fistulae are obstructed labour, direct trauma during operative vaginal delivery, caesarean section, hysterectomy, vaginal operation, ruptured uterus, tumour infiltration and irradiation. The true incidence is difficult to determine. In a review of 245 new cases dealt with over a five year period at the Kenyatta National Hospital, 87.8% were labour related, 7.5% were associated with cervical cancer and 3.9% were due to non-obstetric causes. (1).

The mechanism of production of vesico-vaginal fistula as a result of obstructed labour is pressure necrosis. During labour, the bladder is displaced upwards into the

abdomen and the bladder base and urethra are compressed between the presenting part and the posterior surfaces of the symphysis pubis. Should the compression be prolonged, the intervening soft tissues become devitalised by ischaemia resulting in sloughing to form a fistula. This in turn, leads to urinary incontinence developing from the third to the tenth day of the puerperium (2). Compression of tissues posteriorly results in recto-vaginal fistulae which were found to occur in 7.2% of all fistulae at the Kenyatta National Hospital (1). In this patient labour lasted three days and this was the most probable cause of the fistula.

The outcome of labour in this patient was a stillbirth. In his study (Gunaratne 1) the outcome of labour was found to be a stillbirth rate of 63.7% and a neonatal death rate of 6.3%, altogether giving a 70% perinatal mortality rate.

Repair of urinary fistula is not undertaken immediately after causative trauma, but after a delay of 3 months in order to allow complete sloughing of devitalised tissue, for inflammation to subside and for tissues to regenerate.

A preliminary examination under anaesthesia (EUA) is performed to ascertain the position, size and fixity

of the fistula so as to decide on surgical approach. The success of the repair depends upon the surgical skill of the operator, suitable instruments, type and size of the fistula, the degree of fibrosis and good postoperative care. The midvaginal fistula has the highest cure rate whereas the circumferential has the lowest (1,2). Our patient had fairly small fistulae which were easily accessible and the surrounding tissues were fairly lax.

Postoperatively, continous bladder drainage should be maintained for 14 days as was done in this case. Urine output must be charted carefully since any blockage in the catheter would result in back pressure and breakdown of the repair. Prophylactic antibiotics are given routinely to prevent infection and a catheter specimen of urine should be sent for culture and sensitivity. In this patient culture grew proteus and Klebsiella respectively. Both infections were promptly treated with the appropriate antibacterial agent.

Secondary amenorrhoea, most probably due to hypothalamic factors, is a common problem associated with vesico-vaginal fistulae. However, with successful repair of the fistula and resumption of sexual activity, a pregnancy can be achieved. It is important to advise the patient that any future pregnancies would have to be delivered by caesarean section. This patient was advised accordingly.

Vesico-vaginal fistulae are preventable by good antenatal care and improved maternity services as a short term measure, and by elimination of childhood malnutrition and customs that predispose to the formation of fistulae as a long term measure. (2,3).

Wright J. R. and Stewart D. B.

Obstetrics and Gynaecology in the tropics and
developing countries

London, London p. 481

Wright J. R. et al.

Vesico-vaginal fistula. In Health and Disease
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CASE HISTORY

She was well until a week ago when she noticed a whitish, foul smelling vaginal discharge and started experiencing lower abdominal pain. She was not bleeding per vagina. She was seen by a private practitioner who gave her some tablets and capsules.

The lower abdominal pains did not subside, neither did the vaginal discharge and the patient came to Kenyatta National Hospital for further treatment.

CASE No. 10.

BILATERAL PYOSALPINX : BILATERAL SALPINGECTOMY

NAME : N. N.
 AGE : 20 YEARS
 TRIBE : KIKUYU
 PARITY : 1 + 0
 UNIT : 616982
 ADMITTED : 10.5.84
 DISCHARGED : 20.5.84

CHIEF COMPLAINT

The patient was admitted through the Casualty Department where she presented with complaints of lower abdominal pains and vaginal discharge for the last 7 days.

CASE HISTORY

She was well until a week ago when she noticed a whitish, foul smelling vaginal discharge and started experiencing lower abdominal pains. She was not bleeding per vaginam. She was seen by a private practitioner who gave her some tablets and capsules.

The lower abdominal pains did not subside, neither did the vaginal discharge and the patient came to Kenyatta National Hospital for further treatment.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had one previous normal vaginal delivery in 1982. The child was alive and well. She had not used any contraceptives. She had menarche at 15 years and her periods had been normal and regular, lasting 4 - 5 days every 28-30 days. Her last menstrual period was on 23.4.84 and she had no amenorrhoea.

MEDICAL HISTORY

Not contributory.

SOCIAL AND FAMILY HISTORY

She was a married housewife. She did not drink or smoke.

PHYSICAL EXAMINATION

Her general condition was satisfactory. She had no pallor, jaundice or oedema but she felt clinically febrile. Her temperature was 38.1°C , blood pressure 110/50 mm Hg, respiration 22/minute and pulse 122/minute. The respiratory cardiovascular and central nervous systems were normal.

The abdomen was not distended and moved with respiration. There was marked tenderness of the lower abdomen but no rebound tenderness or guarding. No abdominal masses were palpated and the liver, spleen and kidneys were not enlarged.

PELVIC EXAMINATION

External genitalia and vaginal were normal. The cervix was long, firm, closed and displaced anteriorly. The fornices were tender and there was an ill-defined mass in the right adnexa. The Pouch of Douglas was full and boggy and there was a whitish, foul-smelling vaginal discharge.

DIAGNOSIS

A diagnosis of pelvic inflammatory disease with probable pelvic abscess was made.

MANAGEMENT

She was admitted into the emergency gynaecology ward for emergency surgery. Blood was taken for grouping and crossmatching and two units were made available. Intramuscular Ampicillin 1 gram start then 500 mg every 6 hourly and Clindamycin 300 mg 8 hourly were started, Intravenous fluids of normal saline alternating with 5% dextrose were also started.

LAPAROTOMY AND BILATERAL SALPINGECTOMY

She was taken to theatre on 14.5.84. Prior to surgery, premedication with atropine sulphate 0.6 mg and pethidine 50 mg intramuscularly was given.

Anaesthesia was induced with thipentone 250 mg and maintained on nitrous oxide 4 litres and oxygen 4 litres per minute. Vulvo-vaginal toilet and bladder catheterisation were done and clear urine was obtained.

The catheter was left in situ.

Examination under anaesthesia was done and the earlier findings confirmed. The abdomen was then cleaned, draped and opened in layers through a subumbilical midline incision.

Extensive adhesions involving the omentum the gut and the uterus were encountered and freed by blunt dissection. The uterus was normal size. Both tubes were thickened and distended terminally. Both ovaries were visualised and appeared normal.

The right tube was lifted out of the Pouch of Douglas after freeing the adhesions, The infundibulopelvic ligament was double-clamped and the tubo-ovarian mass excised. The cut edges of the mesosalpinx and infundibulopelvic ligament were ligated with chronic catgut No.2 and haemostasis achieved. The same procedure was repeated on the left side. 7 mls of pus were aspirated into a sterile syringe and the needle folded for culture and sensitivity for anaerobic microorganisms. The peritoneal cavity was then cleaned and inspected and no other pathology was identified. The abdomen was then closed in layers as described earlier. A corrugated rubber drain was left in situ. Specimens were sent for histology. Swabs and instruments were correct and blood loss was about 300 mls.

POSTOPERATIVE MANAGEMENT

The patient recovered well from anaesthesia. Blood pressure, temperature, pulse and respiration were checked half hourly until she was fully awake, thereafter 4 hourly. Intravenous fluids were continued until bowel sounds were present and pethidine 100 mg 8 hourly given for postoperative pain. She was continued on intramuscular Ampicillin and Clindamycin. The drain was removed after 48 hours and oral sips started since bowel sounds were present. The temperature fell to and stabilised at 36.8°C by the third postoperative day. Postoperative haemoglobin was 11.9 mg/dl.

The rest of the postoperative period was uneventful and alternate stitches were removed on the 6th day, all stitches were removed on the 7th postoperative day. She was subsequently discharged home in good general condition.

HISTOLOGY

Received two segments of fallopian tubes.

Histology shows active suppurative salpingitis.

Features are those of acute salpingitis.

Pus swab - Many pus cells present.

No bacterial growth.

FOLLOW UP

She attended the Gynaecology Clinic on 26.6.84. The scar had healed well and she did not have any complaints. It was explained to her that she could not conceive again and she was discharged from the clinic.

COMMENT

Because of their common occurrences and often serious consequences, pelvic infections are among the most important problems encountered in the practice of gynaecology. At the Kenyatta National Hospital about 40% of the gynaecological emergencies admitted are related to pelvic inflammatory disease (1).

Pelvic inflammatory disease (PID) is a general term for acute, subacute, recurrent, or chronic infection of the oviducts and ovaries, often with involvement of adjacent tissues. Most infections seen in clinical practice are bacterial, but viral, fungal and parasite infections may occur.

When the gonococcus is the infective organism the infection is ascending and sexually transmitted. Repeated sexual contacts with different partners predispose to subsequent reinfection or superinfection, spreading the disease throughout the reproductive system to result in sterility and an increased risk of tubal pregnancy. PID also follows puerperal or postabortal sepsis, gynaecological instrumentation and is associated with intrauterine contraceptive devices, the relative risk being 4.5 times in users than non-users (2).

The prevalence of gonococcal infection was found to be 75% of all cases of acute PID at the Kenyatta

National Hospital (3) and a high prevalence has also been reported in a rural area (4). Therefore, gonococcal infection must play an important role in the aetiology of PID.

The spread of gonococcal infection is from the cervix to the endometrical cavity with subsequent entry of the microorganism into the fallopian tubes. The initial gonococcal infection is often relatively asymptomatic but with entry of the gonococcus into the fallopian tubes an endosalpingitis develops and when the fimbriae become occluded, a pyosalpinx results. Should the infection spread to involve the ovary a tubo-ovarian abscess forms. Non-gonococcal PID occurs and this is commonly caused by streptococci, staphylococci, *Escherichia coli*, *Chlamydia* and *Mycoplasma*. Tuberculous infection of the genital tract usually starts as a haematogenous infection of a fallopian tube, secondary to some tuberculous infection elsewhere and when the lumen is closed at the ends, the tube becomes greatly distended with caseous pus - tuberculous pyosalpinx. It must be noted that virtually any organism indigenous to the normal vaginal or gastrointestinal flora may be isolated if specific techniques are utilised.

Our patient presented with lower abdominal pains and a vaginal discharge which are common presenting complaints. The patient was febrile with tachycardia making pelvic infection highly suspect. She was tender upon movement of the

cervix, uterus and adnexa and an adnexal mass was present.

Once a diagnosis of a pelvic mass is made, the treatment is surgical. Pus swabs for culture of the offending microorganism should be taken. Our patient presented with an adnexal mass and at laparotomy bilateral pyosalpinges were found, the pathology so gross that bilateral salpingectomy had to be performed. A pus swab taken at operation showed no bacterial growth. This finding is, however, not surprising since the pus is usually sterile. Antibiotic therapy with broad spectrum antibiotics is important and should be prescribed. Antibiotics that provide anaerobic cover should also be given. Once culture reports are available the antibiotics should be altered as dictated by the sensitivity patterns. In our unit, tetracycline with clindamycin hydrochloride or metronidazole is a common regime.

The sequelae of PID is commonly chronic pelvic pain and backache but pelvic infection may flare up again even after surgery. The prognosis for fertility is often poor and the risk of developing an ectopic pregnancy is increased (5). Our patient had bilateral salpingectomy done and was therefore rendered sterile.

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A second look into the problem of infertility

1970

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CASE NO. 11.CARCINOMA OF THE VULVA - RADICAL VULVECTOMY

NAME : R. W
 UNIT : 472013
 TRIBE : KIKUYU
 AGE : 36 YEARS
 PARITY : 8 + 0
 D. O. A. : 13.4.81
 D. O. D. : 13.6.81

CHIEF COMPLAINT

This 36 year old patient was referred from Nakuru Provincial Hospital with a 6 month history of a progressive growth on the vulva and lower abdominal pains.

CASE HISTORY

The patient was well until one year ago when she started experiencing itchiness and soreness of the vulva. This was accompanied by pain and followed by a genital swelling. The swelling gradually increased in size and eventually became ulcerated and started discharging pus. She attended Kitale District Hospital from where she was referred to Nakuru Hospital. At Nakuru, a biopsy was taken but on referral to Kenyatta National Hospital there was no biopsy report. She was, however, referred as a case of carcinoma of the vulva.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had menarche at 16 years of age. The periods were regular lasting for 3 - 4 days and coming every 28-30 days. The periods were painless and her LMP was on 4.4.81. She was para 8 +0, her last delivery having been in 1978. All children were alive and well. She had never used any contraceptives.

