

OBSTETRIC AND GYNAECOLOGY
CASE RECORDS AND COMMENTARIES

SUBMITTED BY

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IN PART FULLFILMENT FOR

THE DEGREE OF

MASTER OF MEDICINE

IN

OBSTETRICS AND GYNAECOLOGY

OF

UNIVERSITY OF NAIROBI



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JULY, 1990. DR. AYOMA W. OJWANG. M.B., CH. B. (NAIROBI 1983).

HOW OFTEN HAVE I SAID TO YOU THAT
WHEN YOU HAVE ELIMINATED THE IMPOSSIBLE,
WHATEVER REMAINS,
HOWEVER IMPROBABLE MUST BE THE TRUTH.

- Sherlock Holmes.

DEDICATION

This book is dedicated to my parents - Lameck Ojwang and Siprina Okoth - with respect and affection for giving me "humble beginnings" and for having contributed alot in my earlier upbringing and education.

A C K N O W L E D G M E N T

Firstly, I thank most sincerely, the Government of the Republic of Kenya for sponsoring me to pursue this specialist training in the interesting field of Obstetrics and Gynaecology in the University of Nairobi.

Secondly, a thousand and one thanks go to my University supervisors- Prof. S.B.O. Ojwang and Dr S.M. Wanjala - for their commitment to duty, humane attitude, and encouragement, supervision and guidance they gave me throughout my training. Sometimes when the going got tough, I went for consolation from them. Prof. S.B.O. Ojwang was a former chairman, and Dr. S.M. Wanjala is the current ^{As} chairman of the Department of Obstetrics and Gynaecology.

Equally remembered with alot of respect are Dr. C.S. Kigundu and Dr. Makokha for their timely advice whenever need arose. For both of my long commentaries Dr. C.S. Kigundu was in the fore-front in giving me advice, positive criticisms and for organizing for the laboratory services. In this respect, special thanks also go to two laboratory technicians - Mrs. Bhullar and Mr. Gregory Maitha who contributed alot to make my project on HIV a success.

To all my consultants and lecturers, the encouragement and enthusiasm was most deserving and overwhelming. I thank them all for the tireless efforts they made to instill into me the qualities of a good Obstrecian-Gynaecologist.

Many thanks also go to the Fellow Doctors, Nursing Staff, other Medical cadres the Administrators of Kenyatta National Hospital and the patients. Their interest and friendliness made my efforts easier.

With alot of love, thanks go to my wife Rose Akinyi and my three daughters: Sarah Mercy Anyango, Susan Lin Atieno and Maureiqe Agnes Awino for enduring my frequent absence with understanding and for cementing my desire to complete the training.

Lastly, I am extremely grateful to my wife Rose Akinyi for spending long hours and patience in typing this heavy work (sometimes sleeping late at night) to enable me to present it in time.

D E C L A R A T I O N :

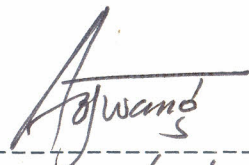
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THE WORK SUBMITTED IN THIS BOOK HAS NEVER BEEN PRESENTED FOR A
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C E R T I F I C A T I O N :

This is to certify that obstetric case Nos. 2,4,5 and gynaecology case Nos. 1,5 were managed by DR. AYOMA W. OJWANG under my supervision and guidance at Kenyatta National Hospital, Nairobi, Kenya.

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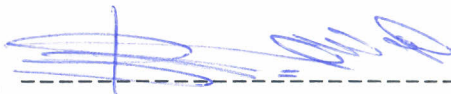
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This is to certify that obstetric case Nos. 3, 9, 11, 13 and gynaecology case Nos. 6, 10, 12, 13, were managed by DR. AYOMA W. OJWANG under my supervision and guidance at Kenyatta National Hospital, Nairobi, Kenya.

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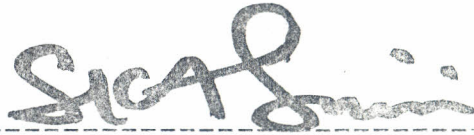
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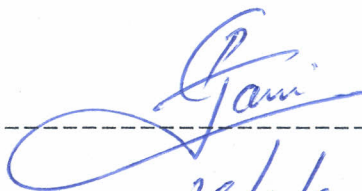
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INTRODUCTION.

KENYATTA NATIONAL HOSPITAL:

Kenyatta National Hospital (KNH) is situated about 5 km from the Nairobi City Centre. Started in 1901, when it was then known as the Native Civil Hospital, it has become the largest multi-complex ultra-modern health institution in the country. Established on a 303.92 acre piece of land, it has gained a parastatal status since 1987, has its own management board and has a major participation in the national health planning and implementation. The Hospital provides preventive, curative, promotive, specialist and rehabilitative services for Nairobi residents and serves as the National Hospital. Additional to its being the highest referral health care unit in the country, it also receives referrals from the East and Central African countries for specialised treatment.

The Hospital has provision for training undergraduate and postgraduate medical students from the University of Nairobi College of Health Sciences. Additionally, the College of Health Professions also use its facilities to train paramedical staff among whom are nurses, midwives, clinical officers, laboratory technologists, physiotherapists, occupational therapists, public health officers, pharmaceutical technologists, and many more.

KNH became a teaching Hospital for the then Faculty of Medicine of the University of Nairobi in 1968 and later started offering facilities for postgraduate medical courses. Approximately ten percent of students in the medical school come from outside Kenya. KNH has solidly established itself as an institution with adequate facilities for both health education and research services at the national and international levels.

THE OBSTETRIC AND GYNAECOLOGY UNIT:

The obstetric and Gynaecology department is an integral part of the College of Health Sciences of the University of Nairobi. It also represents one of the several divisions assisting the administration of the KNH in supervising clinical and diagnostic areas. It operates in close cooperation with other departments. Within the unit, there is very active clinical and research work and adequate support for relevant scientific conferences and

- 2 2

publications. Among these are quite remarkable World Health Organisation funded projects.

In clinical areas, outpatient services are offered by the Antenatal care, Adolescent clinic, Post-natal care, general Gynaecology clinics, Infertility clinic and the Oncology clinic. In addition, there are the Family Welfare clinic, Rahimtulla Wing for laparoscopy and minilaparotomy services and the casualty for emergency admission. In-patient services are offered in labour ward, cold wards, one Acute Gynaecology ward; amenity wards, and the neonatal unit. Patients are also reviewed in other wards on consultation.

In the unit are also clinical meetings, perinatal and maternal mortality meetings, research meetings, lectures and other extra-curriculum activities that promote health education and academic excellence.

CASUALTY DEPARTMENT:

In this section, there is a receiving area for all obstetric and gynaecological emergencies. A Medical Officer (M.O) under the supervision of senior members of staff, screens all patients and admits those requiring emergency admission. Others are treated and discharged home. Some are given consultations to specialised clinics.

RADIO-DIAGNOSTIC DEPARTMENT:

The department offers ultra-sonographic and radio-diagnostic services. Ultrasound delineates pelvic masses, scans the gravid uterus, guides during amniocentesis, determines foetal maturity, multiple fetuses, foetal abnormality etc. Erect lateral pelvimetry, intravenous urography and hysterosalpingography are some of the common rhoentogenograms done.

LABORATORY SERVICES:

The department has a specialised laboratory service to supplement the Hospital facilities. Among the investigations that are performed include radio-immuno-assay, semen-analysis, anti-sperm antibody assay, exfoliative cytology, haematology, surfactant

bubble test, bilirubin spectrophotometry, Kleihauer-Betke test, pregnancy tests, HIV screening tests and many more.

OBSTETRIC UNIT:

Obstetric services at the KNH are provided at the antenatal clinic, casualty, labour ward, the three maternity wards and the post-natal clinic. The City commission clinics refer high risk pregnant patients appropriately to these clinics.

ANTENATAL CARE (ANC):

Selection of high risk patients is done at the booking ANC every Monday by each of the three Firms alternately. The patients are first interviewed by the midwives who record personal history, obstetric history and medical/surgical history. Blood pressure, weight and height measurements, and urinalysis are done on every patient. A senior Registrar finally reviews all the patients and makes selection of high risk patients to be for follow-up in the ANC. This is done according to the following criteria:

1. Bad obstetric history: previous still births, neonatal deaths, recurrent abortions etc.
2. Previous catas trophies incident to pregnancy: post partum haemorrhage, uterine rupture, obstetric fistulas etc.
3. Medical conditions complicating pregnancy: anaemia, diabetes mellitus, thyroid diseases, hypertension, psychiatric illness, cardiac disease, renal disease, deep venous thrombosis etc.
4. Primigravida: teenage, elderly, short, paraplegic.
5. Grand-multiparity: para 5 and over.
6. Previous operative delivery: Caesarean section, vacuum extraction.
7. Others: prolonged relative infertility period; multiple gestation; rhesus incompatibility.

For those patients booked in the ANC, blood is withdrawn for full haemogram, serology test for syphilis, and blood grouping. They are seen and examined by the Senior House Officers who record medical, gynaecological, obstetric and family history. About 50 high risk patients are selected for follow-up every Monday. Those patients not booked are advised to attend the various peripheral health units for their ANC.

ANTENATAL FOLLOW-UP:

The patients are seen four weekly upto 28 weeks gestation, two weekly up to 36 weeks and weekly till delivery. But each patient is treated on her own merits, and may be seen more or less often.

At each visit, the following are done:

1. The patient is weighed, and not only the total gain but the gain since the last visit are calculated.
2. The blood pressure is recorded and compared with the previous readings.
3. A urine specimen is examined for protein and sugar.
4. The patient is questioned regarding symptoms.
5. Any change in treatment indicated by the findings is suggested.

The abdomen is examined at each visit. During the first 30 weeks the principal information one gains from abdominal examination is the rate at which the uterus is enlarging. The foetal heart can be heard with a fetoscope after 20 weeks, and the position and presentation can be determined with reasonable accuracy in normal women after 30 weeks.

At 36 weeks, clinical pelvic assessment is done on all primigravidas and radiological pelvimetry on patients with one previous caesarean section with cephalic presentation, and those with breech presentations destined for vaginal delivery.

At 38 weeks, amniocentesis (for foetal lung maturity) is done for patients planned for elective induction of labour or delivery by caesarean section.

Patients with medical complications are admitted to the various maternity wards for investigations, observations and management.

Health education is given to patients by the appropriate medical cadres in all clinical sessions. Emphasis is on better nutrition, regular clinic attendance, preparation for labour and delivery, post-partum care and family planning.

The breasts are examined at least once during the last trimester of pregnancy. This provides a good opportunity to discuss breast-feeding.

5

MATERNITY UNIT:

This is comprised of labour ward, three ante-natal wards and the new-born unit. The labour ward and the two ante-natal wards are on the ground floor of the Tower Block. The third ward and the new-born unit are on the first floor.

Over 7000 deliveries are conducted in the labour ward annually. There are 10 first stage rooms (and a bed in each room) and 3 delivery suites (with two delivery couches in each). In addition there is acute room for close monitoring of the very sick patients. There are two theatres. One theatre is for Obstetric operations, sterilization. the other is for post-partum. Two incubators are available in labour ward for the new-borns, especially for transfer of the pre-term babies to the nursery. One ultrasonic machine has already been installed in labour ward, and is fully operational for in-patients. A doppler sonicaid machine is also in-use. Arrangements are being made to install an electronic fetal heart-rate monitor.

Each of the antenatal wards has 32 bed capacity, and is headed by a consultant under each firm. Post-operative care is also provided in these wards. Senior house officers review patients and do daily ward rounds. Major ward rounds are conducted once a week.

The new-born unit is manned by Paediatric Department. It has 5 nursery cubicles - one is an Isolation Nursery. The latter is for infected babies and those born before arrival. There are 30 incubators and 10 cots in the newborn unit.

Patients being admitted to the maternity unit are booked, unbooked or referred. Those booked patients present to labour ward admission directly. Unbooked or referred patients are admitted through casualty. Patients not in labour or requiring emergency care are transferred to the various antenatal wards for observations and management. All newborns with problems or whose mothers are very sick, are taken to the Newborn unit for management.

LABOUR WARD:

Labour ward is managed by the FIRM on-call each week. The team is composed of nurses, mid-wives, intern-doctors, Senior house officers Senior Registrars and consultants. On admission the Intern-Doctor

and the Registrar take full history and conduct a thorough examination. The ante-natal card is also reviewed. Urine is examined for glucose, protein and ketones. The pudendum is shaved. Aseptic digital examination is performed if the patient is in labour except where history of ante-partum haemorrhage or premature rupture of membranes is present, when a sterile and gentle speculum exam is done. Pelvic capacity is noted here.

PELVIC DIGITAL EXAMINATION:

The patient is asked to lie comfortably on the examination couch with legs flexed and abducted. This is after being explained adequately the purpose of the examination. The perineum and the vulva are aseptically prepared. Using swabs soaked in antiseptic solution, the vulva is scrubbed from above downwards and away from the introitus. Vulval folds are carefully cleansed. As scrub swabs pass over the anal region, they are discarded. After this the examiner's gloved thumb and forefinger of the left hand separate the labia widely to expose the introitus. The examining fingers are thus prevented from coming in contact with the labia. The gloved index and the second finger of the right hand are then introduced into the vagina (first one then both). The following are particularly noted:

- (i) Cervix - softness, effacement, dilatation, position, and relation to the presenting part.
- (ii) Membranes - whether intact or ruptured.
- (iii) Cord - presentation or prolapse.
- (iv) Presenting part - nature, position, station, presence of caput and/or moulding.
- (v) Clinical Pelvimetry - adequacy of the pelvis is judged from the diagonal conjugate, sacral promontory, sacral curve prominence of ischial spines, pelvic side walls, sub-pubic angle and intertuberous diameter, (or one can follow the "rule of threes").
- (vi) Vaginal and perineum - distensibility and moistness; presence of any discharge.

If the cervix is dilated 3-4 cm and membranes are bulging, amniotomy is done with Kocher's forceps after membranes have been swept free from the lower uterine segment. Presence of meconium is noted.

SPECULUM EXAMINATION:

Preparation of the vulva is as described above. Both the labia majora are separated by the thumb and index finger of the gloved left hand. Cusco's speculum is then introduced into the vagina under good light with the blades, HORIZONTAL, and the valves opened to visualize the cervix. The latter is inspected for dilatation, bleeding, drainage of liquor, any local lesions, or presence of any discharge. The vaginal walls are also inspected as the speculum is withdrawn gently in the same manner it was introduced.

MANAGEMENT OF LABOUR:

If the patient is in active labour, a partogram is started at once. The following are recorded on the partogram: Patient's particulars and unit number; date and time of each observation and procedure; blood pressure, pulse rate, respiratory rate and foetal heart rate and regularity; cervical dilatation; position of the presenting part above the pelvic brim; body temperature; duration and frequency of uterine contractions; medications; and urine exam. Alert and action lines are drawn to a gradient of 1cm cervical dilatation at the time of first recording 4 hours apart. The partogram is charted every 30 minutes.

FIRST STAGE OF LABOUR:

Each patient is reviewed by the Senior House Officer on duty. The partogram observations are maintained and appropriate intervention effected if the progress is poor. Foetal heart tones, maternal pulse rate and blood pressure are recorded more frequently, the patient is encouraged to lie on her left lateral position, 5% dextrose drip is started, and oxygen is given by mask. Pelvic examination is performed 4 hourly or more often as the circumstances dictate.

Active management of labour is universally practiced in this unit. Amniotomy is done early as soon as active phase of labour has been diagnosed by cervical dilatation, uterine contraction and descent of the presenting part. Analgesia is given liberally in the first stage. Pethidine, pethilofphan or morphine are used - the latter is particularly preferred for cardiac patients and sicklers.

Labour is augmented with oxytocin infusion whenever required.

Routine induction of labour is commenced in the morning, usually by amniotomy and oxytocin drip. Prostaglandin vaginal pessaries/swab may be inserted the night before to ripen the cervix where indicated. Extra-amniotic prostaglandin induction is preferred for cases with fetal demise in-utero.

SECOND STAGE OF LABOUR:

This starts from the time of full cervical dilatation to the complete delivery of the baby. Most of the normal vaginal deliveries are conducted by student midwives under supervision of qualified midwives and Senior House Officers. The patient is placed in lithotomy position. The attendant, scrubbed, gowned and gloved, cleans the vulva and perineum with antiseptic solution, and drapes the patient with sterile surgical towels. A digital vaginal exam is performed to confirm the cervical dilatation and station of the head. The perineum is then infiltrated with 20 ml of 1% procaine hydrochloride solution. The patient is encouraged to bear down with each contraction. An episiotomy, usually mediolateral, is made if the perineum is not lax, and only when it is distended - but in pre-term deliveries during crowning of the head. The head is kept flexed and the perineum supported with sterile pads. The head is delivered slowly and steadily with each uterine contraction, and on clearing the perineum, the nostrils and mouth are wiped with soft gauze. The fingers are slipped round the baby's neck, and if the cord is found that is too tight, it is slipped over the head and divided between clamps. The anterior shoulder is then delivered. Intramuscular Syntometrine is then administered unless the patient has multiple gestation, cardiac disease, sickle cell disease, hypertension or severe anaemia. The posterior shoulder, trunk and legs are delivered, and the baby is briefly displayed to the mother before being taken away by an assistant. Resuscitation of the baby is done whenever required, APGAR scores are made and examined for any congenital anomalies. Warmth is provided and an identification bracelet/band is fastened to the baby's limb, and it is finally weighed, and examined.

THIRD STAGE OF LABOUR:

A kidney-dish is placed against the patients perineum to receive blood and the placenta. Signs of placental separation are awaited

for and then the placenta is delivered by controlled cord traction. Maternal effort is occasionally adequate. Delivery is accomplished usually within twenty minutes. If delayed, a diagnosis of retained placenta is made necessitating manual removal under general anaesthesia. The placenta and membranes are weighed and examined for completeness, retroplacental blood clot, insertion and number of cord blood vessels, infarcts, and any gross abnormality. The uterus is palpated to confirm good contraction and retraction. The perineum, vagina and cervix are inspected for any injury that may require repair under general anaesthesia. The episiotomy is finally repaired.

REPAIR OF EPISIOTOMY:

The patient is placed in lithotomy position. By aseptic technique, a sterile gauze is packed high up in the vagina and the posterior vaginal wall retracted with the attendant's index and middle finger to expose the episiotomy wound. The vaginal wall is repaired from the apex outwards using interrupted number 0 chromic catgut sutures on around bodied needle. The muscles and deep tissues are also approximated by interrupted sutures using the same suture material. Finally, the perineal skin is repaired with interrupted buried-knot sutures. The vaginal pack is removed and a digital rectal exam performed to make sure rectal mucosa has not been involved in the repair. A sterile sanitary pad is applied. Post-delivery observations are made and delivery notes completed. Notification of birth is certified.

"FOURTH STAGE" OF LABOUR:

The hour immediately following delivery of the placenta is a critical period and has been designated by some obstetricians as the "fourth stage of labour". Even though oxytocics are administered, post-partum haemorrhage as the result of uterine relaxation is most likely to occur at this time. It is mandatory that the uterus be evaluated very frequently throughout this period by attendant, who places a hand frequently on the fundus and massages it at the slightest sign of relaxation. At the same time, the vaginal and perineal region is also inspected frequently to allow prompt identification of any excessive bleeding.

The patient is kept in labour ward for two hours, and then transferred to the lying-in wards when her general condition and vital signs are stable. Most patients are discharged home within 24 hours of spontaneous vertex deliveries. Post-natal exercises are encouraged, and the patients are reviewed in the post-natal clinic after 6 weeks.

OBSTETRIC OPERATIONS:

The common operative procedures include amniotomy, episiotomy, manual removal of the placenta, repair of cervical tears, vacuum extraction, cervical cerclage, post-partum tubal sterilizations and caesarean section. Some of these procedures are discussed elsewhere in this book, and others are presented under appropriate case histories. Most of these procedures are done under general anaesthesia in theatre.