PAST MEDICAL HISTORY

She did not suffer from any chronic disease. There was no history of diabetes or hypertension,

SOCIAL AND FAMILY HISTORY

She was a married housewife. Her husband was a peasant farmer. She did not smoke or drink.

PHYSICAL EXAMINATION

She was in satisfactory general condition. Clinically she was not anaemic or jaundiced and there was no oedema. There was no lymphadenopathy. She had a pulse rate of 80/minute, blood pressure 110/80 mm Hg and temperature 36.2 °C. The respiratory, cardiovascular and central nervous systems were normal.

The abdomen was soft and there were no palpable masses. The spleen and liver were not enlarged.

PELVIC EXAMINATION

There was a firm fleshy growth on the left labia majora. The growth measured about 4 cm in diameter and bled easily on touch. The lesion had ulcerated and it was covered with an offensive pus discharge. Regional lymph nodes were not enlarged and the urethral meatus and vaginal were not involved in the growth. The cervix was healthy and parous. The uterus was normal size and there were no adnexal masses or tenderness.

DIAGNOSIS

A diagnosis of carcinoma of the vulva was made. Clinically she was considered to be stage II.

INVESTIGATIONS

1. Haemogram : Haemoglobin : 13.3gm/dl
PCV : 39.3%

2. Urea and electrolytes:

Sodium : 130 mmol/litre

Potassium : 3.0 mmol/litre

Urea : 30 mg %.

3. Chest X-ray : Normal findings

: No evidence of metastasis to lungs.

4. Pap Smear : Class I.

MANAGEMENT

The patient was taken for a vulva biopsy under ketamine. The growth was excised and sent for histology

HISTOLOGY REPORT

Ulcerated fragment measuring 15X8X8 mm showing a partially necrotic well differentiated keratinising squamous cell carcinoma of the vulva.

The patient was prepared for radical vulvectomy, which was done on 4.5.81. 4 units of blood were made ready and she was reviewed by the anaesthetist one day prior to surgery and found fit to withstand major surgery. On the day of operation she was premedicated with atropine sulphate 0.6 mg and pethidine 50 mg intramuscularly.

THE OPERATION

A double set -up was organized so as to minimise operation time.

The patient was placed in the supine position and anaesthesia induced with thiopentone 250 mg and scoline (75)mg intravenously. Intubation was done and the patient was maintained on nitrous oxide 4 litres and oxygen 4 litres per minute.

The groin, vulva, perineum and vagina were cleaned and draped and the bladder catheterised. Clear urine was obtained.

Starting from the anterior superior iliac spine, an incision was made, parallel to the inguinal ligament, to a point on the upper limit of the mons pubis. to join the incision from the other side. A second incision, starting from just inside the anterior superior iliac spine and extending downwards to the apex of Scarpas triangle was made and from there curved upwards and inwards to a point on the thigh about 5 cm below the pubis. A similar incision was made on the other side. These incisions went down to the abdominal aponeurosis thereby exposing the internal saphenous vein which was then ligated and divided. Node dissection was now begun starting laterally. The flap was turned upwards and all fat and nodal tissue removed from each side. The femoral vessels were exposed and the internal saphenous vein ligated close to the femoral vein and the deep fascia over the thigh muscles removed. The inguinal ligament was now divided and the deep inguinal and external iliac nodes removed and the cut ligaments sutured to the pectineus fascia. The nodes did not appear enlarged.

The patient was now placed in the lithotomy position and a catheter passed into the urethra. The incision on the thigh was extended down to the perineum and the tissues undermined. A 2cm margin of healthy skin was removed beyond the tumour. An incision was made in the vaginal wall

approximately 1 cm beyond the introitus and the vulva removed using cutting diathermy. Large vessels were ligated and haemostasis achieved.

The skin incision was closed starting at each superior iliac spine. The inguinal incision was then approximated by mobilising the upper and lower skin flaps. This allowed closure without undue tension.

The catheter was left in situ and pressure dressings were applied. Blood loss was estimated at 900 mls.

POSTOPERATIVE MANAGEMENT

The patient recovered from anaesthesia uneventfully. Vital observations ie blood pressure, pulse respiration and temperature were taken half hourly until the patient was fully awake, thereafter 4 hourly. She was transfused 2 pints of blood and intravenous fluids were given, 5% dextrose solution alternating with normal saline every 6 hours for the first 24 hours. Intramuscular pethidine was given, 100mg every 8 hours for 24 hours and she received parenteral Ampicillin 500mg 6 hourly.

Postoperatively, the patient had no complications. The postoperative haemoglobin was 12.1 gm. The wound healed well and alternate stitches were removed on the 9th day and all on the 10th day.

40 days after the operation the wound was completely healed and the patient was passing urine well. She had no

difficulty in opening bowels. There was little scarring and the vagina admitted one finger with ease. She was discharged to Nakuru General Hospital on 13.6.81 for followup.

HISTOLOGY REPORT

Vulvectomy specimen superficial and deep nodes from both sides were submitted for histology.

Section of vulva show well differentiated keratinising squamous cell carcinoma the edge of which do not extend to the cut surface. All the lymph nodes are free of malignant cells.

COMMENT

Carcinoma of the vulva is predominantly a disease of elderly women and accounts for 37.4% of all primary malignancies of the genital tract (1). At the Kenyatta National Hospital only 9 cases were seen between 1972 and 1976 out of a total of 501 gynaecological malignancies (2) It has been shown that other gynaecological malignancies such as cancer of the cervix tend to occur at a much earlier age in Kenya and other developing countries than has been reported from developed countries (2) This patient being 36 years old, fitted well into this observation.

The aetiology of this condition is controversial and seems to be associated with vulvar skin dystrophies and chronic inflammatory diseases, such as venereal granulomas and vulval warts (3). No such association was noted in this patient. Carcinoma of the vulva is often mistaken for dermatitis with the patient presenting with symptoms from secondary infection such as pain, itching and exudation as happened in this patient. As such the correct diagnosis is often made late. The disease may also be associated with obesity, hypertension and diabetes mellitus, none of which was present.

The vulvar skin is one component of the anogenital epithelium extending from the cervix to the perineum and perineal skin. The lower genital tract epithelium is of common cloacogenic origin and is responsive to endocrine stimulation. Neoplasia of the vulvar skin is often associated with multiple foci of dysplasia in the lower genital tract and 35% of patients with cancer of the vulva have squamous cell carcinoma of the cervix and this suggests a common aetiological

agent (4). In this patient the cytological smear was class 1 and no such association was demonstrated. Although the inciting agent has not been identified, a sexually transmitted agent such as herpesvirus hominis type 2 is highly suspect (5).

Squamous cell carcinoma of the vulva is the commonest malignancy although adenocarcinoma, basal cell carcinoma extramammary Paget's disease and malignant melanoma are encountered. This cancer may arise from any area of the external genitalia but the commonest site is the upper labia majora (1). In this patient the tumour was on the labium majus.

Dissemination by the lymph stream to the superficial inguinal nodes on both sides and then to the femoral and external iliac lymph nodes is the most important mode of spread of cancer of the vulva. Extension of the growth by direct spread to the vagina, urethra, groin and anus occurs.

Carcinoma of the vulva must be differentiated from venereal granulomas, schistosomiasis and genital tuberculosis. Tumours of the vulva must be diagnosed by biopsy or excision biopsy. Isolated enlargement of a groin lymph node may require excision to establish a histologic diagnosis.

The FIGO staging of vulvar carcinoma, based on tumour size and location, lymph node involvement and the presence or absence of metastases (TNM) is cumbersome and clinical staging is preferred as in our case.

Radical vulvectomy with bilateral superficial and deep ilio-inguinal lymphadenectomy is superior to every other kind of treatment. If the node of Cloquet, located at the entrance of the femoral canal, is not involved in tumour, further dissection is not necessary. The overall 5 years survival rate after radical vulvectomy is 50-60. and can be as high as 70-80% in cases where the lymph nodes are not involved (3). In our patient there was no lymph node involved and the chances of survival upto 5 years are high.

The immediate complications of surgery are haemorrhage sepsis and pulmonary embolism. Sepsis occurs commonly and it accounts for prolonged stay in hospital. Infection should, therefore, be treated aggressively. No major immediate complications were encountered. The long term complications include lymphoedema of the legs, perineal stiffness, dyspareunia and vaginal stenosis. Stenosis requires regular dilatation and therefore perineal stiffness and lymphoedema are expected to be the long term complications of importance in this patient.

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CASE No. 12FEMALE INFERTILITY - INVESTIGATIONS AND TUBAL MICROSURGERY

NAME : P. N.

UNIT : 463075

AGE : 28 YEARS

PARITY : 2 + 1

TRIBE : KIKUYU

D. O. A. : 19.4.84

D. O. D. : 17.5.84

CHIEF COMPLAINT

The patient presented at the outpatient Gynaecology clinic in May 1983 with a history of inability to conceive since her last pregnancy in 1979.

CASE HISTORY

The patient had been unable to conceive for 5 years. She also complained of off and on lower abdominal pains for a duration of 2 years. She had been treated severally in hospital and dispensaries but symptoms kept recurring.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had menarche at 17 years. Periods were regular lasting 4 - 5 days and coming every 30 days. Her first

delivery was in 1976. This was a spontaneous vertex delivery to a fresh stillbirth due to prolonged labour. She delivered the second baby in 1978 by caesarean section and the baby is alive and well. In 1979 she had a left-tubal pregnancy and a left salpingectomy was done. She had never used any contraceptive method.

SOCIAL HISTORY

She was a married housewife, living with her husband who was threatening to marry a second wife so as to get more children. She neither smoke nor drank alcohol.

PHYSICAL EXAMINATION

She was well nourished and in good general condition. She was not anaemic or jaundiced. She had a temperature of 36.88, blood pressure of 110/70 mm Hg and a pulse rate of 88/min. The breasts were normal and galactorrhoea was not present. Cardiovascular, respiratory and neurological examination revealed no abnormality.

Abdominal examination revealed a subumbilical midline scar. There were no masses nor tenderness. The liver and spleen were not enlarged.

PELVIC EXAMINATION

The external genitalia were normal. The cervix was healthy and parous. The uterus was normal size, anteverted and mobile. There were no masses in the pouch of Douglas

or either adnexa. A cervical smear was taken.

DIAGNOSIS

A diagnosis of secondary infertility was made.

INVESTIGATIONS

1. Pap Smear : Class I.
2. Semen analysis :
 - Volume : 2.5 mls.
 - Colour : Normal
 - Count : 72 million/ml.
 - Morphology : most appeared normal
 - Motility : 50% mobile at 30 min
 - Vitality : 85% living at 60 min
 - Fructose : 340 mg/ml
 - Prostatic acid : 178 K.A. Units,

THE OPERATION.

3. Haemoglobin : 12.4. gm/dl
4. M. S. S. U : No growth
 - No Sugar
 - No protein
5. Hysterasalpingogram: Normal uterine cavity.
 - : Absent left tube
 - : Right tube outlined and showed terminal dilatation with loculated spill.

6. Laparoscopy : Contraindicated in view of the previous two scars.

7. Basal Body temperature curve : Biphasic pattern

MANAGEMENT

The HSG report indicated hydrosalpinx and since laparoscopy to assess the tubes for possible surgery was contraindicated, it was decided that the patient be admitted for tubal surgery. This was done on 9.5.84. One unit of compatible blood was made available. The nature of the operation was explained to the patient and a consent obtained. She was premedicated with atropine 0.6 mg and pethidine 50 mg intramuscularly.

THE OPERATION.

Anaesthesia was induced, vulvovaginal toilet and bladder catheterisation done. Clear urine was drained. Examination under anaesthesia confirmed the earlier findings. The abdomen was then cleaned and draped and opened in layers by a midline subumbilical incision after excision of the scar tissue. A self-retaining retractor was applied and bowel packed away from the pelvis.

There were adhesions on the uterine fundus the pouch of Douglas and the right tube. The left tube and ovary were missing. The right tube was slightly thickened.

and dilated at the ampullary end. The right ovary was normal.

Adhesions surrounding the right tube were separated and released using magnifying glasses and fine instruments. This was done a continuous saline jet, care being taken to avoid any bleeding. The fimbrial end was carefully separated from the adhesions. Clear fluid escaped from the ampullary end. The whole operative area was bathed in normal saline, a Shirodker clamp then applied to the uterus and dye introduced at the fundus. The tube filled with dye and peritoneal spill was seen.

The abdominal packs were now removed and routine closure of the abdomen done.

POSTOPERATIVE CARE.

Recovery from anaesthesia was uneventful. Intravenous fluids were given for 48 hours and discontinued when patient started taking orally. Pethidine was given for analgesia for 48 hours. On the third postoperative day, hydrotubation with hydrocortisone and ampicillin was done in the ward. On the 6th post operative day, alternate stitches were removed, all on the 7th day. The wound had healed well and she was discharged to the Gynaecology Clinic.

FOLLOW UP

She was seen in the clinic 6 weeks later on 26.6.84. She had her last menses on 31.5.84. She complained of pain

along the surgical scar. Examination revealed a well healed incision and a normal size, mobile uterus. There were no adnexal masses. She was discharged and advised to return for follow up in 8 weeks.

COMMENT

Infertility exists when, in spite of regular coitus without contraception and the wish to have children, there is no pregnancy within a year. Surveys have shown that, with regular coitus without contraception, about 70% of women become pregnant within 3 months and 80-85% after six months. Only one among the remaining 15 to 20% conceives in the second year of marriage (1).

Infertility is a problem affecting 5-15% of couples, which makes it one of the more common problems for which people seek medical aid. It is generally the woman who first seeks medical aid in order to have the pathological causes of infertility investigated. This reflects the commonly held opinion that in the majority of cases the fault is to be found in the female.

In developing countries infertility is commonly caused by tubal blockage due to pelvic inflammatory disease (PID) the most frequent cause of PID being gonorrhoea. Tubal damage can, however, be caused by chlamydia and mycoplasma. The picture in developed countries is different in that hormonal causes, endometriosis and anovulation account for a large proportion of infertility. In Nairobi

After surgery hyaluronidation with hydrocortisone and antibiotics has been advocated in an attempt to tubal blockage is the cause of female infertility in 73% of cases (2).

Investigations for infertility should involve both husband and wife since the woman is responsible for the infertility in about 40 to 50% of cases and in 35 to 40% the fault lies with the man. Investigation in the male partner should include a thorough history and physical examination and a semen analysis should be done. In this case, semen analysis was normal.

In the female partner, investigations should aim at demonstration of the uterus and tubes by hysterosalpingography; tests to confirm ovulation; and hormonal assays. In this patient, ovulation was presumed since she was having regular cycles and this was confirmed by the biphasic pattern on the BBT curve. Hormonal assays (Prolactin, FSH and LH) were not done since ovulation had been confirmed.

Dye laparoscopy is done for assessment of tubal damage and decision on whether to subject the patient to tubal surgery. Because of the risk of injury to the abdominal viscera in the presence of previous scars for major abdominal surgery, laparoscopy was not done in our patient. The decision to perform tubal surgery was, therefore, based on the hysterosalpingography findings and the fact that the patient was ovulating.

After surgery hydrotubation with hydrocortisone and antibiotics has been advocated in an attempt to reduce adhesion formation (3). This was done in our patient.

Wolf, A.S.

Tubal microsurgery should be performed by an experienced infertility surgeon. Gentle handling of tissues with fine instruments, the use of delicate sutures and avoidance of rubbing the tube with gauze sponges are all important aspects of surgical technique. The operative areas on the tubes can be kept free of obscuring blood by jets of normal saline as was done in this patient. If the tubes are intrinsically normal but motility is hindered by adhesions, lysis of these adhesions by microsurgery offers 40 to 50% chance of subsequent pregnancy (4).

Prevention of aetiological factors such as PID is of great importance and prevention and adequate treatment of sexually transmitted diseases should be the rule. For those patients in whom surgery is thought to be of no value due to advanced tubal pathology, hope lies in in-vitro fertilisation and adoption.

Williams and Wilkins, p 131

CASE No. 13

REFERENCESEXTENDED ABDOMINAL HYSTERECTOMY

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bleed In Clinical Gynaecologic Endocrinology and Infertility

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CASE Williams and Wilkins, p 191

The patient had been well until one month ago when she

started experiencing a vaginal discharge and lower abdominal

pains. On examination a lesion on the anterior lip of the

cervix was seen. A Pap smear taken on 29.12.81 was reported

as class IV. A cone biopsy was done and showed the presence

CASE No. 13

CARCINOMA- IN - SITU - CERVIX

EXTENDED ABDOMINAL HYSTERECTOMY

OBSTETRIC AND GYNAECOLOGICAL HISTORY

NAME : M. T. O
 UNIT : 473391
 AGE : 35 YEARS
 TRIBE : MAASAI
 PARITY : 7 + 0
 D.O.A. : 9.1.82
 D.O.D. : 20.1.82

CHIEF COMPLAINT

The patient was referred to the outpatient Gynaecology Clinic on 9.1.82 from the Aga Khan Hospital with a diagnosis of cervical carcinoma -in-situ. She had presented at that hospital with a one month history of lower abdominal pains and vaginal discharge. There was no history of postcoital bleeding.

CASE HISTORY

The patient had been well until one month ago when she started experiencing a vaginal discharge and lower abdominal pains. On examination a lesion on the anterior lip of the cervix was seen. A Pap smear taken on 29.12.81 was reported as class -IV, A cone biopsy was done and showed the presence

of multiple foci of carcinoma in situ of the cervix. There was no evidence of invasive malignancy. She was admitted for further management.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had menarche at 15 years. Her periods were regular lasting 3-4 days and coming every 28-30 days. She was para 7 + 0, her last delivery having been in 1980. All children were alive and well and she had never used contraceptives.

PAST MEDICAL HISTORY

The only previous admission was for cone biopsy as mentioned above.

SOCIAL AND FAMILY HISTORY

She was a married housewife. Her husband was a businessman. She did not smoke or drink.

PHYSICAL EXAMINATION

She was in good general condition. There was no pallor or jaundice. She was afebrile and there was no lymph node enlargement. She had a pulse rate of 80/minute and a blood pressure of 110/70 mm Hg. The respiratory and cardiovascular systems were normal.

The abdomen was soft. There was no ascites nor palpable masses. The liver and spleen were not enlarged.

SPECULUM EXAMINATION

The cervix appeared healthy. There was no vaginal bleeding.

PELVIC EXAMINATION

External genitalia and vagina were normal. The cervix was slightly nodular anteriorly, otherwise normal. The uterus was normal size and anteverted. There were no adnexal masses. There was slight whitish vaginal discharge but there was no bleeding.

DIAGNOSIS

Carcinoma - in - situ of the cervix. No evidence of invasive malignancy.

INVESTIGATIONS

1. Haemogram : Haemoglobin 13.5 gm/dl
Haematocrit 38.4%
2. Electrolytes: BUN 3.4. mmol/litre
Sodium 141 mmol/litre
Potassium 3.9 mmol/litre
3. M.S.S.U : Protein nil
Glucose nil
No growth.
4. Chest x-ray : Normal Chest.
5. IVP : Both kidneys are normal. Excretion of the contrast medium is bilateral and equal.

The pericalyceal systems are normal and there is no ureteric hold up. The bladder fills normally. After micturation residue is negligible.

6. Histology report - cone biopsy (taken 29.12.81).

Multiple foci of carcinoma in situ. No evidence of invasive malignancy.

MANAGEMENT.

The patient was advised to have a hysterectomy since she had completed her family. Informed consent was obtained and she was prepared for the operation. 4 units of blood was made available. She was premedicated with IM atropine 0.6mg and IM pethidine 50mg and wheeled to theatre.

EXTENDED ABDOMINAL HYSTERECTOMY. (13.1.82)

Anaesthesia was induced and examination under anaesthesia done. External genitalia and vagina were normal. Cervix felt normal, uterus was normal size, anteverted and mobile and there were no adnexal masses. The vagina was painted with sterile Methylene Blue dye.

The abdomen was cleaned and draped and opened in layers through a subumbilical midline incision. The abdomen was explored for masses and the intestines were packed away from the pelvis. The pelvis was clean and the pelvic organs were normal.

The round ligament was defined, clamped, cut and ligated. The uterovesical fold of peritoneum was divided and the bladder separated from the uterus and pushed off the front of the cervix and upper vagina. The ureters on each side were now identified and exposed by blunt dissection and each ureter marked with a tape. The ureteric canal was exposed and the uterine vessels on the anterior aspect identified, clamped ligated and transected. The uterosacral ligaments on the posterior aspect were now transected and the rectum bluntly dissected away from the vagina. The cervix was located by palpation angled Kocher clamps applied at the junction of the upper and middle third of the vagina and the upper third resected. Haemostasis was achieved and the vaginal vault closed. Reperitonisation was done and the abdomen closed in layers. Blood loss was estimated at 300mls and no blood was given.

POST OPERATIVE CARE.

The patient recovered well from anaesthesia. Routine observations were done and she was given intravenous fluids and pethidine for analgesia. She was started on oral sips on the 3rd post operative day when intravenous fluids were discontinued.

Postoperative haemoglobin was 13.3 gm/dl. Alternate stitches were removed on the 6th post-operative day, all on the 7th day. She was discharged home on 20.1.82.

FOLLOW UP

The patient was seen at the gynaecology clinic 6 weeks after discharge. She had no complaints. The vaginal vault and abdominal incision were well healed. She was discharged from the clinic to be seen at 6 monthly intervals for life.

HISTOLOGY REPORT

Received hysterectomy specimen. Uterus and tubes grossly normal.

The cervix shows non-specific inflammatory changes, There is no evidence of tumour. The endometrium and myometrium are normal.

COMMENT

Carcinoma in situ (CIS) exists when all the cell layers from the basement membrane to the surface disclose an immature, disorganised pattern. Complete loss of cellular polarity is notable, and all layers show pleomorphism. The various degrees of cervical intraepithelial neoplasia, ranging from mild dysplasia to carcinoma in situ, represent a continuum in the neoplastic process. If untreated severe dysplasia will progress to carcinoma in situ, which will progress to invasive cancer in a significant number of patients (1).

The incidence of CIS is reported to be 32.5/100,000 white and 62.5/100,000 black women in the USA with a mean age of 35 years, some 15 years younger than patients with invasive disease (2). It is therefore a disease of young women with a peak incidence in the age group from 25-35 years. Cervical cancer in Kenya is seen to occur at a much earlier age hence the picture is different in this country.

Sexual activity seems to be positively correlated with the disease, and coitus at a relatively early age is a highly significant factor. Other significant factors are an early age at first pregnancy, a large total number of pregnancies and a short mean time interval between pregnancies. Our patient was 36 years old and was highly parous, suggesting an early age at commencement of sexual activity. Experimentally cancer of the cervix of rodents has been produced by the repeated application of human smegma thus raising the question of the transmission of a viral or chemical agent.

Viral causation had been suggested also by demonstration of a possible association between herpes simplex type 2 cervical infections and cervical neoplasmbut this does not prove that a causal relationship exists (1).

The cellular origin of CIS is in dispute. The four possible cellular sites of origin of CIS are basal cells of the portio epithelium, basal cells of the portio epithelium at the margin of an old pathological erosion, basal cells of the portio epithelial component of erosion healing and **subcylindrical** reserve cells within the transitional zone (3). CIS occurs on the anterior lip of the cervix twice as commonly as on the posterior lip and is rarely seen at the leteral cervical angles. The presented patient had a lesion on the anterior lip.

Carcinoma in situ usually has no symptoms or signs, and the diagnosis is often based on cytologic findings in the course of a routine cervical Papanicolou smear evaluation. Nevertheless, a thorough history as regards intermenstrual bleeding should be taken and careful palpation of the cervix and speculum examination should be carried out. Because dysplasia probably is a transitional phase in the pathogenesis of many cervical cancers, its early detection is extremely important. Where there is a typical cancer present or even a definite but merely suspicious lesion, biopsy should be performed in addition to cervical smear.

In addition to gross inspection of the cervix, the diagnostic procedures include the Schiller test which employs the principle that normal squamous epithelium of the cervix contains glycogen, which will combine with iodine to produce a deep mahogany-brown colour. Nonstaining then, indicates abnormal squamous or columnar epithelium. The test is not specific for cancer but metaplastic epithelium is frequently nonstaining. Colposcopy can accurately determine the precise location and extent of the disease and colposcopically directed biopsy is most revealing in the diagnosis of CIS, the false negative rate being less than 1%. Following expert colposcopic evaluation, diagnostic cone biopsy of the cervix is indicated if the lesion extends into the cervical canal beyond the view afforded by the colposcope or if there is a significant discrepancy between the histologic diagnosis of the directed biopsy specimen and the cytologic examination. In this patient a cone biopsy was done which confirmed the diagnosis of carcinoma in situ.

The most widely used mode of therapy is conisation for patients with dysplasia and simple vaginal or abdominal hysterectomy for patients with CIS who no longer desire fertility. For those who wish to preserve fertility, conisation is done followed cervical cytology. Pregnant patients are either followed by cytology or punch biopsies or receive conisation and are treated by hysterectomy after delivery (4). Our patient did not desire more children and hysterectomy was done despite having had a cone biopsy earlier.

Because recurrence rates are in the range of 10%, careful follow-up examinations are essential in all patients treated

for dysplasia and carcinoma in situ regardless of the mode of therapy. Routine cytologic smears have contributed to a reduction in the incidence of invasive cervical neoplasia thus pointing out the extreme usefulness of population screening.