CAESAREAN SECTION:

Lower uterine segment caesarean section (LUSCS) is mostly done. Classical sections are rarely performed. If possible patients are starved from the mid-night of the operative day. Shaving is done near the operative time as practicable. Informed consent is obtained from the patient, and relevant consent forms are signed. Premedication is given about half an hour before the scheduled operation with intramuscular 0.6mg atropine sulphate - but for cardiac patient 0.4mg hyoscine is preferred - and the patient finally is taken to the operating suite.

In theatre, the patient is placed in dorso-lithotomy position, vulvo-vaginal toilet done with savlon solution, and aseptic bladder catheterization is performed. The catheter is left in place for the duration of the operation. The patient is then repositioned, and an intravenous infusion started: a canula FG 16 (or 18) in the left arm vein. The surgeon, an assistant, and an instrument nurse scrub up and put on sterile theatre gowns and gloves. The abdomen is cleaned with salvon solution and spirit before being draped with sterile surgical towels. 100% pre-oxygenation is done for about five minutes. General anaesthesia is then administered. Induction with 200-500 mg of intravenous thiopentone sodium

and scoline (1mg/kg) and maintenance with 6 litres/min of N₂O and 5 litres/min of O₂ through an endotracheal tube is done. The muscle relaxant used after induction is a non-depolarizing agent (Pancuronium bromide) in a dose of 0.08 mg/kg. d-Tubocurarine, if used, is only after the delivery of the baby in a dose of 0.5 mg/kg.

The abdomen is opened through a mid-line infra-umbilical incision, and rarely through a Pfannenstiel incision. The incision is deepened down to the rectus sheath which is then opened longitudinally using Mayo's curved scissors. The rectus abdominis muscles are reflected sideways. The parietal peritoneum is exposed, picked up at its upper third between two Spencer-Wells forceps 2cm apart, and opened with a knife or scissors, after inspection and palpation is done to ensure that the bowels and bladder are safe. The bladder is retracted down-wards using Doyen's retractors and uterine dextrorotation is corrected. The gut is packed away by two warm moist abdominal packs on either side of the gravid uterus. The utero-vesical peritoneum is opened 2cm above the bladder and the incision extended laterally with dissecting scissors. The peritoneal flaps are reflected downwards by a sponge holding forceps. The retractor is then placed between the lower flap and the lower uterine segment. A short transverse incision is then made into the lower segment carefully deepened until the membranes are exposed. The incision is extended laterally using a pair of curved scissors guided by two fingers to protect the foetus and avoid lateral uterine vessels. The membranes are punctured with a knife. The right or the left hand is then placed gently underneath the baby's head, and the head is delivered gently out through uterine incision, after the Doyen's retractor has been removed. Delivery is aided by modest transabdominal fundal pressure. To minimize aspiration by the fetus of amniotic fluid and its contents, the exposed mouth and nares are aspirated or wiped with a soft gauze before the thorax is delivered. The shoulders are then delivered using gentle traction plus fundal pressure. The rest of the body readily follows. As soon as the shoulders are delivered, intravenous 0.5mg ergometrine is administered. The umbilical cord is divided between two clamps and the baby received by the midwife and handed over to the paediatrician for any necessary resuscitation. The placenta and the membranes are delivered manually or by controlled cord traction. Green armytage uterine clamps are applied to control bleeding especially at the

lateral angles and to define the incision margins. Blood is evacuated from the uterine cavity and the cervix dilated if the patient was not originally in labour. This allows for lochia loss. Adequate haemostasis is ensured from the placental bed before closure. The Doyen retractor is re-applied.

The uterine wound is closed with a locking continuous intramuscular chromic catgut suture No. 2 a round bodied needle from one angle to the other. A second layer of simple continuous suture is placed to bury the first layer and thus achieve complete haemostasis. The utero-vesical peritoneum is then repaired with a continuous chromic catgut No. 0 suture. The peritoneal cavity cleaned and abdominal packs are removed. The uterus, tube, ovaries and other abdominal viscera are inspected for any abnormality. Swabs and instruments are checked. If found to tally with the first count, the parietal peritoneum is closed with continuous chromic catgut suture No.0. The rectus sheath is closed with continuous No.2 chromic catgut suture, and the skin with No.1 interrupted nylon or silk suture. The wound is cleaned with savlon and dressed with a sterile gauze. The bladder catheter is removed unless there is an indication for its retention. Urine is inspected for blood. The uterus is massaged and blood clots evacuated par vaginum. The vulva and the thighs are cleaned and a sanitary pad applied. General anaesthesia is reversed with 1.2mg intravenous atropine sulphate and 2.5 mg I.V. neostigmine. Extubation is done and the oropharynx sucked to remove secretions. Total blood loss is estimated. The patient is then taken out of theatre for post-operative care in the ward after initial post-op vital observations are stable.

POST CAESAREAN SECTION CARE:

The pulse, temperature, blood pressure and respiratory rates are recorded half hourly till the patient is fully awake then 4 hourly. Parenteral pethidine 50-100 mg is given 8 hourly for 24-48 hours to relieve pain. The dose is dependent on the patients body weight. Further analgesia is given orally. Two litres of intravenous fluids are given in the first 24 hours, (with at least 500ml of normal saline). Ambulation and oral sips are encouraged after 24-48 hours. Normal diet is gradually introduced after free fluids and light diet. Blood transfusion is rarely necessary after caesarean section. Prophylactic antibiotics are administered

routinely to all patients.

Initially, the patient is observed in labour ward. If her general condition remains stable and satisfactory, she is transferred to the lying-in wards. Early ambulation is the rule. Haemoglobin level and urine bacteriological exam are done on the third day post-op. All stitches are removed on either the 6th day or the 7th day, when the patient is discharged home with a case summary. She is advised to attend the child welfare clinic, and the post-natal clinic in two and six weeks respectively.

VACUUM EXTRACTION:

This is an assisted delivery. Indications for its use include poor maternal effort, foetal distress, cord prolapse at or near full cervical dilatation, and to shorten the second stage of labour in cardiac disease, hypertension, respiratory disease, sickle cell disease, abruptio placentae or severe anaemia from any cause. It is usually an elective or an emergency procedure. The patient is placed in lithotomy position as for any vaginal delivery as described above. A medio-lateral episiotomy is usually made under local anaesthesia. The largest applicable vacuum cup is fitted on the foetal scalp at the vertex and a finger passed around its perimeter to confirm exclusion of maternal tissues from its hold of the cup. The vacuum suction pressure is then built gradually at a rate of 0.1 kg/cm^2 to 0.5 kg/cm^2 and should not exceed 0.8 kg/cm^2 to achieve a well-formed chignon. The patient is then encouraged to push with each uterine contraction. At the height of maternal effort, a gentle traction pressure is simultaneously applied with the ventouse along the mid-line plane of the pelvis. Once the baby's head is delivered, the suction pressure is released and the cup removed. The rest of the delivery is then completed as for spontaneous vertex delivery.

THE NEW BORN:

All new born babies are seen by the Paediatric Senior House Officers. Normal babies are allowed to stay with their mothers unless the mother is very sick in which case the baby is admitted to nursery. All sick babies are treated - some are admitted to nursery. Breast feeding is encouraged soon after delivery. All pre-term babies are admitted to the newborn unit. Well mothers of such babies are accommodated in the Mother's Hostel.

POST-NATAL CLINIC :

This is conducted on Friday morning for post-natal mothers. A brief history on the patients's clinic state during the puerperium is reviewed. Special consideration is observed for post-partum illness, vaginal discharge, pelvic infection and urinary symptoms. Resumption of menstruation and lactation is enquired about. The health of the baby and breastfeeding is also reviewed. Physical examination is performed. General physical state, breasts abdominal and pelvic exam is especially considered. Pallor is checked for; weight, blood pressure and pulse are recorded. Urinalysis is done. The patient is counselled on contraception and anticipated problems in the future pregnancies. Those with special problems are referred to the appropriate specialised disciplines for further management. For contraception, patients are referred to the Family Welfare Clinic, or to Rahimtula Wing for those who require interval tubal sterilization.

THIRD TRIMESTER AMNIOCENTESIS:

Amniotic fluid is obtained mainly for surfactant test to assess fetal lung maturity; bilirubin spectrophotometry in rhesus isoimmunization; and alpha-fetoprotein for suspected neural tube defects.

Full aseptic technique is not necessary although the skin is cleaned with spirit and care is taken not to touch the needle. In the majority of patients a 21 - gauge x 1½ or 2 green needle is long enough and local anaesthesia is not required. The fetal heart rate is auscultated before and after the procedure. Where possible amniocentesis is performed by supra-pubic puncture. The patient empties her bladder and lies on a couch. By gentle manipulation the presenting part is moved out of the pelvis and held with the left hand. Without moving the left hand, the needle is plunged into the uterus at the appropriate angle and liquor aspirated. If the presenting part cannot be displaced from the pelvis, the second choice of site is in front of the fetus among the limbs, usually at the umbilicus of the mother. This site may be hazardous since the fetus is often facing its placenta. As a last resort liquor may be obtained from behind the neck. In both these situations the depth of the middle of the pool of liquor from the abdominal skin surface is measured from the point of the

spinal needle and, with a finger on the needle to act as a guard, it is plunged with one movement into the uterus. There are occasions when there is no apparently available liquor or where the only liquor is under the placenta. In these situations the risks of attempting and failing to obtain liquor must be weighed against the benefits if liquor is obtained.

After the procedure the patient is nursed on her side for 1-2 hours while foetal heart beat is auscultated quarter hourly.

SURFACTANT TEST:

1 ml of amniotic fluid and an equivalent amount of 95% ethyl alcohol are added to test tube A. 0.5 ml of normal saline and 1 ml of 95% ethanol are added to test tube B. Both tubes are shaken vigorously for 15 seconds and left to stand in the test-tube rack in good light for 15 minutes. The persistence of an intact ring of bubbles at the air-liquid interface is a positive test.

GYNAECOLOGICAL UNIT:

Gynaecological services are organized mainly on Firm basis. There are three Firms. Outpatient services are provided in gynaecology clinics, family welfare clinics, Rahimtula wing and casualty. In - patient emergency services are rendered in ward 6. Cold cases are managed in ward 4 and 5 where the three Firms share beds. Emergency and non-emergency gynaecology theatres are among the other 10 main operating theatres.

EMERGENCY GYNAECOLOGY WARD:

This ward has 32 beds. Bed occupancy used to be several times more than the bed capacity in the ward, but with the introduction of cost-sharing policy, this has drastically decreased. The main admissions are abortions, acute pelvic infections, pelvic abscesses, ectopic cyesis, abnormal uterine bleeding, bartholins abscess/cyst, missing tails or translocated intra-uterine contraceptive devices, carcinoma of cervix, genital injuries etc. . Most of the emergencies are admitted through casualty. Operations are performed within 24 hours of admission. Cases of cervical cancer are examined and staged weekly under anaesthesia in Caesium theatre.

Cold cases are admitted through the gynaecology clinics or transferred from the emergency gynaecology ward. Most patients are clinic attendants with established diagnosis and adequate work-ups. These include blood group, Pap smear, specialized laboratory investigation and occasional histology results. In-patients are re-clerked and prepared for scheduled operations on specific theatre days. Appropriate chemotherapy is administered to specific patients with specific conditions.

GYNAECOLOGY OPERATIONS:

Emergency operations like evacuations and uterine curettage for abnormal uterine bleeding are performed in the procedure room attached to the emergency ward using the manual-vacuum-aspiration Karman technique without anaesthesia. Patients are adequately counselled before the procedure and informed consent obtained. Emergency laparotomy list is prepared and taken to main theatre. This includes marsupialization, dilatation and curettage, fractional curettage, removal of intra-uterine contraceptive devices with missing strings, drainage of pelvic abscess, laparotomy for pelvic abscess and ovarian cysts or tubo-ovarian masses, secondary suture of burst abdomen etc. Routine theatre lists for cold wards are prepared on the Firm basis. Gynaecological oncology patients are fitted in any routine cold list. Most of the major operations such as VVF repair, Wertheimm's hysterectomy, radical vulvectomy etc are carried out in the routine theatre lists.

PRE-OPERATIVE CARE:

Good pre-op is an essential ^{re}quisite of safe surgery and anaesthesia and an uneventful post-operative recovery. Its value had been most dramatically demonstrated in emergency situations, where resuscitation of shocked patients and correction of dehydration pre-operatively have probably contributed more to reducing mortality than any advances in surgical or anaesthetic technique in the recent past.

Pre-op care is concerned essentially with the assesement of the patient and the management of her treatment render her fit for operation. Pre-medication is designed to fulfil two functions:

the first is to allay fear and anxiety about impending operation. Much can be done without recourse to drugs by an understanding anaesthetist, a comforting ward sister, and a sympathetic surgeon. The second function of the premedication is to act as an antisialogogue and vagolytic agent: atropine sulphate 0.6 mg and hyoscine 0.04 mg are almost universally used for this purpose.

Responsibility for obtaining the patients consent to operation rests firmly on the Senior House Officers, and all forms contain a declaration signed by the doctor that he has explained the nature of the operation to the patient.

Pre-op preparation by the nursing staff includes seeing that the patient has bathed and has a surgical shave, is properly labelled for identification, has had dentures and other, prostheses, make-up hairpins and jewellery removed •

has had the premedication at the specified time, has had no oral intake within the last 4 hours, had emptied the bladder before the pre-medication was administered.

POST-OPERATIVE MANAGEMENT:

After operation, anaesthesia reversed and the patient wheeled out of theatre to the recovery ward for close observation until she is fully awake from the anaesthetic effect, and her vital signs are stable. She is then transferred back to the ward.

Minor operation patients are discharged home the following day unless complications occur requiring a longer Hospital stay; for further evaluation, observations and treatments. Post-evacuation patients after septic incomplete abortion are observed in the ward for 5 days on intravenous antibiotics.

Patients undergoing laparotomy are managed in a similar manner as after caesarean sections. Specialized operative procedures are managed post-op haemoglobin is acceptable, there is no complication and the general condition is stable, the patient is allowed home on the 3-7th day post-op. Adequate explanation is given to the patient about the operation, findings and the expected outcome. They go home with case summaries; and advised to come for follow-up in 6 weeks at the gynaecology clinic.

RADIOTHERAPY WARD 39:

In this ward, 12 beds are reserved for gynaecology patients referred from the whole country. They are mainly cervical cancer patients with full investigations and histology report. The other beds are occupied by general oncology patients. External irradiation with cobalt - 60 and intra-cavitary irradiation with caesium - 137 are available. There is a monthly gynaecology radiotherapy clinic where patients are followed-up post-irradiation.

GYNAECOLOGY ONCOLOGY WARD 44:

This is a 32-bed ward for operable gynaecological cancer patients. The Senior House Officer in charge of the ward participates in the staging of cervical cancers and in the management of gynaecology oncology clinic. He works under the supervision of the consultant oncologist.

GYNAECOLOGY CLINICS:

These clinics are run by Consultants, Senior Registrars and Senior House Officers. Patients are referred from casualty, other wards within the hospital, and from other various health institutions all over the country. Special clinics such as adolescent, infertility, colposcopy and gynaecology clinics are also operated. Patients are reviewed, diagnosed and investigated. Pap smear for cytology is a rule in every patient. Patients planned for operations are admitted to the wards.

RAHIMTULLA WING:

This is comprised of an operating theatre and a recovery ward with 10 beds. Services rendered here include diagnostic laparoscopic tubal ligation and interval tubal sterilization using minilap. Diagnostic laparoscopy is mainly done for infertility, primary amenorrhoea, cases of intersex, chronic pelvic pain and removal of translocated intra-uterine contraceptive devices. Patients come from the gynaecology clinics. On the morning of the operation, they come with a companion who later accompany them home in the evening the same day. They are instructed to fast from mid-night of the day of the operation. Diagnostic

findings are used for further management. Operations are done under local anaesthesia and systemic analgesia on a "day - case" basis. Usually there are no complications.

FAMILY WELFARE CLINIC:

This clinic offers family planning services. It is mostly managed by specialised trained nurses. It is established in two areas. One is in the Family Welfare Unit NO. 66 near Casualty. The other is in clinic 18 attached to the gynaecology and obstetric clinics. One or two Senior House Officers are posted to the clinic monthly mainly to review patients with complications such as vaginal discharge, failed contraceptive, abdominal pain, and missing tails of contraceptive devices; and to provide teaching to undergraduate medical students.

OBSTETRICS

SHORT CASES

AND

LONG COMMENTARY.

ELDERLY PRIMIGRAVIDA - CAESAREAN SECTION - A LIVE BABY

<u>Name:</u>	S.A.	<u>LMP:</u>	5.1.89.
<u>Age:</u>	40 years	<u>EDD:</u>	12.10.89.
<u>Unit No:</u>	989642	<u>Admission:</u>	12. 9.89.
<u>Parity:</u>	0+0	<u>Discharge:</u>	9.10.89.

PRESENTING HISTORY:

Mrs. S.A. was admitted to ward 2 on 12.9.89 from the antenatal clinic at a gestation of 36 weeks for bed rest and amniocentesis under ultrasound guidance. She, herself, had no complaints.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 14 years and subsequently had had regular menstrual periods lasting 3-4 days every 28-30 days. Contraception was nil. She used to get primary dysmenorrhoea each month. Para 0+0. Her last menstrual period was on 5.1.89, giving her expected date of delivery to be 12.10.89.

ANTENATAL PERIOD:

Her ante-natal care was at Kenyatta National Hospital. She started ANC at 19 weeks of gestation, and had 11 visits in total. Her blood pressure ranged between 110/70 and 140/80 mmHg. There was trace proteinuria on the last 3 visits, but no glucosuria. Uterine size was corresponding with her dates of amenorrhoea, and she had no complaints, her ante-natal period was thus uneventful. She kept herself healthy.

FAMILY AND SOCIAL HISTORY:

She was once married in 1970 but divorced in 1976 because of infertility. She was now staying alone in Nairobi and worked in a canteen as a waitress with the East African Industries. She used to take alcohol but stopped when she became pregnant. She did not smoke. There was no family history of diabetes and hypertension.

PAST MEDICAL HISTORY:

Tuboplasty was done on her in 1972 at a private nursing home. Following this, was a time lag of 17 years before she could conceive.

PHYSICAL EXAMINATION:

Her general condition was satisfactory. She was very healthy looking, and there was no pallor, jaundice, oedema or palpable lymph nodes. Her blood pressure was 130/80 mmHg; pulse rate was 90 per minute, respiratory rate was 22 per minute, and body temperature was 37°c. The cardio-vascular, respiratory and central nervous systems were essentially normal.

ABDOMINAL EXAMINATION:

Her uterine size was term. There was a singleton foetus in cephalic presentation and longitudinal lie. The foetal head was fixed to the pelvic brim. Foetal heart beat was heard at 140 per minute and regular. Both the liver and the spleen were not palpable.

PELVIC EXAMINATION:

The external genitalia was normal. On digital exam, the cervix was not effaced, soft, posterior and os not dilated. Foetal head was 4/5 above the pelvic brim, and the pelvis felt roomy.

DIAGNOSIS:

A diagnosis of an elderly primigravida at 40 years of age in a healthy condition was made; and she was worked-up in the ward.

INVESTIGATIONS AND RESULTS:

1. Haemoglobin : 12.1 g/dl.
2. Haematocrit : 35.1%.
3. Serum Electrolytes Na⁺: 146 mmol/l.
K⁺ : 3.7 mmol/l.
BUN : 9 mg/dl.
4. Liver Function Tests
Alkaline phosphatase: 14.0 KA units.

- Serum proteins : 70 g/l.
Serum Albumen : 37 g/l.
5. Random blood sugar : 5.2 mmol/l.
 6. Ultrasound (1.9.89) showed a normal single foetus in cephalic presentation. Amniotic fluid volume was normal.

PROGRESS IN THE WARD:

She had bed rest in the ward. Amniocentesis was tried after 37 completed weeks but was not possible because the head was 1/5 below the pelvic brim. This was also tried under ultrasound guidance but was still unsuccessful.