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OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 7 + 0, all normal deliveries. Her last delivery was on 17.4.84. All her babies were alive and well. Prior to her last pregnancy her periods had been normal lasting 4 days and coming every 30 days. She had never been on any contraceptive method. Menarche was at 14 years.

CASE No. 14SOCIAL HISTORYFEMALE STERILISATION : MANILAP UNDER LOCAL ANAESTHESIA

NAME : E. W.
 UNIT : 618045
 AGE : 34 YEARS
 TRIBE : KIKUYU
 PARITY : 7 + 0
 L. D. : 17.4.84
 L. M. P. : NIL SINCE L.D.
 D.O.A. : 9.8.84
 D.O.D. : 9.8.84

CASE HISTORY

This 34 year old patient presented at the Rahimtulla Wing Clinic on 2.8.83 with a request to have a tubal ligation. She had a normal delivery at Kenyatta National Hospital on April 17th 1984. She had not resumed her menses since the last delivery. The baby was well and was still breastfeeding. During the puerperium she did not have any problems.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 7 + 0, all normal deliveries. Her last delivery was on 17.4.84. All her babies were alive and well. Prior to her last pregnancy her periods had been normal lasting 4 days and coming every 30 days. She had never been on any contraceptive method. Menarche was at 14 years.

SOCIAL HISTORY

She was a married teacher. She was educated to standard 7. Her husband was a Clinical Officer at Limuru. She did not smoke or take alcohol.

MEDICAL HISTORY

She had no medical problems. She had never been admitted to hospital except for her deliveries.

PHYSICAL EXAMINATION

She was in good general condition. There was no pallor, jaundice or oedema. She had a pulse rate of 76/minute and the blood pressure was 120/80 mm Hg. The respiratory and cardiovascular systems were normal.

The abdomen was soft and thin. Liver and spleen were not palpable and there was no tenderness. No masses were palpable in the abdomen.

PELVIC EXAMINATION

The external genitalia and vagina were normal. The cervix was parous and healthy. The uterus was normal size, anteverted, anteflexed and mobile. The adnexae were clear and there was no tenderness. There was no bleeding or vaginal discharge.

DIAGNOSIS

Grand multipara for tubal ligation.

INVESTIGATIONS

1. Haemoglobin : 12.8 gm/dl
2. Blood group : A Rhesus Positive
3. Serology : Negative
4. Pap smear : Class 1
5. Urinalysis : No sugar, no protein

MANAGEMENT

The details of the operation were discussed with the patient and her husband and a consent was obtained from both. The operation was scheduled for 9.8.84 as a day case. She was instructed to starve overnight and come to the Rahimtulla Wing theatre accompanied by her husband on the day of operation.

On the day of operation the patient was re-examined and found to be well. She was premedicated with atropine 0.6 mg and pethidine 50 mg IM. She emptied her bladder voluntarily and was wheeled to theatre.

THE OPERATION

She was placed on the operating table in a semilithotomy position. The vulva and vagina were cleaned and a sterile vaginal examination done confirming the

the previous findings. 10 mg Diazepam and 50 mg pethidine were now given intravenously. Sim's speculum was inserted into the vagina and cervix was exposed which was grasped with a tenaculum. The uterus was sounded and a uterine elevator inserted and left in situ. Her legs were now straightened and kept sufficiently separated so as to allow the required vaginal manipulations. The abdomen was then cleaned and draped.

An area $2\frac{1}{2}$ cm above the symphysis pubia was now infiltrated with 20 mls of procaine hydrochloride injected into skin, subcutaneous tissue, fascia, muscles and peritoneum, thereby anaesthetising the operation site.

A transverse skin incision measuring about 3 cm was made. The depth of the incision was carried down wards through the subcutaneous fat to the rectus sheath which was opened transversely for a distance of 4 cm. The median raphe was then dissected free. The parietal peritoneum was now exposed and carefully opened to avoid injuring the bladder.

A head down tilt of about 15° was now obtained by tilting the head - end of the operation table to allow bowel to fall back towards the diaphragm. The uterine fundus was lifted to the peritoneal opening by manipulating the uterine elevator. The right tube was now exposed by moving the uterus to the left and drawn through the incision. The fimbrial end was identified and a Pomeroy tubal ligation done thereby occluding the tube. The same procedure was repeated on the left side.

Haemostasis was confirmed and the peritoneum closed with 20 catgut using a purse-string suture, The fascia was closed with chromic catgut No.1 continuously. A subcuticular stitch using fine catgut was used to close the skin and a small dry dressing was applied to the wound. The uterine elevator was then removed.

The patient was taken back to the ward where she rested for 5 hours. Vital signs remained stable and she was discharge on the same day on Ampicillin capsules 500mg 6 hourly and paracetamol tablets and requested to come for review after 7 days.

FOLLOW-UP

The patient presented herself for follow up as requested. The wound had healed well and she did not have any complaints. 4 weeks after the operation wshe was swell and she was discharged from the clinic.

COMMENT

Sterilisation is a permanent method of contraception available to men and women and the term is generally restricted to those cases in which destruction of reproductive function is the primary purpose of the treatment (1).

Elective sterilisation is rapidly becoming an acceptable means of limiting family size in all parts of the world. This widespread demand for simple, effective and inexpensive sterilisation procedures which can be performed on outpatient

basis has led to evaluation of existing methods of tubal occlusion and development of new ones (2). Voluntary sterilisation in Kenya is legal.

Minilaparotomy was first described by Uchida and co-workers in Japan in 1961 for post-partum female sterilisation (2). Today minilaparotomy is also widely used for interval female sterilisation. Originally female sterilisation was done utilising large abdominal incisions but today tubes are ligated through small incisions of about 2.5 cm. Vitoon Osathonondh, in 1971, had described a simple minilaparotomy procedure using local anaesthesia and ordinary surgical equipment (3). This method has been recommended for areas where general anaesthesia and laparoscopy are lacking. Minilaparotomy as an interval procedure is safe done with light sedation, systemic analgesia, local anaesthetic infiltration of the abdominal wall and gentle precise surgical technique (4). Local anaesthesia without sedation or systemic analgesia can however, be used. Since the patient is awake during surgery, careful patient selection, pre-operative counselling, and good rapport are necessary to assure success. Our patient was given light sedation, systemic analgesia and local anaesthesia and a running conversation kept with her throughout the procedures hereby contributing to the success of the operation.

The indications for tubal ligation are socio-economic when the family feels it has enough children and would therefore like to limit the family size as in this case; medical disease such as cardiac disease hypertension and diabetes mellitus; or obstetric conditions like repeated caesarean section and multiparity. Minilaparotomy is contraindicated in

REFERENCES

obese patients, patients with any adnexal pathology or adhesions due to, for example, pelvic inflammatory disease or endometriosis.

In our unit, the Pomeroy technique is most frequently used technique of tubal ligation although other methods can be used effectively (2). The technique is simple and highly effective, requiring picking up of the tube in the mid portion to form a loop which is ligated at the base with absorbable suture material and then cutting off the top of the loop. The ends of the tubes then undergo fibrosis and as the suture material is absorbed, the ends of the tube fall apart. The failure rate for Pomeroy ligation is reported as 0-0.4% and it is recommended by the IPPF Panel of experts because it is easy to perform, is highly effective and are that it is possible by the vaginal or abdominal route, is potentially reversible and it is accompanied by low morbidity. It has no major disadvantages (2). 11-1984 p. 130

In summary, as more people gain access to sterilisation operations, positive effects on population growth and health could be dramatic especially in a country like Kenya which has a population increase rate of 4% per annum. Minilaparotomy, being highly cost effective and simple to perform seems a suitable method of sterilisation especially in areas where hospital beds are limited and availability of highly specialised personnel is a scarcity.

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CASE HISTORY

The patient had been well previously. About one month ago she started bleeding vaginally and had been treated severally for threatened abortion. The bleeding was accompanied by nausea and vomiting especially in the mornings. The bleeding had become heavy with clots and was not accompanied with lower abdominal pains.

GESTATION AND GYNAECOLOGICAL HISTORY

Menarche occurred at 14 years. Periods were irregular for the first two years. This subsequently settled and her cycles became regular coming about every 28 days.

CASE No.15HYDATIDIFORM MOLE - SUCTION CURRETTAGE

Not contributory
 name : M.W.
 UNIT : 535333
 AGE : 22 YEARS
 PARITY : 2 + 0
 TRIBE : KIKUYU
 D. O. A. : 20.7.83
 D. O. D. : 23.7.83
 L M P : 15.3.83

CHIEF COMPLAINT

This 22 year old patient was admitted through the casualty with a one month history of vaginal bleeding off and on.

CASE HISTORY

The patient had been well previously. About one month ago she started bleeding vaginally and had been treated severally for threatened abortion. The bleeding was accompanied by nausea and vomiting especially in the mornings. The bleeding had become heavy with clots and was now accompanied with lower abdominal pains.

OBSTETRIC AND GYNAECOLOGICAL EHISTORY

Menarche occurred at 14 years. Periods were irregular for the first two years. This subsequently settled and her cycles became regular menses lasting 3-4 days every 30 days. She was para 2 + 0. both deliveries having been spontaneous

vertex. The children were alive and well. She had never used any contraceptive methods. Last delivery was in 1982.

MEDICAL HISTORY

Not contributory

SOCIAL HISTORY

She was married and worked as a secretary. She did not smoke or drink alcohol.

PHYSICAL EXAMINATION

She was in good general condition. There was no pallor or jaundice and she was afebrile. She had a pulse rate of 88 per minute and blood pressure was 110/60 mm Hg. Central nervous, cardiovascular and respiratory systems were essentially normal.

The abdomen was soft and the uterus enlarged, corresponding to a 20 weeks gestation. Uterine contractions were noted. Spleen and liver were not enlarged.

PELVIC EXAMINATION

The vagina was filled with blood clots. The cervix was open 2 centimetres. The uterus was contracting and corresponded to 20 weeks. There were no adnexal masses.

DIAGNOSIS AND MANAGEMENT

A diagnosis of inevitable abortion was made.

5 units in 500 mls of 5% dextrose solution was started at 30 drops per minute and this was to be escalated by 10 drops every half hour.

She aborted a hydatidiform mole during the night which was sent for histological examination. The syntocinon drip was continued and she was prepared for evacuation of the uterus in the morning. A blood sample was taken for grouping and cross-matching and she was premedicated with atropine 0.6 mg IM.

SUCTION CURETTAGE

Anaesthesia was induced with diazepam and Ketamine. 20 units oxytocin in 500 mls dextrose running at 30 drops per minute was continued. She was placed in lithotomy position, vulva and perineum were cleaned and draped. The bladder was catheterised. The cervix was dilated 3 cm and the uterine size was 18 weeks No adnexal masses were palpable. The uterus was soft. Auvard's speculum was inserted into the vagina and the anterior lip of the cervix grasped with a volsellum forceps. The contents of the uterus were evacuated using a large bore metal suction cannula, traversing the entire uterine cavity until no more material was aspirated. Digital exploration revealed an empty uterine cavity. Intravenous ergometrine 0.5 mg was given and the oxytocin drip continued.

POST OPERATIVE MANAGEMENT

The patient recovered well from anaesthesia. She was not transfused. The uterus was well contracted and bleeding

was minimal. She was discharged on 23.7.83 on Tetracycline capsules 500 mg 6 hourly for 7 days and she was asked to return on 29.7.83 for a repeat curettage.

FOLLOW UP

INVESTIGATIONS

1. Haemogram : Haemoglobin : 12.2 gm/dl

PCV : 36.7%

2. Pregnancy test: Positive at 1:4 dilution

: Negative at 1:8 dilution

CURRENT

3. Blood group : O Rhesus Positive

4. Chest X-ray : Normal radiograph

5. Histology : Features in keeping with Hydatidiform

REPEAT CURETTAGE (30.7.83)

A repeat curettage was done under Ketalar anaesthesia. The uterus was found to be corresponding to 12 weeks size and the cervix admitted one finger. Gentle sharp curettage was done and the material sent for histology.

A repeat pregnancy test was positive in 1:2 dilution and negative in 1:4 dilution. The patient was discharged to the gynaecology clinic to be seen in two weeks.

HISTOLOGY

Scanty endometrial currettings. No residual molar tissue seen.

FOLLOW UP

The patient had no complaints.. The uterus was found to be corresponding to 6-8 weeks size. She was advised to avoid pregnancy and she was started on microgynon. Subsequent visit 2 weeks later pregnancy test was negative. She was seen again at 2 months, 4 months and six months postevacuation. The pregnancy test remained negative and she did not raise any complaints.

COMMENT

Hydatidiform mole is a degenerative disorder of the chorion. It is one of the entities in gestational trophoblastic diseases, the others being invasive mole and choriocarcinoma.