On 3.10.89, she reported reduced foetal movements, and emergency caesarean section was accordingly done. She did not go into spontaneous labour.

EMERGENCY CAESAREAN SECTION ON 3.10.89

The patient was explained adequately the prompt necessity of an operative abdominal delivery and consent obtained from her.

In the theatre, she was placed in dorso-lithotomy position, vulvo-vaginal toilet done and was aseptically catheterized. Repeat pelvic exam confirmed the earlier findings. She was then repositioned, cleaned and draped with sterile surgical towels. The abdomen was opened through an infra-umbilical mid-line incision. Routine lower uterine segment caesarean section was performed, and a female baby delivered. Birth weight was 3410 gram, with APGAR score of 10 at both 1 and 5 minutes. Ergometrine 0.5 mg was given I.V. The placenta (which was fundal) and the membranes were delivered complete and in-toto by controlled cord traction technique. The uterus was well contracted and retracted. The uterus was then closed in the usual 2 layers followed by closure of the vesico-uterine peritoneum. (The placental weight was 740 gram, and liquor amnii was clear). Both the fallopian tubes and the ovaries appeared normal. Haemostasis was achieved and the abdomen closed in the usual 3 layers. The estimated blood loss was about 600ml. Anaesthesia was reversed and the patient taken to labour ward for observation.

DISCUSSION

The term "elderly primigravida" has been officially defined as a primigravida who is 35 years of age or older (1). Studies over a period of several decades in the past have shown this group of women to be at high risk for complications, including hypertension, fibroids, malpresentation, malposition, prolonged labour, instrumental delivery, premature labour, perinatal mortality light-for-gestational-age babies and impaired lactation. Among such primigravidas, there are some in whom pregnancy has followed a period of involuntary infertility. The purpose herein is to present an elderly primigravida who had a long period of involuntary infertility following tuboplasty but later had a successful pregnancy and delivery. Her duration of involuntary infertility before pregnancy was 20 years.

Mati (1983) reported that the peak reproductive age group in Nairobi is 20 - 24 years, 18.6% of the women are 19 years and below, and only 4.4% are 35 years and over (2), But the true incidence of primigravidas 40 years and over is not known.

Sarah, the wife of Abraham, was "after the manner of women" and probably many years post-menopausal when she gave birth to Isaack at the age of 90 years (3). No other deliveries at such an advanced age is documented while there have been sporadic reports of pregnancies in women of 50 years and older, a decreasing incidence has been observed beyond the age of 40 years (3). And although women of 40 years or more are considered by some authors to be elderly, decrepit and "obstetrically senescent", one woman in this age group was delivered on the obstetrics service of the Kenyatta National Hospital on 3/10/89.

A pregnancy at the age of 40 years and over is regarded as a "high - risk" pregnancy, but the warning refers nowadays merely to the fetus. Recent publications have shown that pregnancy does not bring any significant health risks to an older mother (4). This view is clearly supported by our patient who had uncomplicated pregnancy and un-eventful caesarean delivery. Women who have experienced involuntary fertility for a number of years and then become pregnant after age 35 are at no greater risk than those patients 35 of age older who have electively post-poned pregnancy (1).

Pregnancy occurs with decreasing frequency after the age of 40 years. This may reflect a greater interest in contraceptive use, a decreasing ovulatory frequency, a waning ability of the corpus luteum to support implantation or a decreasing frequency of sexual exposure. Our patient was a divorcee, and all the last three factors could have contributed to her involuntary infertility. Ordinarily, the patient had assumed that pregnancy was no longer possible after such a long interval and at such an advanced age.

There is a suggestion of increasing labour prolongation and protraction disorder with advancing age amongst the elderly primigravidas (5). This was not tested in our patient as she did not go into labour. We will never know whether she would have had in-efficient uterine contractions, cervical dystocia or malpositions during labour.

Our patient had emergency caesarean delivery: the indication was "reduced-fetal-movements" in an elderly primigravida. All the same she had been planned for caesarean section during her antenatal period because pregnancies in these circumstances are particularly precious. A consistent finding throughout the literature is that caesarean section rates vary directly with maternal age. Kujansuu et al (4) reported on 174 deliveries of women aged 40 and older in Oulu, Finland, from 1975 - 1977. The caesarean section rate was 16.7% compared to the usual hospital experience of 8.3%. Additional papers could be cited but the findings, for whatever reason, are obvious: Caesarean Section rates increased markedly with increasing maternal age.

Our patient had a normal female baby - seen by the Paediatrician on the day of delivery, there were no anomalies observed. The possibility of delivering a defective child is of a major concern to many women who are pregnant at age 40. The incidence of Down's Syndrome is thought to increase more than tenfold after the mother reaches 40 (3).

After age 35 genetic amniocentesis is recommended. The reason for this is that fetal chromosomal abnormalities, such as trisomies 13,18,21, and sex chromosomal aneuploides, increase in the middle 30s. At age 35 the rate of fetal chromosomal abnormalities is 1.4%, at age 40 it is 1.9%, and it is 8.9%

at age 45 (5). This procedure is not yet routine in our unit, and therefore was not performed in our patient. Similarly, the lesser use of amniocentesis among the sub-fertile women may indicate their greater readiness to accept the possibility of an abnormal baby.

Probably the most critical issue is whether older maternal age is associated with reduced infant survival. The striking finding in the literature is the consistency of this positive association. Compared to women aged 20 - 29, there is almost a 2 - fold increase in fetal death rate after age 35 with a substantial increase after age 45. All these were not shown in our case, although there was a neonatal morbidity. It appears, therefore, that the basis for the increased perinatal mortality rate reported in some centres for older pregnant patients is the increased number of obstetrical complications which accompany aging, and not the effects of aging per se.

In conclusion from our result it can be stated that pregnancy with modern ante-natal follow-up at an advanced age does not endanger the mother's health or life. Furthermore, the risks to the newborn can be reduced almost to the level of that of the younger obstetric population with careful monitoring and active management of pregnancy and delivery; and the ready availability of the new-born unit (nursery).

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CERVICAL IMCOMPETENCE - MACDONALD STITCH INSERTION -
SPONTANEOUS VERTEX DELIVERY .

<u>Name:</u>	A.I	First Date of Admission:	4.7.1988
<u>Age:</u>	37 years	Date of Discharge:	8.7.1988
<u>Ip.No:</u>	701865		
<u>Parity:</u>	2+3	Second Date of Admission:	7.11.1988
<u>LMP:</u>	24.2.1988	Date of Discharge:	8.11.1988
<u>EDD:</u>	3.12.1988		

PRESENTING HISTORY :

Mrs A.I. was admitted to the ward through our ante-natal clinic with complaints of recurrent abortions. She had three consecutive abortions during the mid-trimesters between 1982 and 1984. In 1985 she had a term spontaneous vertex delivery (SVD) after a MacDonald stitch had been inserted during that fifth pregnancy.

PAST MEDICAL AND SURGICAL HISTORY:

Her past medical and surgical history was un-remarkable.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY:

She had her menarche at the age of 15 years. Subsequently she had regular periods lasting 3-4 days. The flow was normal and painless and they occurred every 28-30 days. She did not practice any contraception. She was para 2+3. Her first delivery was an SVD. in 1981, and the puerperium was un-eventful -she did not have precipitate labour nor any operative delivery. She subsequently had three consecutive abortions between 1982 and 1984. The first abortion was in 1982 at 22 weeks gestation and the second occurred in 1983 at 20 weeks gestation. Both started with draining of liquor amnii followed shortly by abortion. No uterine evacuation was done in both. The third abortion was in 1984 at 26 week gestation also started like the previous two, she was evacuated in this Hospital. In 1985, she had a successful cerclage at 26 week, and subsequently had a term delivery to a male baby (birth weight was 3750 gram).

FAMILY AND SOCIAL HISTORY:

She was a nurse at a local dispensary. She was married and her husband was working with the Kenya Prisons Department. She neither smoked any cigarettes nor took any alcoholic drinks.

There was no family history of any major illness.

ANTE-NATAL CARE :

She attended the Tuesday clinic at the Kenyatta National Hospital (KNH). She was booked because of habitual abortion at 18 weeks gestation. Her last normal menstrual period was on 24.2.1988, giving her expected date of confinement to be 3.12.1988.

At booking, examination revealed that the patient was in a satisfactory general condition. Pelvic examination revealed a normal external genitalia, the cervix was soft but short about 1 cm, the internal os was 1-2 cm dilated, and the uterine size was 18 weeks in size. Adnexae and cul-de-sac were normal. She was not draining any liquor and there was no vaginal bleeding. The membranes were not bulging. She was admitted at once for ante-natal profile and thence cervical cerclage.

PHYSICAL EXAMINATION:

She was in a satisfactory general condition. She was not obese, not pale and not jaundiced. She had no oedema, and no peripheral lymphadenopathy. Her blood pressure was 120/80 mmHg; pulse rate was 82 per minute. Her temperature was 36.5°C. Her cardio-pulmonary and central nervous systems were grossly normal.

ABDOMINAL EXAMINATION:

The abdomen was uniformly distended. There was no tenderness. The liver and the spleen were not palpable. The uterine size was 18 weeks in size. The foetal heart was not appreciated by the fetoscope. Presentation, lie and position were not determinable but foetal movements were felt by the mother.

PELVIC EXAMINATION:

The findings were as described under ante-natal care.

INVESTIGATIONS AND RESULTS :

1. Haemogram : 12.3 g/dl.
2. Haematocrit : 36.1%.
3. Blood Group : "A" Rhesus Positive
4. Serology : Negative
5. MSSU : Microscopy - Normal
Culture - No growth.
6. Serum Electrolytes : Na⁺ - 137 mmol/l.
K⁺ - 3.5 mmol/l.
BUN - 2.6 mmol/l.
Creatinine - 70 mmol/l.
7. Ultrasonography : A single fetus. Fetal cardiac activity was present. No fetal abnormality was seen.

OPERATION TECHNIQUE :

The patient was anaesthetised and placed in lithotomy position. Vulvo-vaginal toilet was done with cetavlon solution, and she was draped with sterile surgical towels. The bladder was catheterised and 300 ml of clear urine drained. The catheter was immediately removed. Vaginal examination was done and confirmed the previous findings.

An Auvards speculum was inserted. Anterior and posterior cervical lips were grasped with ring forceps and the cervix gently pulled down. A suture was inserted in a purse-string fashion at the level of the junction between the smooth mucosa of the portio and rugose vaginal mucosa at near the level of the internal os as was practicable. A double strand of No. 2 silk on a No. 3 Mayo trochar - pointed half-circle needle was directed into the strong core of the cervix for firm anchorage. Four bites were taken in the following order: right antero-lateral, left antero-lateral, left postero lateral, and right postero-lateral positions. The suture was tightened so that the os could just admit the tip of my fifth finger. A surgical knot was made on the right

antero-lateral aspect of the cervix. By repeated knots along "lead" was left to facilitate removal later. At the end of the operation there was no bleeding or drainage of liquor amnii.

POST-OPERATIVE MANAGEMENT :

She had bed rest for 24 hours in the hospital. She was given Buscopan 10 mg tds and Salbutamol 4 mg tds for a period of seven days. She was also given prophylactic ampicillin 500 mg 6 hourly and phenobarbitone 30 mg 8 hourly for five days. She was discharged from the hospital after 24 hours but advised to continue bed rest at home, and to visit the ante-natal clinic once every fortnight. She was also instructed to report if she developed symptoms like pain, leaking or bleeding. The suture was planned to be otherwise removed after 37 completed weeks.

ANTE-NATAL FOLLOW-UP:

She resumed her ante-natal visits at 22 weeks gestation. At about 35 weeks gestation, the cervical stitch was removed because she had complained of backache and "labour-like" pains which, however, spontaneously subsided.

RE-ADMISSION:

She was re-admitted on 7.11.1988 at 36 weeks gestation because of labour pains. She had started labour pains since the previous mid-night. The cervix was fully effaced and 8 cm dilated. She was draining clear liquor, and was having three uterine contractions lasting 20-40s in 10 minutes.

Partogram was started at once. She progressed well and had a spontaneous vertex delivery to a male infant who had a good Apgar score, and weighed 3600 gram. The placenta was also complete with a weight of 820 gram.

POST-DELIVERY:

Both the mother and the baby had stable vital signs post-delivery and they were discharged home on the second post-delivery day in good condition. She was advised to come for post-natal check-up in six weeks.

POST-NATAL CARE:

Seen in the post-natal clinic in 6 weeks, she had no complaints. She had resumed her menses. The uterus was well involuted. She declined any family planning methods.

The patient presented was an elderly multigravida who had cervical incompetence diagnosed clinically from her past obstetric history. Repeat cervical cerclage was done at a gestation of 18 weeks, and she benefitted from this timely procedure.

Cervical incompetence exists where repeated second trimester pregnancy loss is due to cervical weakness of various origins (1). In spite of the absence of uterine activity and bleeding the cervix dilates, becomes effaced and the membranes bulge through it. The bulging membranes rupture and the delivery of the fetus is then rapid and near painless procedure.

At Kenyatta National Hospital, Njagi found a crude incidence of cervical incompetence to be 1 in 90 pregnancies (2). Other series quote the incidence to vary from 1 per 100 to 1 per 1930 deliveries (1).

The inability of the uterine cervix to retain an intra-uterine pregnancy until term is known from Gream's first observations of cervical incompetence in 1865. Since then many physicians have offered their knowledge on cervical incompetence investigations with the separate contributions of the pioneering work of Palmar and La Comme (1948), Shirodkar (1953) and MacDonald (1957).

In our case, we could not assign a definite aetiology. It could be the manifestation of an inherent weakness of the sphincter mechanism of the internal os. She denied any history of previous operations on the cervix, precipitate labour or any operative delivery.

The aetiology of cervical incompetence is unknown but may be multifactorial (3). It is usually caused by trauma or multiparity and rarely is of congenital origin especially in women exposed in utero to diethylstilboestrol (3). Most authors agree with the opinion that excessive dilatation of the cervix for abortion can cause cervical incompetence.

In our case the diagnosis was mainly based on her past history.

Pre-conceptual diagnostic aids like hysterosalpingography, passage of No. 8 Hegar's dilator or Foley's balloon could not be done, because she presented herself already pregnant. Serial ultrasonography to document cervical incompetence as advocated by many could not be undertaken due to lack of facilities for repeated evaluation. However, ultrasound was used to ensure the presence of a normal foetus.

Although our patient had a term delivery in her first pregnancy, she subsequently developed cervical insufficiency. This suggests that antecedent full term pregnancy is not a total safeguard against subsequent recurrent pregnancy loss.

The role of cervical incompetence and cervical cerclage in repeated pregnancy loss forms a medical controversy and provides room for enquiry and progress (5). It is now three decades since Palmar and La Comme first reported successful pregnancy after repair of the incompetent cervix. Different methods of operation have been described by Lash and Lash, Shirodkar, MacDonald and others. All have the aim of reinforcing the constrictive action of the cervix. Others have also advocated the transabdominal approach. A relatively great number of cervical cerclages have been performed recently without definitive reason due to the new conception of "prophylactic cerclage" based only on bad obstetrical history (3). The rationale for performing cervical cerclage is that the operation is supposed to both treat and prevent "cervical incompetence".

In the original Shirodkar operation the encircling ligature was obtained from the fascia lata of the patient's thigh (6). MacDonald (4) described a simpler suturing method in which the cerclage was applied as a purse-string suture of silk or mersylene on the ectocervix at the junction of the fornix and cervical epithelium. This suture is easily removed at the onset of labour, and the method has maintained its popularity in our unit. It is this cerclage which was chosen for our patient. There was also an added advantage that no formal dissection was required.

The MacDonald procedure was also preferred because it provides quicker, easier and less traumatic closure of the cervix, and permits vaginal delivery in all cases, except when

contra-indicated for other obstetric reasons. The optimum time for operation is usually regarded as the beginning of the second trimester - preferably between the 14th week and the 19th week. Our patient was 18 weeks gestation. Just occasionally, however, the incompetence mechanism operates earlier and the stitch is then put earlier (3). And sometimes the emergency case arises. The term "emergency case" is used for cases with dilatation of the internal os more than 2 cm or with protruding membranes through the external os without uterine contraction. Intra-operatively, such protruding membranes are reduced by maintaining the patient in Trendelenburg position and applying pressure with a Foley's balloon or with saline - soaked swabs. However many writers agree with the opinion that the emergency cerclage is considerably less effective than the elective one as was applied in our patient.

Pre-operatively, our patient had extended bed rest to decrease the subsequent uterine irritability. She was not given any myometrial relaxants or depot progesterone. Although the effectiveness and the complication of tocolytics are often discussed, many authors recommend their administration Post-operatively, because there is evidence that the cerclage can provoke uterine contractions (3). Our patient was given tocolytics and mild tranquillizers post-operatively. She was also given prophylactic antibiotics, as several papers present an increased bacterial growth in the vagina after cervical cerclage. This may be due to the irritation from the suture as a foreign body, to surgical manipulations and to consequent tissue necrosis. The alterations in the vaginal flora increase the obstetrical and paediatric complications (3).

Provided the indication for a cervical cerclage operation is correct, there will be a high success rate, and most of the failures will be caused by factors other than cervical incompetence. Njagi (1978) reported a success rate, of 64.2% at the KNH. Our patient successfully had a normal delivery at 36 weeks gestation.

If the suture is successful, it is the policy in our unit to have it removed after 37 completed weeks of gestation and to await the onset of labour. It is very important to appreciate

that if at any time after insertion of the suture, rupture of the membranes or expulsive uterine contractions occur. immediate action should be taken, otherwise severe injuries to the cervix or uterus may occur.

A wide variety of materials have been used for MacDonald's suture and the lack of consensus reflects the sparsity of evidence on which to base the choice. In our unit No. 2 double stranded silk is more popular than monofilament nylon although the latter is reputed to cause less vaginal discharge (3).

Our patient had no complications apart from the increased vaginal discharge associated with the exposed suture material. Complications of cerclage include haemorrhage, rupture of membranes, infection, cervical dystocia, uterine rupture, vesico-vaginal fistula and fetal death (1,7). The incidence of most of these complications is unknown.

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ACUTE HYDRAMNIOS AT 29 WEEK'S GESTATION - DUE TO THANATOPHORIC:

DWARFISM:

<u>Name:</u>	L.W.	<u>LMP:</u>	4.1.88.
<u>Age:</u>	24 years	<u>EDD:</u>	11.10.88.
<u>Unit No:</u>	908786	<u>Admission:</u>	29.7.88.
<u>Parity:</u>	1+0	<u>Discharge:</u>	Patient absconded.

PRESENTING HISTORY:

Mrs. L.W. presented herself to labour ward on 29.7.88 at about 8.30 p.m. with complaints of labour pains and reduced fetal movements since 9.00 a.m. that day. There was no liquor drainage or vaginal bleeding. Her antenatal care was at Ngong Health Centre, but she did not have the clinic card with her. However, she had been feeling progressive and rapid enlargement of the abdomen and discomfort with occasional dyspnoea over the previous one week in the index pregnancy.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 13 years of age, and subsequently had had regular menstrual flow of 4 days every 30 days. She was para 1+0. This was a spontaneous vertex delivery at term in 1986. Thereafter she used the oral contraceptive "pill" but stopped in December, 1987 because she wanted another child. Her last menstrual period was on 4.1.88 giving her expected date of delivery to be on 11.10.88. Gestation on admission was therefore 29 weeks.

PAST MEDICAL HISTORY:

Her past medical history was not remarkable.

FAMILY AND SOCIAL HISTORY:

She was married and was staying with her family at Ngong. Her husband was a carpenter. Her education was upto class 3 only. She did not smoke or take alcohol. There was no family history of diabetes mellitus. Her grand-mother had a set of twins.

PHYSICAL EXAMINATION:

Her general condition was fair. She was in slight respiratory

embarrassment, and very uncomfortable lying flat (supine). She preferred being propped up or being on "FOURS". There was no pallor, or palpable peripheral lymph nodes. Pitting leg oedema was present 2+. Clinically she was afebrile. Her blood pressure was 120/80 mmHg, pulse rate was 80 per minute, respiratory rate of 28 per minute and REGULAR, the body temperature was 36.8°c.