The incidence of hydatidiform mole in Kenya is not known but elsewhere it varies, with low incidences in the United States of about 1: 1500 pregnancies (1) to evey high incidence in Teiwen of 1:120 pregnancies (2).

It is not known whether hydatidiform mole is a primery ovular defect an intrauterine abnormality, or both. Karyotyping has shown that most moles have 46XXX Keryotype and that a paternal chromosome is inherited in duplicate by the mole. This suggests that the genetic materiel from the

oocyte is lost or inactivated and the entire complement of the mole comes from the sperm (3). Maternal constitution and age seem to play a part in the pathogenesis; nutritional deficiency may be a contributory cause (4).

Excessive nausea and vomiting, as found in this case, occurs in over one-third of patients with hydatidiform mole. Uterine bleeding which is recurrent, is observed in virtually all instances and is indicative of threatened or incomplete abortion. In about 50% of cases the uterine size is larger than would be expected in a normal pregnancy of the same duration. On vaginal examination grape-like cysts may be found and bilateral cystic ovarian enlargement, developing in half of cases, may be encountered. Preeclampsia, frequently of the fulminating type, develops in 10% of cases. Then, hypertension, generalised oedema, and proteinuria will be observed. In some cases, thyroid hormone analogues, T3 and T4, may reach thyrotoxic levels although there may be no clinical evidence of goitre. It is likely therefore, that trophoblastic cells secrete a type of thyroid stimulating hormone. Ultrasonography will usually confirm molar pregnancy by the typical snow-storm appearance.

Anaemia due to sustained blood loss may complicate molar pregnancy. Spontaneous rupture of the uterus may occur with benign or malignant mole, especially when the fund^{us} is greatly distended. These complications were not encountered in this patient.

Spontaneous expulsion of most of the molar tissue by stimulation with intravenous oxytocin is employed in our unit. The patient is then subjected to suction evacuation of the uterus with an oxytocin infusion running simultaneously to minimize haemorrhage. Sharp curettage is routinely done in 10 -14 days to ensure an empty uterus since retained debris will act as potential foci of infection. A curettage specimen is routinely subjected to histological examination to rule out the possibility of an invasive mole.

80% Of patients with hydatidiform mole undergo complete spontaneous regression, 15% develop persistent or invasive mole and 3 - 5% proceed to choriocarcinoma. Close follow-up is, therefore, mandatory to identify the 20% patients who will require chemotherapy (4). Determination of human chorionic gonadotrophin (HCG) which is produced by the trophoblast provides an important method of assessing the patient's progress. Initially, the ordinary pregnancy test can be used. When the urinary titre becomes negative, one should change to radioimmunoassay of the beta subunit of HCG. In our patient, urinary pregnancy test showed decreasing titres over a period of time. Beta-HCG levels were, however, not done.

Cytotoxic therapy for those cases with HCG levels more than 20,000 IU/L after 4 weeks, increasing levels of HCG at any time and in any case showing metastatic disease whatever the level of the HCG, has been recommended (5). Chest x-rays should be obtained monthly until titres are

negative then every 2 months for 1 year. Oral contraceptive tablets prevent another pregnancy and therefore additional HCG and suppress endogenous pituitary LH which may interfere with the HCG assays. The major sites of metastases are the lungs, the anterior vaginal wall, the brain and the abdominal viscera. Evidence of tumour in these sites should be sought by careful clinical examination at each visit.

These follow-up and early chemotherapy, when indicated, should result in a cure rate of almost 100% in patients with hydatidiform mole.

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SUMMARY

LONG COMMENTARY IN GYNAECOLOGY was evaluated in 34 women wearing the intrauterine contraceptive device (IUCD). They were of varying parities, ranging between 0 and 7 with a mean of 2.1 ± 1.6 . Their respective aged

TITLE

MENSTRUAL BLOOD LOSS (MBL) IN INTRAUTERINE CONTRACEPTIVE DEVICE (COPPER NOVA T) USERS IN KENYA. and 13(38.2%) were single. The mean blood loss was 37.5 ± 14.9 ml for control, 47.9 ± 17.0 ml for the first cycle after insertion of IUCD and 55.5 ± 27.6 ml for the second cycle after insertion. A statistically significant difference, at $p < 0.05$, was demonstrable between the control cycle and the two cycles studied after insertion thus confirming and increase in amount of MBL in IUCD users. The mean haemoglobins were 13.2 ± 1 gm/dl for the control cycle, 13.2 ± 0.9 gm/dl for the first cycle and 13.1 ± 1.1 gm/dl for the second cycle after insertion of IUCD. There was no significant statistical difference, at $p < 0.05$, in haemoglobin levels between the three cycles studied.

SUMMARY

Menstrual blood loss (MBL) was evaluated in 34 women wearing the intrauterine contraceptive device (IUCD). They were of varying parities, ranging between 0 and 7 with a mean of 2.1 ± 1.6 . Their respective ages ranged between 18 and 30 years and the mean age was 23.8 ± 3.0 years. 21(61.8%) were married and 13(38.2%) were single. The mean blood loss was 37.6 ± 14.9 mls for control, 47.9 ± 17.0 mls for the first cycle after insertion of IUCD and 55.5 ± 27.8 mls for the second cycle after insertion. A statistically significant difference, at $p < 0.05$, was demonstrable between the control cycle and the two cycles studied after insertion thus confirming an increase in amount of MBL in IUCD users. The mean haemoglobins were 13.2 ± 1 gm/dl for the control cycle, 13.2 ± 0.9 gm/dl for the first cycle and 13.1 ± 1.1 gm/dl for the second cycle after insertion of IUCD. There was no significant statistical difference, at $p < 0.05$, in haemoglobin levels between the three cycles studied.

INTRODUCTION

The millions of intrauterine contraceptive devices in use throughout the world today represent the modern application of an ancient concept. The first IUCD designed solely for human contraception was developed in 1909 by a German Physician, Richard Richter. This was followed by many other designs by different physicians such as Ernst Grafenberg in Germany in the 1930s and Tenrei Ota of Japan in 1934. Enthusiasm greeted both devices initially but was soon replaced by skepticism and even condemnation, the devices being branded ineffective and dangerous mainly because of fear of infection.

The conservative medical attitude toward IUCDs lasted until the late 1950s. In 1962, the Population Council in the United States convened the first international conference on IUCDs where some favourable experiences with IUCDs were reported (1). In addition to advances in antibiotic therapy which dispelled fears of uncontrollable infection, came the development of polyethylene, a biologically inert plastic that could be molded into any desired configuration. The Margulies coil and the Lippes Loop were the first widely used IUCDs (2)

In 1964, the Population Council's Cooperative Statistical Program held a second Conference whose evaluation demonstrated that the IUCD was a safe and effective method of contraception for use in national family planning programs (3). By now the various problems with IUCDs had been realised and it was reported that no single type of IUCD had consistently lower

rates than the others for all types of events i.e. pregnancies, expulsions and removals, nor does any one IUCD have consistently higher rates than the others (4).

By the mid-1970s the focus of attention on IUCDs was shifting to a so-called second generation of devices. These were the bioactive or medicated devices in which the plastic IUCDs became a carrier for other substances such as metals, hormones and antibleeding agents. The copper-coated IUCDs are some of these second generation devices. They have some advantages over the unmedicated devices in that they are less likely to be expelled, produce less menstrual blood loss, are better tolerated by women without children and are more likely to stay in place after postpartum or postabortal insertion (5). The major disadvantages of copper IUCDs are the possible replacement in several years or when the copper is exhausted, limited availability especially of the newer devices, and the cost which may range from 2 to 20 times the cost of the Lippes Loop, depending on the device, packaging and the size of orders.

Increased bleeding, often accompanied by pain in the lower abdomen or lower back, is the most frequent problem of IUCD use. Numerous studies quantifying menstrual blood loss in women on intrauterine contraceptive devices

have been performed and they generally demonstrate that MBL is increased by 50-100% or more in the average. It has been reported that uterine blood loss associated with IUCDs appears to be the most frequent complication leading to removal of devices (4). Roughly 5-15% of women have their IUCDs removed within the first year of insertion because of bleeding and pain. Three types of bleeding changes occur with the IUCD: greater volume of menstrual blood flow, longer periods, and midcycle or intermenstrual bleeding or spotting.

Other major problems with IUCDs are an increase in the frequency of pelvic inflammatory disease and, if pregnancy occurs with an IUCD in place, the dangers of infection and spontaneous abortion are multiplied, the latter occurring about 3 times more often. The risk of septic abortion is also increased.

An average woman loses between 5 and 50 mls of blood per period with 60 to 80 mls being the upper limit of normal. In the past determination of menstrual flow was by subjective complaint or estimate by the patient but investigations have confirmed the inaccuracy of subjective estimates (6,7,8). Thus quantitative methods have to be resorted to for accurate evaluation of menstrual blood loss in patients presenting with complaints of excessive menstrual blood loss, in pathological conditions such as iron deficiency anaemia without any apparent source

of bleeding, uterine blood loss following tubal ligations, haemorrhage associated with uterine bleeding and IUCD associated haemorrhage.

The effects of excessive menstrual blood loss are all too well known. From a woman's point of view, any irregularities in menstruation, and especially increased bleeding, represent a source of personal inconvenience that should not be understated. From a medical point of view, the most serious effect of increased menstrual bleeding is the increased danger of anaemia. Several studies of well-nourished women in developed countries where 5 to 25% of women may be anaemic have shown that plasma ferritin and haemoglobin decline after IUCD insertion (9.10). In developing countries at least half of women are likely to be anaemic (2), their conditions being aggravated by poor nutrition, parasitic disease and frequent pregnancy and lactation. Therefore, for some women in developing countries the continuing effects of heavy blood loss from IUCD use could constitute a serious health problem.

With the above in mind, this study was designed with the aim of :

1. Establishing whether there is a significant increase in the amount of menstrual blood loss following insertion of the intrauterine contraceptive device, and
2. establishing whether anaemia is an immediate sequela

of intrauterine contraceptive device associated uterine haemorrhage.

THE ENDOMETRIUM AND MENSTRUATION

The endometrial mucosa is divided into the basal layer and the functional layer. The functional layer is subdivided into the spongy and compact layers. The basal layer lies adjacent to the myometrium and measures 0.5 mm in thickness. The functional layer lies between the basal layer and the uterine cavity and cyclic changes thought to be important for implantation take place here. This is the layer that desquamates and gets shed during menstruation.

Menstruation is bleeding and physiologic shedding of the uterine endometrium that occurs at approximately monthly intervals from menarche to menopause. The menstrual endometrium is a relatively thin but dense tissue, At menstruation, the functional layer displays a variety of functional states including disarray and breakage of glands, fragmentation of vessels and stroma with persisting evidence of necrosis, white cell infiltration, and red cell interstitial diapedesis. The menstrual endometrium is a transitional state bridging the more dramatic exfoliative and proliferative phases of the cycle.

The proliferative phase begins and is associated with ovarian follicle growth and oestrogen secretion.

Reconstruction and growth of the endometrium is achieved and during this phase the endometrium grows from approximately 0.5 mm to 3.5 - 5.0 mm in height. Restoration of tissue constituents has been achieved and the stromal ground substance has re-expanded from its menstrual collapse.

During the secretory phase which commences at around the fourteenth day coinciding with ovulation, the endometrium demonstrates a combined reaction to oestrogen and progesterone activity. The total endometrial height is fixed roughly at its preovulatory extent despite availability of oestrogen. This inhibition is believed to be induced by progesterone. Individual components of the tissues continue to display growth and there is progressive tortuosity of glands and coiling of the spiral vessels. At the conclusion of these events, the glands appear exhausted, the tortuous lamina variably distend and individual cell surfaces are fragmented and lost (sawtooth appearance).

In the absence of fertilisation, implantation and the consequent lack of sustaining levels of human chorionic gonadotrophin from the trophoblast, there follows a modest shrinking of the tissue height and remarkable spiral arteriole vasomotor responses. With shrinkage of height, blood flow within the spiral vessels diminishes, venous drainage is decreased, and vasodilatation ensues. Therefore the spiral arterioles undergo rhythmic vasoconstriction

and relaxation. Within the 24 hours immediately preceding menstruation, these reactions lead to endometrial ischaemia and stasis. White cells imigrate through the capillary walls and red blood cells escape into the interstitial space. Eventually considerable leakage occurs as a result of diapedesis and finally intersitial haemorrhage occurs due to breaks in superficial arterioles and capillaries. As ischaemia and weakening progress, the continous binding membrane is fragmented and intercellular blood is extended into the endometrial cavity. Menstrual flow stops as a result of the combined effects of prolonged vasoconstriction, tissues collapse, and total vascular stasis. Resumption of oestrogen secretion leads to clot formation over the decapitated stumps of endometrial vessels.

THE INTRAUTERINE CONTRACEPTIVE DEVICE : MECHANISM OF ACTION.

What is observed pragmatically is that pregnancy is prevented by the presence of the device, indicating that the mechanism of action of IUCD is anti-conceptive. The search for the mechanism of action of IUCDs in women has implicated a local interaction between the device and the endometrium as primarily responsible for contraceptive efficacy. The endometrial response to the presence of the device is generally quite localised and quite superficial. Definitive evidence of endometrial response to the presence of the device has been demonstrated (11). Histologically the most prominent finding is a superficial leukocytosis,

especially evident in the areas of endometrium in proximity to the surface of the device. Several independent investigations have shown such a specific leukocytic endometrial response to the IUCD, so that a surface interaction between the material of the device and the endometrium is now well established. (12). The local endometrial reaction to the presence of the IUCD is inflammatory in a descriptive sense, but is not the result of chronic bacterial invasion of the uterine cavity. Endometrial cultures, obtained from women fitted months previously with IUCDs demonstrate bacteriologic sterility in the presence of the device (13). Thus, the microscopic evidence of local endometrial response to the device is properly considered a chemotaxic reaction to the IUCD.

A chemotaxically induced leukocytic reaction to the IUCD could be expected to exert gametotoxic effects, precisely what is observed in both animals and humans. In women, macrophages are attracted to the surface of the IUCD creating a hostile environment in which spermatozoa are phagocytosed (14). Endometrial washings from patients wearing IUCDs have demonstrated an increase in the number of leukocytes in the uterine fluid (15).

Altering the chemistry of the interface between the device and the endometrium can markedly influence pregnancy rates. Copper ions in very low concentration can have powerful effects as enzymatic inhibitors causing incapacitation of spermatozoa transiting the vicinity of a copper-

coated IUCD. Among patients fitted with anticonceptive additives at Johns Hopkins, 3 pregnancies were observed after 4,200 women months of use (16). Hill has reported a pregnancy rate of less than 1 per 100 women - years in over 1,000 patients fitted with copper containing devices (16).
menstrual blood loss (19). In this method, haemoglobin

MECHANISM OF BLEEDING WITH THE IUCD.

The cause of increased menstrual bleeding is not precisely established but it is believed that enzymes which break down proteins and activate dissolution of blood clots (plasminogen activators) become concentrated in the endometrial tissue adjacent to the device (17). These enzymes cause increased fibrinolytic activity, that is, splitting up of the fibrin which forms the essential portion of blood clots. A greater volume of flow is produced. It is also suspected that the onset of menstrual bleeding in IUCD users is premature, taking place about two days early, before the end of the luteal phase. At this time plasma levels of progesterone are higher than normal for the onset of menstruation. This hormonal asynchronisation may account for both the longer duration and the increased volume of menstrual flow (2). Intermenstrual bleeding with unmedicated and copper devices on the other hand, is thought to be primarily due to mechanical damage of the endometrium which heals over time (18).

MATERIALS AND METHODS

Stayfree maxi-pads and OB regular tampons were used

in this study for collection of menstrual blood. These sanitary devices were from Johnson and Johnson Kenya Limited. The modified alkaline haematin method of Hallberg and Nilsson was used for quantitation of menstrual blood loss (19). In this method, haemoglobin is converted into alkaline haematin using 5% sodium hydroxide solution. The alkaline haematin is then quantitated spectrophotometrically and the amount of blood lost during the menstrual flow determined, using the equation (20).

$$\text{MBL (mls)} = \frac{(\Delta\text{OD}_{550\text{nm}} \text{ of menstrual eluate}) (V)}{(\Delta\text{OD}_{550\text{nm}} \text{ of venous blood}) (100)}$$

where V = volume of sodium hydroxide added to the sanitary devices

OD= optical density.

The optimum conditions in the laboratory that were used for quantitation of menstrual blood loss are as reported earlier (21). These are shown in Table 1. The dilution factor was 1:80, elution time 8-24 hours and the pads and tampons could be kept for over one week before analysis. Recovery rate was fairly reasonable, ranging between 96%-105%.

Haemoglobin was estimated using an American optic haemoglobinometer. Paired Student's t test using the two tailed 't' test tables were used to calculate statistical significance.

RECRUITMENT OF SUBJECTS

This study was carried out in 34 women between the months of April 1982 and April 1983. The subjects were recruited from the Family Welfare Centre, Kenyatta National Hospital, where family planning services including oral contraceptives, intrauterine devices, barrier methods and injectable hormonal contraceptives are offered.

These subjects fulfilled the inclusion criteria of :

1. Volunteers
2. Child bearing age (18-35 years)
3. Not on any form of contraception for the last 6 months.
4. Willing to use a barrier method temporarily i.e. for one month prior to insertion of the device
5. Requesting the IUCD as a method for contraception

Criteria for exclusion included:

1. Subject willing to drop out for whatever personal reasons
2. Pregnancy
3. desire for pregnancy
4. failure to collect menses
5. loss to follow up.

COLLECTION OF BLOOD.

Collection of specimens was done for one cycle prior to insertion of the IUCD and during this cycle the subject was requested to use barrier method e.g. condoms and contraceptive vaginal tablets. This one cycle served as the control. After insertion of the IUCD, collection of menses

was continued for a further 3 cycles but for various reasons not all the subjects completed the study.

Each individual was provided with sanitary pads, tampons, and opaque envelopes and instructed as how to collect the blood lost during menstruation. During a heavy flow the subject was instructed to use a tampon at the time of defaecation or micturation to collect blood that would otherwise be irrecoverable. The tampons and pads were stored in an airtight envelope and in that way taken to the laboratory. At the end of each cycle peripheral blood was taken for estimation of haemoglobin and for quantitation of Menstrual blood loss.

The intrauterine contraceptive device used was the Copper Nova- T variety, Contraceptive System model T Cu200Ag, Pori Finland, U.S. patent No. 3:937.217.

The majority of the subjects had menstrual blood loss ranging between 20 and 50 ml with one subject exhibiting a rather high loss of 141.5 ml during the first cycle after insertion of IUCD. She was not included in further analysis since the sanitary devices she returned to the laboratory were wrapped with blue Kleenex tissue some of which had stuck to the pads and tampons and, therefore, not considered suitable for analysis. Figures Ia, Ib, and Ic are histograms comparing the three cycles studied.

Table IV shows the mean menstrual blood loss per cycle. For the control cycle, the mean loss was 37.6 ml which compares well with the mean blood loss of 32 ml reported

RESULTS

The recruitment, follow-up and personal data of the subjects in this study is shown in Table II. All of the 34 recruited subjects completed collection of menstrual blood for the control cycle, 30 completed one cycle after insertion of IUCD, 27 two cycles and only 2 completed the required 3 cycles after insertion. Those dropping out of the study did not give any reason for discontinuation despite communicating to them by mail. The subjects participating in this study were all of child-bearing age, ranging from 18-30 years. The majority had 9 years of formal education and 61.8% were married. Their parities ranged between 0 and 7.

Table III shows distribution of menstrual blood loss per cycle. The majority of the subjects had menstrual blood loss ranging between 20 and 60 mls with one subject exhibiting a rather high loss of 141.5 mls during the first cycle after insertion of IUCD. She was not included in further analysis since the sanitary devices she returned to the laboratory were wrapped with blue Kleenex tissue some of which had stuck to the pads and tampons and, therefore, not considered suitable for analysis. Figures Ia, Ib, and Ic are histograms comparing the three cycles studied.

Table IV shows the mean menstrual blood loss per cycle. For the control cycle, the mean loss was 37.6 mls which compares well with the mean blood loss of 32 mls reported

in the baseline menstrual blood loss in Kenyan African women (21). The mean blood loss for the first cycle after insertion was 47.9 mls, and 55.5 mls for the second cycle after insertion of the IUCD. There was a demonstrable statistically significant difference (at $p < 0.05$) between MBL before and after insertion of IUCD.

Figure II is a graphic presentation of the menstrual blood loss during the 3 cycles reported. A shift of MBL to the right is demonstrated.

Table V is a breakdown of percentage increase in MBL in individual subjects during the first cycle after insertion of IUCD. Of the 29 subjects studied during this cycle, the mean percentage increase in MBL was 34.7% ranging between 7.1% and 266.5% percent increase. Table VI gives a similar breakdown during the second cycle after IUCD insertion. 27 subjects participated and the mean increase in MBL during this cycle compared to the pre-insertion values was 55.0% with a range of 8.0% and 343.3%.

Table VII shows the distribution of haemoglobin per cycle. The lowest haemoglobin recorded was 11.5 gm/dl. Following the World Health Organisation definition of anaemia as haemoglobin less than 12 gm/dl then 4 subjects were anaemic during the control cycle, 3 during the first and 5 during the second. The mean haemoglobin levels per cycle are as shown on table VIII. No statistically significant difference in haemoglobin levels was demonstrated. Figure III is a graphic presentation of the distribution of

haemoglobin levels during the three cycles studied.

Figure IV shows mean menstrual blood loss after insertion of IUCD as compared to preinsertion levels adapted from different studies. From the figure a definite increase in MBL after insertion of IUCD is immediately seen. The figure further shows that the unmedicated devices tend to increase MBL more than the copper-medicated devices.

Finally Figure V shows MBL curve adapted from Gao et al compared with the MBL curve from this study. It is further discussed later under the heading DISCUSSION.

SHELF LIFE OF DEVICES	AFTER 1 WEEK
RECOVERY RATE	96% - 100%

These optimum conditions compare well with those found by S. T. Shaw 1977.

TABLE II : RECRUITMENT, FOLLOW-UP AND
PERSONAL DATA

TABLE I : OPTIMUM CONDITION VARIANCE

DILUTION FACTOR	ImI BLOOD: 80 MLS NaOH
ELUTION TIME	8 - 24 HOURS
SHELF LIFE OF DEVICES	AFTER 1 WEEK
RECOVERY RATE	96% - 105%

These optimum conditions compare well with those found by
S. T. Shaw 1977.

TABLE II : RECRUITMENT, FOLLOW-UP AND
PERSONAL DATA

TOTAL RECRUITED	34
COMPLETED: CONTROL CYCLE	34
FIRST CYCLE	30
SECOND CYCLE	27
THIRD CYCLE	2
MEAN AGE (YEARS)	23.8 \pm 3.02 (18 - 30)
EDUCATIONAL STATUS (YEARS)	9.97 \pm 2.07 (4 - 15)
MARITAL STATUS SINGLE/ MARRIED	13 (38.2%) 21 (61.8%)
PARITY	2.13 \pm 1.56 (0 - 7)

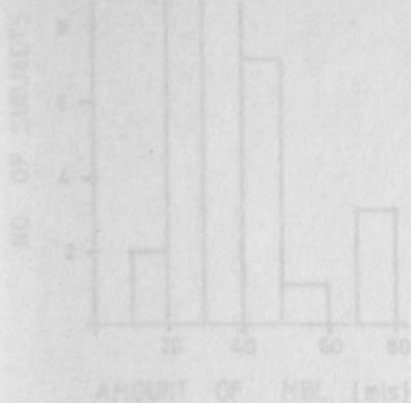
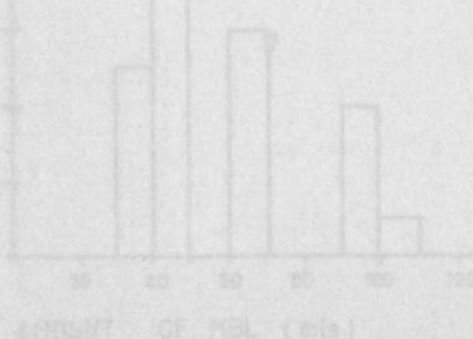


TABLE III :

DISTRIBUTION OF MBL NPER CYCLE

LOSS (MLS) (INTERVAL)	CONTROL	FIRST	SECOND	THIRD	TOTAL
11-20	2	0	0	0	2
21-30	10	1	0	0	11
31-40	11	11	5	1	28
41-50	7	10	11	1	29
51-60	1	3	6	0	10
71-80	3	1	0	0	4
81-90	0	1	0	0	1
91-100	0	2	4	0	6
101-110	0	0	1	0	1
141-150	0	1	0	0	1
TOTAL	34	30	27	2	93