The cardiovascular and central nervous systems were grossly normal.

RESPIRATORY SYSTEM:

There was no other abnormality found apart from slight tachypnoea.

ABDOMINAL EXAMINATION:

The uterus was grossly distended, and corresponding to a term pregnancy. It was VERY tense and more globular. No definite fetal parts were felt, and fetal heart tones were very distant and barely audible (with the fetoscope). There was no tenderness Fluid thrill was present but no shifting dullness.

PELVIC EXAMINATION:

The external genitalia was normal as was the introitus and the vagina. On digital exam, the cervix was central, soft and fully effaced. The os was open 4 cm. Membranes were bulging. No presenting fetal part was felt, and no cord was palpated. The pelvis felt roomy for a vaginal delivery.

DIAGNOSIS:

A diagnosis of severe hydramnios due to ? anencephalic fetus, and a preterm labour was made.

MANAGEMENT:

Intravenous line was set up with a wide-bore canula (FG 16) and 500 ml of 5% dextrose drip started. Blood for grouping and cross-match was taken, and two units of blood sent for. Aminiotomy was then done as follows: The vulva was swabed clean with savlon solution, and using aseptic technique, the gloved index and the middle

fingers of the right hand introduced through the dilated cervix, and the membranes swept free from the lower uterine segment. No cord was felt. A long Kocher's forceps was then passed (using the left hand), by touch alongside the fingers in the cervix and the forewaters ruptured. The flow of liquor was very strictly controlled by the two fingers within the cervix which acted like a safety valve, within a period of 20 minutes. About 6 litres of clear liquor drained slowly over this period. Throughout the procedure the patient was in supine position, and the intravenous fluid dripping well. At the end of the procedure the patient felt a lot of relief and the uterine size decreased to about 28 weeks. There was no cord prolapse, no shock and no sign of abruptio placentae at the time. The presenting part could now be felt as breech with very short stumpy limbs. Partogram was continued half hourly. At about 1.30 a.m. (30/7/88), she went off-labour. A decision to augment labour was then made. 5 units of syntocinon in 500 ml of 5% dextrose was set up, and started at 10 drops per minute, and later escalated by 10 drops every 30 minutes till a maximum of 60 drops per minute was reached. She immediately peaked up uterine contraction. At about 4.45 a.m., she had assisted breech delivery to a short small female fresh still birth. Birth weight was 1200g. This baby was very short. Its limbs were short, thick but well formed and proportionate. The head was large in relation to the body. The liver was grossly enlarged. The abdominal length appeared short- and the abdominal girth was smaller than the head circumference clinically.

The placenta weighed 450 gram. It was complete and healthy. There was a small recent retroplacental blood clot. Estimated blood loss during the third stage of labour was 400 ml. Syntocinon drip was continued during and after the third stage of labour. There was no post-partum bleeding.

POST DELIVERY CARE:

Immediate post delivery observations were stable-blood pressure was 120/70 mmHg, pulse rate was 88 per minute, and respiratory rate was 18 per minute. Respiratory embarrassment had subsided. The patient was calm. The uterus was well contracted and retracted. She was subsequently transferred to the lying-in ward 6 hours after delivery, but absconded from the ward. No consent could therefore be obtained for autopsy exam of the baby.

DISCUSSION:

Polyhydramnios is an excessive amount of amniotic fluid at any gestational age, generally a manifestation of disruption of normal development. The association of polyhydramnios with defined anomalies may be obvious in some cases and unexplained in others.

Our patient showed an example of acute and severe hydramnios. She came to us at 29 weeks of gestation with one week's history of progressive and enormously distended uterus. The uterine size was disproportionately large and its contour was more globular than what we see in normal gravid uterus, a fluid thrill was clinically demonstrated, and the presence of the fetus could not be recognised by palpation, and was only distantly recognised by auscultation.

The patient came to us in early phase of pre-term labour at 29 weeks gestation. The cervix was fully effaced and had undergone dilatation upto 4 cm. She obviously experienced pressure symptoms with pain in the abdomen and back-ache. She however did not complain of any nausea or vomiting. Although she had pitting leg oedema, she had no abdominal oedema or vulval varicosities.

According to Prichard, acute hydramnios tends to occur earlier in pregnancy than does the chronic form, and may rapidly expand the hypertrophic uterus to enormous size (2) - features that were clearly present in our patient. Dewhurst says acute hydramnios occurs around 26 to 30 weeks gestation, and is likely to be followed by premature labour and fetal loss (3). Our patient presented to us at 29 weeks gestation in premature labour and ended up with a fresh still birth. Johnstone ED and Abdulla SH, however, found acute hydramnios to occur at 21-22 weeks gestation at Kenyatta National Hospital (4).

The differentiation between hydramnios, ascites and a large ovarian cyst can usually be made without difficulty with ultrasound. In our patient, uterine enlargement in association with difficulty in palpating fetal small parts and in hearing fetal heart tones was the main diagnostic sign of hydramnios.

The patient came to us late and subsequently absconded from the ward soon after delivery. We were therefore not able to do investigatio-

ns such as serum ¹alpha-fetoprotein or glucose tolerance test in her.

Polyhydramnios is associated with several maternal and fetal problems. Upto 60% of cases of polyhydramnios are idiopathic, with the pregnancy resulting a normal baby at delivery. The incidence of fetal malformations is 20% (1) - the reported fetal malformations include anencephaly, gastrointestinal anomalies, chondrodystrophies etc.

The acute form of hydramnios seldom occurs apart from monozygotic twin pregnancy and chorio-angioma of the placenta. Johnstone and Abdulla identified only seven cases of acute hydramnios at Kenyatta National Hospital between 1969 and 1978, of the 12 fetuses born to these women none survived. Five of the women had uniovular twin pregnancies (4). Our patient presented with a rare cause of acute hydramnios-athanatophoric dwarfism. Sehgal D. et al reported the first two cases of such infants in Africa in 1983 (5). Thanatophoric dwarfism was described as a specific chondrodystrophy in 1967 by Maroteux, Lemy and Robert and the name thanatophoric (death producing) dwarfism was given as it resulted in death shortly after birth. This disorder which had previously been confused with achondroplasia is characterised by severe micromelia and narrowing of the thorax. Severe hydramnios occurs in about 70% of cases. Inheritance is usually determined by an autosomal recessive pattern (5). The mechanism of hydramnios in this condition is not clear, but could it be due to fetal polyuria?

The weight of the placenta tends to be high in some cases of hydramnios. The enlarged placenta may contribute to the increase in amniotic fluid. In our case the weight of the placenta was 450g, and the fetal weight was 1200. The placenta was therefore 3/8 the fetal weight.

The outlook in acute hydramnios is generally good for the mother, although she is at risk with regard to possible cardiac and respiratory failure. Abruption placentae may result from the sudden diminution in intra-abdominal pressure. This was adequately prevented in the case presented.

Treatment of severe hydramnios consists of attempts to reduce the volume of amniotic fluid so as to provide relief of the discomfort.

In the past, diuretics were prescribed, but these were clinically ineffective. Intrauterine administration of antidiuretic hormone (ADH) has also been tried in a few cases, with only temporary results. Amniocentesis can give temporary relief of the overdistension, but fluids tend to re-accumulate quickly and the procedure must be repeated. Amniocentesis is also associated with initiation of premature labour, intrauterine infection, abruption of the placenta, possible fetal injury, premature rupture of membranes and haemorrhage. These risks can be minimized if amniocentesis is performed with controlled removal of amniotic fluid (200-500 ml of amniotic fluid per hour in one 24 hour period)(6). In the recent past, indomethacin has been used to reduce polyhydramnios in some centres (7). The indomethacin reduced the hydramnios probably by reducing urinary flow and also probably minimized the amount of fluid produced by the amnion and chorion. The risk of treating polyhydramnios with prostaglandin synthetase inhibitors is the generation of fetal anomalies that may contraindicate treatment with this drug. The risk may be minimized by repeated ultrasonographic examination and frequent Karyo-typing and regulating the dose of indomethacin. Indomethacin treatment is usually stopped at 34 weeks of gestation (7).

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PREGNANCY FOLLOWING MITRAL VALVOTOMY CAESAREAN SECTION -
LIVE BABY.

<u>Name:</u>	M.O.	<u>LMP:</u>	15.8.87
<u>Age:</u>	30 years	<u>EDD:</u>	22.5.88
<u>Unit No:</u>	522039	<u>Admission:</u>	24.2.88
<u>Parity:</u>	0+0	<u>Discharge:</u>	6.6.88

PRESENTING HISTORY :

Miss. M.O. was admitted to our maternity ward on 24 February, 1988 from our antenatal clinic with a diagnosis of cardiac disease Grade IV in pregnancy at a gestation of 28 weeks. She was complaining of occasional dyspnoea on exertion on and off. She denied history of orthopnoea, however.

PAST MEDICAL HISTORY:

She was initially referred to Kenyatta National Hospital from New Nyanza General Hospital on 16.10.82 with a diagnosis of tight Mitral Stenosis. She subsequently had closed Tubb's Mitral Valvotomy done at the KNH on 14th December, 1982. Since then she had been maintained on digoxin 0.25 mg and naclex 5 mg daily. She was advised she could have children in December, 1985 - three years after her valvotomy. She was started on Lasix 40 mg daily in 1986, and naclex stopped.

PAST OBSTETRICAL AND GYNAECOLOGICAL HISTORY:

Her menarche was at 16 years of age, and subsequently had had regular periods lasting 2 - 3 days every 30 days. She had not used any contraceptive methods before. She was para 0+0. Her last menstrual period was on 15th August, 1987, and her expected date of confinement was 22nd May, 1988. Gestation on admission was therefore 28 weeks.

FAMILY AND SOCIAL HISTORY:

She was a single lady, and was the first born in a family of eleven sibling. She stayed with her parents at home, and did not smoke or take any alcoholic drinks.