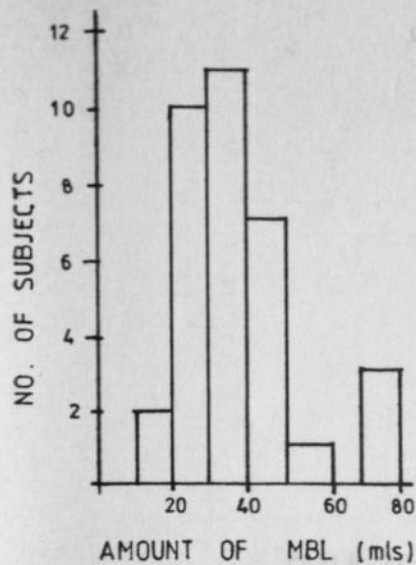


FIGURE IB

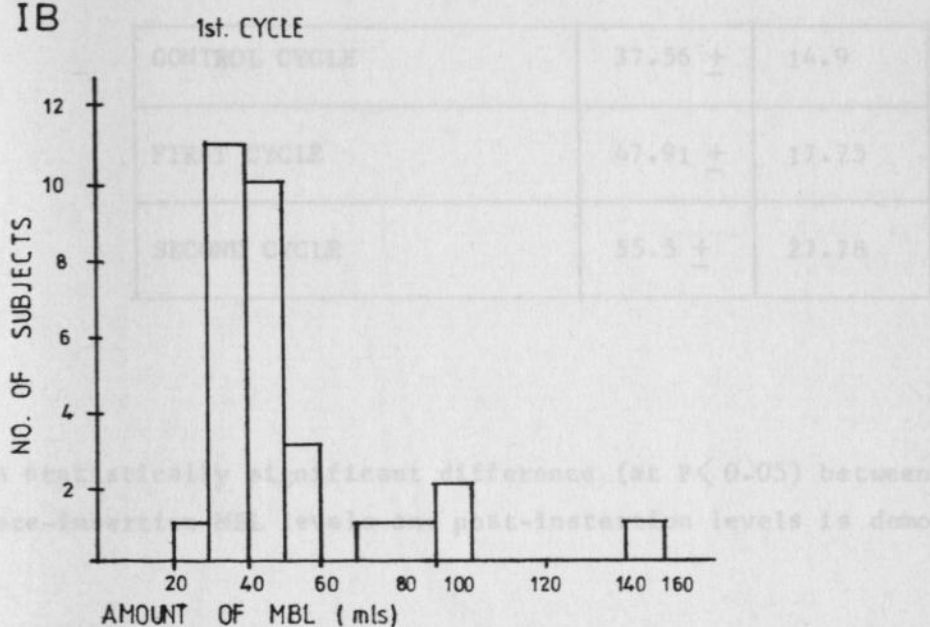


FIGURE IC

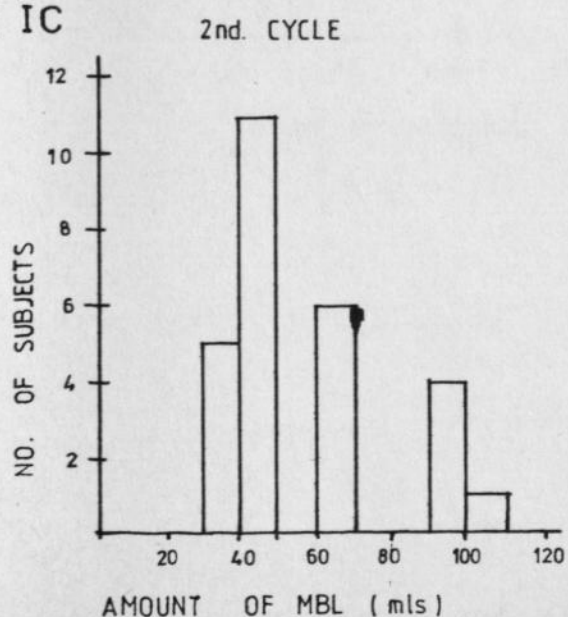


FIGURE II

TABLE IV: MEAN MBL PER CYCLE

CONTROL CYCLE	37.56 ±	14.9
FIRST CYCLE	47.91 ±	17.75
SECOND CYCLE	55.5 ±	27.78

A statistically significant difference (at $P < 0.05$) between pre-insertion MBL levels and post-insertion levels is demonstrable.

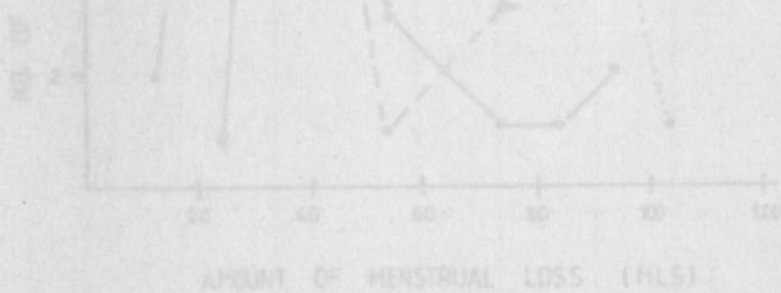


FIGURE II DISTRIBUTION OF mBL

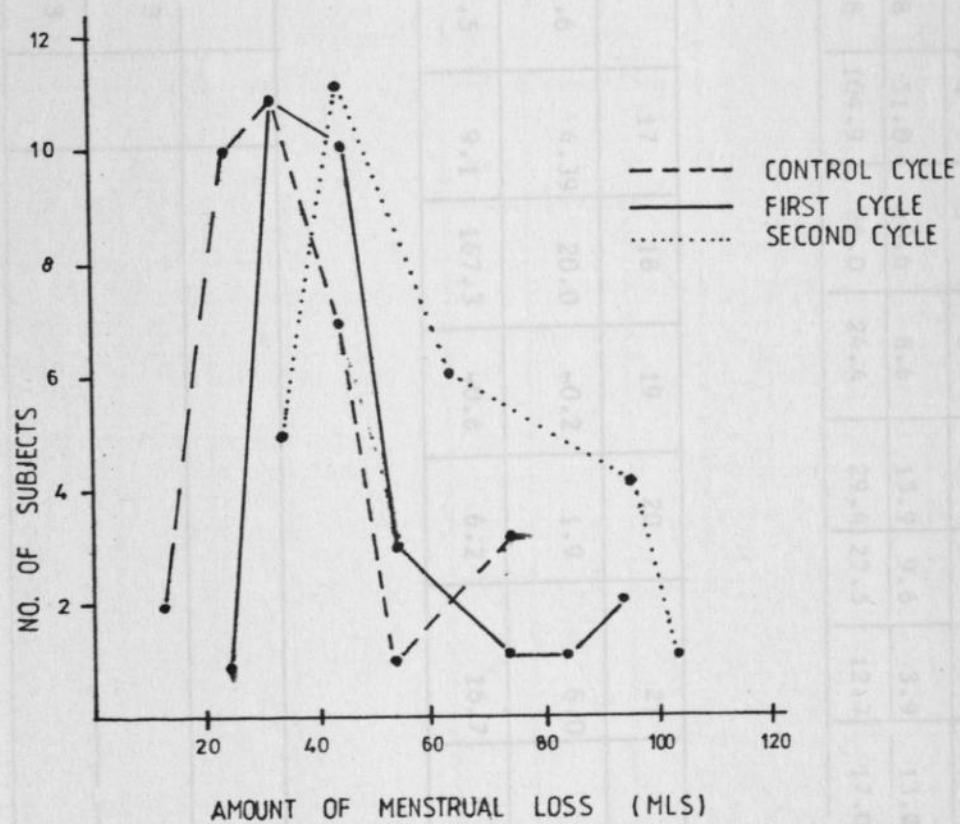


TABLE V SHOWING % MENSTRUAL INCREASES IN INDIVIDUAL SUBJECTS: 1st CYCLE
CYCLE AFTER IUCD INSERTION.

Subject No	* ₁	2	3	4	5	6	7	8	9	10	11	12	13
Amount MBL Increase	3.7	4.7	10.8	51.0	10.6	8.6	15.9	9.6	3.9	13.2	6.2	4.9	7.6
% MBL Increase	-7.1	16.6	42.8	104.9	26.0	24.4	29.4	27.5	12.7	17.0	23.4	13.3	19.5

Subject No.	14	15	16	17	18	19	20	21	22	23	24	25	26
Amount MBL Increase	17.3	33.5	12.6	4.39	20.0	-0.2	1.9	6.0	2.8	2.2	-4.7	1.1	10.
% MBL Increase	24.5	266.5	46.5	9.1	167.3	-0.6	6.2	16.7	9.9	4.6	-9.7	3.2	39.

Subject No.	27	28	29		
Amount MBL Increase	5.2	12.9	3.3		
% MBL Increase	17.2	46.7	9.3		

TOTAL NO OF SUBJECTS COMPLETING 1st CYCLE = 29
MEAN % INCREASE OF MBL = 34.7%

TABLE VI SHOWING % MBL INCREASE IN INDIVIDUAL SUBJECTS : 2nd CYCLE AFTER IUCD INSERTION

Subject No.	1	2	4	5	6	7	8	9	10	11	
Amount MBL Increase	3.9	7.3	45.1	26.3	8.3	38.1	13.8	6.5	18.2	9.5	
% MBL Increase	8.0	25.7	92.8	87.4	23.6	70.3	38.1	21.2	23.5	20.3	
Subject No.	12	13	14	15	-	17	18	19	20	21	22
Amount MBL Increase	11.2	15.3	25.7	43.1		7.5	22.5	12.1	5.5	12.8	11.8 ²
% MBL Increase	53.1	39.2	36.3	343.3		15.6	187.6	39.9	18.3	35.9	42.
Subject No.	23	24	25	26	27	28					
Amount MBL Increase	7.2	8.7	12.5	16.6	17.8	19.0					
% MBL Increase	14.9	18.0	36.9	64.7	58.7	68.8					

TOTAL NO. OF SUBJECTS COMPLETING 2nd CYCLE = 27

MEAN % INCREASE OF MBL = 55.0%

TABLE VII : DISTRIBUTION OF HB PER CYCLE

HB (Gm l^{-1})	CONTROL	FIRST	SECOND	THIRD
11.1 - 12	4	3	5	1
12.1 - 13	13	10	7	0
13.1 - 14	8	11	9	0
14.1 - 15	8	6	6	1
15.1 - 16	1	0	0	0

No. statistically significant difference (at $P < 0.05$) in the haemoglobin levels is demonstrable.

FIGURE III DISTRIBUTION OF Hb

TABLE VIII : MEAN Hb PER CYCLE (gmdl⁻¹)

CONTROL CYCLE	13.23 \pm 1
FIRST CYCLE	13.22 \pm 0.85
SECOND CYCLE	13.14 \pm 1.06

No. statistically significant difference (at $P < 0.05$) in the haemoglobin levels is demonstrable.

FIGURE III DISTRIBUTION OF Hb.

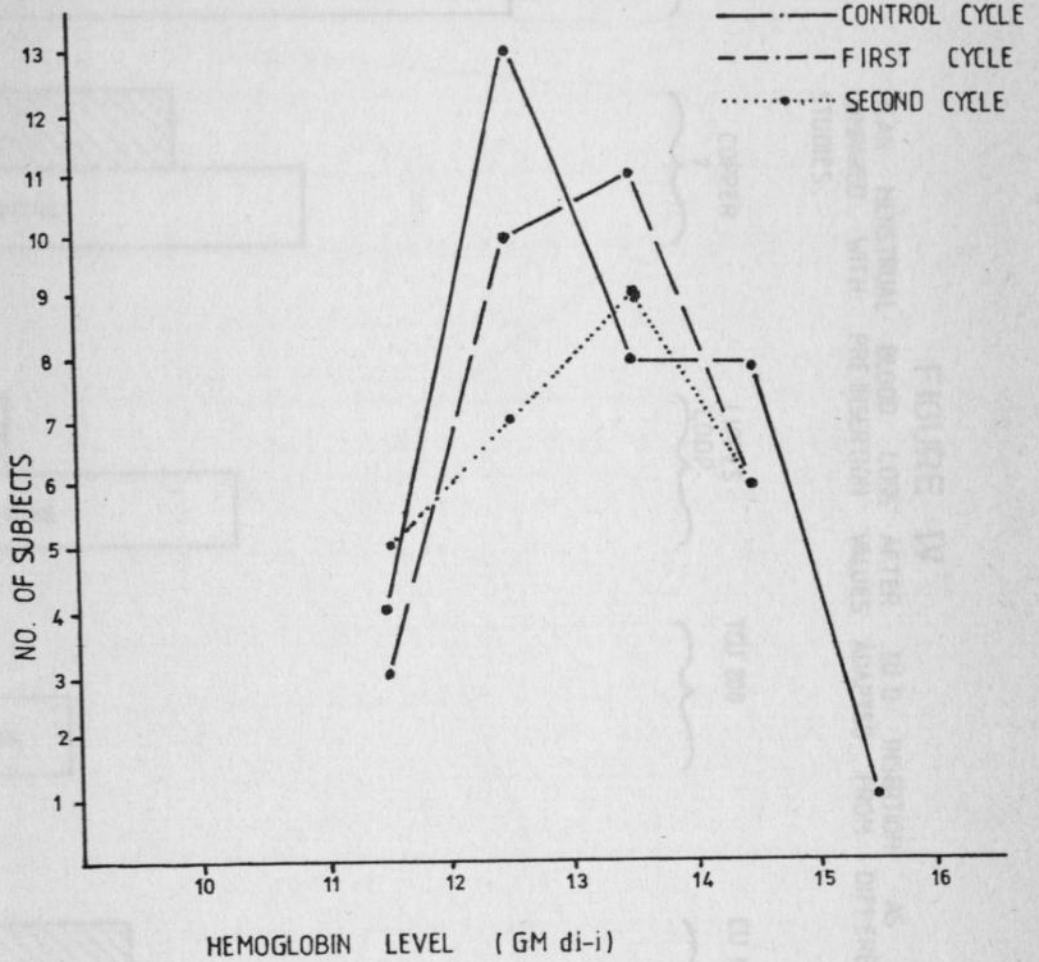


FIGURE IV

MEAN MENSTRUAL BLOOD LOSS AFTER IUD INSERTION AS COMPARED WITH PRE INSERTION VALUES ADAPTED FROM DIFFERENT STUDIES.

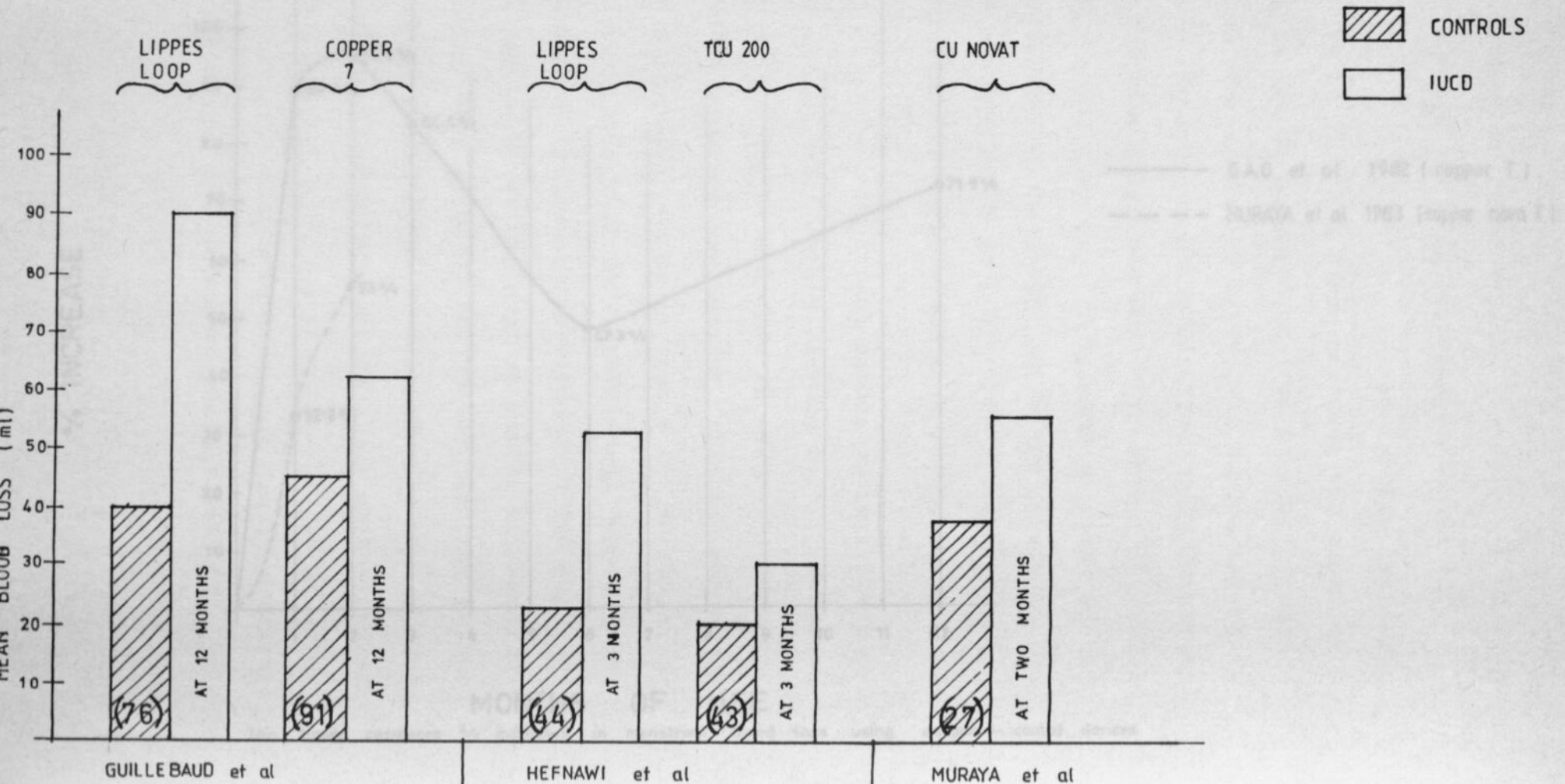
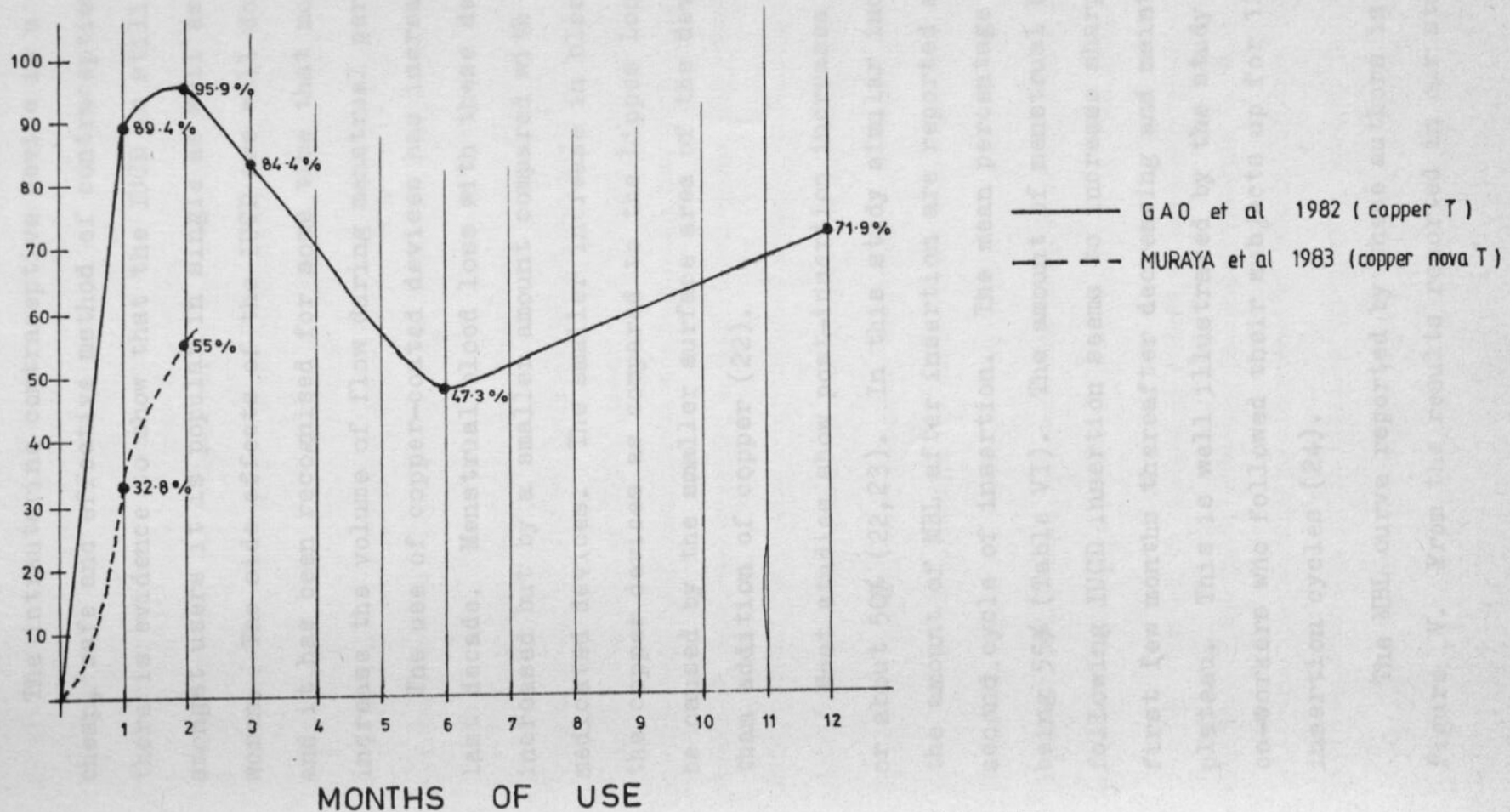


FIGURE V: CURVES SHOWING PERCENTAGE INCREASE IN MBL
ADAPTED FROM TWO STUDIES

% INCREASE



This figure compares % increases in menstrual blood loss using copper — coated devices

DISCUSSION

The intrauterine contraceptive device is a relatively cheap, safe and effective method of contraception. Though there is evidence to show that the IUCD is still underused, amongst users it is popular in single as well as in married women. The side effects of the IUCD are well documented and it has been recognised for some time that most IUCDs increase the volume of flow during menstrual periods.

The use of copper-coated devices has increased in the last decade. Menstrual blood loss with these devices is increased but by a smaller amount compared with the unmedicated devices. The smaller increase in bleeding with the copper devices as compared to the Lippes Loop seems to be caused by the smaller surface area of the device rather than addition of copper (22).

Most studies show post-insertion increases of 10-30 mls or about 50% (22,23). In this study similar increases in the amount of MBL after insertion are reported after the second cycle of insertion. The mean percentage increase being 55% (Table VI). The amount of menstrual blood loss following IUCD insertion seems to increase sharply in the first few months thereafter decreasing and maintaining a plateau. This is well illustrated by the study of Gao and co-workers who followed their subjects up for 12 post-insertion cycles (24).

The MBL curve reported by these authors is shown in Figure V. From the results reported in our study, the MBL

curve shows a rise in the percentage increase of MBL in the two post-operation cycles as demonstrated on the same figure. Since only two cycles were studied it is difficult to predict the type of curve one would describe. However, follow up for a longer period of time may have demonstrated a curve similar to that of Gao.

Recruitment and followup were the two most difficult problems encountered in this study. Level of education seemed to be a major influencing factor, and, as seen in Table II most of the participating subjects were of reasonable education. Problems with recruitment and followup have been reported in other similar studies (21, 25).

Taking menorrhagia as menstrual blood loss greater than 80 mls, 5 subjects out of 27, or 19% experienced menorrhagia during the second cycle as compared to 25% of women in a British study (23). In general studies with both unmedicated and medicated devices suggest that the amount of menstrual bleeding in individual women with IUCDs does not change greatly over time even though a woman's subjective impression as she becomes accustomed to the new pattern may eventually be of a decline. Evidence also suggests that women who report heavier than normal menstrual bleeding (ie subjective) before IUCD experience a smaller increase in bleeding after IUCD insertion and in some cases a decrease (26). This suggests that heavy bleeding should not be automatically regarded as a contraindication to IUCD use.

In addition to changes in volume of menstrual blood flow, the duration of menstrual bleeding is often prolonged by an IUCD in situ. (17) thus contributing to the potential complication of IUCD - associated anaemia which has been reported by various investigators (10). This aspect of menstrual blood loss was, however, not included in this study but it should be of interest to evaluate the alteration

of the duration of menstrual bleeding in Kenyan women in future studies.

Despite 11.8% of the total number of subjects being anaemic at the beginning of the study, haemoglobin levels were not altered significantly and these subjects were not anaemic clinically. Anaemia following insertion of IUCD seems, therefore, to manifest itself over a long duration of use of the device. Decline in haemoglobin and plasma ferritin following IUCD insertion has been reported (9,10). Similar declines should be expected and with the increasing use of the intrauterine contraceptive device as a means of contraception in our society there is need to evaluate the long-term effects of these devices on the haemoglobin and iron stores in users,

In conclusion, discontinuation of the IUCD as a method of contraception using the subjective complaint or estimate by the patient as a criterion for discontinuation does not appear justified and heavy bleeding should not be automatically regarded as a contraindication to IUCD use. Since the method of alkaline haematin of Hallberg and Nilsson as modified by Newton is a quick and reliable method for estimation of menstrual blood loss, it should be employed in evaluation of such patients before insertion or discontinuation of the device.

This study did not find significant changes in haemoglobin levels even with increased menstrual blood loss between IUCD users and the control group indicating that the problem of blood loss may be successfully compensated with oral treatment. Therefore, those subjects who are anaemic or those who become anaemic during the follow-up will require iron supplementation therapy.

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Patterns of blood loss in menorrhagia

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