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PHYSICAL EXAMINATION:

She was in a fair general condition. There was no clinical evidence of pallor, jaundice, oedema or peripheral lymph node enlargement. The blood pressure was 120/60 mmHg and pulse rate was 72 per minute and regular. There was no pulse deficit. Her respiratory rate was 20 per minute and regular. There was no cyanosis. The central nervous system was essentially normal.

CARDIOVASCULAR SYSTEM:

There was a transverse surgical scar on the left side of chest wall, at the 6th intercostal space. The chest moved symmetrically with respiratory movements. There was no thrill. The first and second heart sounds were heard. There was no murmur heard.

A diagnosis of cardiac disease Grade IV (with functional improvement to Grade II) was made and was admitted to maternity ward.

MANAGEMENT IN THE WARD:

In the ward she was put on bed rest in a propped up position, and put on Lasix 40 mg daily. She was reviewed by the cardiologist every week. She complained of occasional dyspnoea on and off, but did not have paroxysmal nocturnal dyspnoea.

INVESTIGATIONS AND RESULTS:

1. Haemoglobin : 13.4 g/dl.
2. White blood cell count : $5.5 \times 10^9/l$.
3. Serum Electrolytes - Na^+ : 139 mmol/l.
 K^+ : 4.4 mmol/l.
 BUN : 3.8 mmol/l.
 Creatinine: 101 mmol/l.
4. M.S.S.U : No growth.
5. ECG (2.3.88) showed left ventricular hypertrophy.
6. Ultrasound (8.3.88) showed a single foetus in cephalic presentation with a biparietal diameter of about 34 weeks. Placenta was fundo-posterior.

PROGRESS:

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On 22nd May, 1988 she started having labour pains at around 6.30 a.m., and she was subsequently admitted to the acute room in labour ward,, where she was nursed in a propped up position. She was immediately given morphine 15 mg as a statim dose.

ABDOMINAL EXAMINATION:

Her uterine size was term (40 weeks by dates). There was a singleton foetus presenting cephalic and in a longitudinal lie. The foetal head was still above the pelvic brim. The foetal heart beat was 144 per minute, and regular. She had one uterine contraction lasting between 10 and 20 seconds in 10 minutes.

PELVIC EXAMINATION:

The external genitalia was normal. There was no liquor nor blood seen at the vulva. On digital exam, the cervix was fully effaced, centrally placed and about 4 cm dilated. Membranes were bulging, but no cord was felt. No caput succedaneum or moulding was observed. Position was left occipito transverse (LOT).

DIAGNOSIS AND MANAGEMENT:

A diagnosis of a primigravida, with cardiac disease Grade IV in early first stage of labour was made. She was started on a partogram, and half hourly observations in the acute room. The second stage of labour was planned to be assisted with vacuum extraction. At 2.15 p.m. she was having three contractions lasting 20 - 40s in 10 minutes. FHR was 144 per min regular. Cervix was still 4 cm open and fully effaced. Amniotomy was done, and meconium stained loquor was obtained. There was no caput or moulding. Position was still LOT. Morphine 15 mg was prescribed but was never given. She was started on oxygen by mask. Intravenous 500 ml of 5% dextrose was also started. At 8.30 p.m. she was having 4 uterine contractions lasting 20-40s in 10 minutes. Cervix was now 8 cm dilated. The foetal head was still two-fifths up,

and was fitting only loosely to the cervix. There was still no caput succedanum or moulding. Position was LOT. She was draining thick meconium stained liquor. FHR was 128 per minute. The Senior Registrar who was on-call was consulted accordingly. A decision to take this patient in for emergency caesarean section was made. She was explained adequately about the necessity of operative abdominal delivery, and consent obtained from her. Blood was withdrawn for grouping and cross-match (two units of blood were sent for). The anaesthetist was informed in due course. He reviewed the patient and ordered intramuscular hyoscine 0.04 mg start. She was also started on intravenous ampicillin 500 mg as a statim dose. She was then taken to theatre immediately. In theatre, vulvo-vaginal toilet was done and bladder catheterised. While still in propped up position, she was cleaned and draped with sterile towels. Anaesthesia was induced, and then rapidly she was put to supine position and intubated. Routine lower uterine segment caesarean section was performed and a female baby delivered. This baby was heavily meconium stained. It was lying in the left occipito-transverse position in the mid-pelvic cavity. It had no caput succedaneum or moulding. APGAR score was 9 in one minute and 10 in 5 minutes. Birth weight was 3470 gram Ergometrine was not given. The uterus was then closed in the usual manner, followed by closure of the abdomen. Placenta was complete, and weighed 700 gram. Estimated blood loss was 500 ml. Intra-operatively she did quite well. After anaesthetic reversal, she started breathing spontaneously and soon became fully awake, and immediately propped up as before. She was then transferred to the acute room, and oxygen continued by mask.

POST OPERATIVE CARE:

She was observed in the acute room for the first 24 hours. She was on oxygen, and given one litre of intravenous fluids within the first 24 hours, pethidine 100 mg every 8 hours for 48 hours, and then put on paracetamol thereafter. Intravenous ampicillin 500mg 6 hourly was continued. On 24th May, 1988, her vital signs were stable and she was transferred to the ward. Intravenous fluids were stopped and started on oral sips.

Haemogram was checked on 26th May, 1988 and found to be normal. All stitches were removed on 30th May, 1988. She did very well post-operatively, and was discharged home 14 days after delivery in good general condition. Her vital signs were stable. She was given Lasix 40 mg OD.

On 2nd August, 1988, she came for post-natal care. She was fit, and had no complaints. The uterus was well involuted. She was transferred to the cardiac clinic for follow-up. Frusemide 40 mg OD was continued.

DISCUSSION:

The patient presented was a primigravida who had cardiac disease in pregnancy and was managed by emergency caesarean section due to an obstetric indication. The pregnant woman experiences significant haemodynamic alterations during the antepartum and intrapartum periods. During the course of normal gestation, blood volume increases 40% to 50% and is accompanied by an increase in heart rate of 18% and in cardiac output of 50% (1). Labour and delivery present an additional burden upon the maternal cardiovascular system. In addition, the normal pregnancy may experience an increase in cardiac output of up to 65% during the immediate post-partum period (1). This is felt to be due to post-partum volume shifts, including release of vena caval obstruction by the pregnant uterus and decreased vascular capacitance associated with the loss of fetus and placenta and subsequent uterine contraction. Such preload changes are readily accommodated by increased cardiac output in the patient with a normal heart. However, the patient with a relatively fixed cardiac output (for instance, mitral stenosis) may be unable to accommodate such fluctuations in preload to increased wedge pressure and hydrostatic pulmonary oedema (1). The patient presented showed what satisfactory results can be obtained in pregnancy when it occurs in a patient with mitral stenosis who has already had a mitral valvotomy. Prognosis after mitral valvotomy is good and cardiac performance in pregnancies after mitral valvotomy is better than in the mitral stenosis (2,3).

Ngotho (3) found an incidence of cardiac disease in pregnancy to be 0.65% at the Kenyatta National Hospital which compares well with other series. Majority of the patients (79.2%) were below 30 years of age (3,4). Our patient was 30 years of age.

Advances in the surgical management of valvular heart disease have allowed women with cardiac disease to improve their functional capacity and undergo pregnancy with few complications (5). The patient had mitral valvotomy in 1982, and after achieving good, and acceptable functional cardiac status (as assessed by the Cardiologists) was able to tolerate both pregnancy and operative abdominal delivery well. But it is apparent that good clinical results following mitral valvotomy do not promise

uncomplicated pregnancy and delivery. The haemodynamic changes during pregnancy and delivery - an increase in oxygen consumption, the plasma volume and cardiac output - can cause congestive heart failure in patients who have had successful mitral valvotomy (6). This, however, did not occur in our patient.

Arrhythmia is one of the most important factors that influence the prognosis of mitral valvotomy. In patients who suffer from mitral stenosis and undergo mitral valvotomy, atrial fibrillation is known to appear paroxysmally or chronically. Pregnancy alone may be the cause of atrial fibrillation in 4% of patients (6). Atrial fibrillation during pregnancy and delivery is dangerous and is usually a sign of impending congestive cardiac failure and thrombo-embolic phenomenon (6). Our patient was lucky, and did not have atrial fibrillation during her pregnancy and delivery. Mackenzie was the first to state that pregnancy is contra-indicated in women with atrial fibrillation. The mortality rate of the mother suffering from atrial fibrillation is 17% and that of the fetus is 50% (6).

The optimal time for pregnancy is 2-3 years after mitral valvotomy. Our patient was advised she could have children in December, 1985 - 3 years after her mitral valvotomy. Very early pregnancy produces a considerable load on the heart which is, in some cases, sufficient to cause a failure of compensation in patients with mitral stenosis, and further more early pregnancy may be a cause of sudden unexplained deterioration in compensation in patients with mitral stenosis (2). Pregnancy should not be delayed for many years following the valvotomy, because this operation is only a palliative measure, and deterioration (e.g. re-stenosis) following a valve operation is due to many factors, time being of utmost importance (6).

Patients who suffer from congestive heart failure during their first pregnancy after mitral valvotomy inevitably have the same experience during the second pregnancy and delivery. Furthermore, it has been established that pregnancy changes the natural history of patients who suffer from mitral stenosis as well as those who have under-gone, mitral valvotomy (1,6).

Patients with mitral stenosis as well as those who have undergone mitral valvotomy should have vaginal deliveries. Caesarean section should be, limited to strictly obstetric indications (6). In our patient the indications for caesarean delivery were foetal distress and deep transverse arrest.

The puerperium is a particularly dangerous phase for patients suffering from mitral stenosis and after mitral valvotomy because of the haemodynamic changes resulting from increased plasma volume and the accumulation of the fluid in the extra-cellular space during pregnancy (6). Besides these haemodynamic changes, there was the extra effort of the patient taking care of her child, as well as breast-feeding it. Consequently, our patient underwent strict Cardiac observation after delivery in the acute room in labour ward, and stayed in the hospital for two weeks before she was discharged home in good general condition. She was seen in the post-natal clinic 6 weeks after her delivery and subsequently referred to the cardiac clinic for follow-up.

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was no jaundice, oedema or palpable peripheral lymph nodes.

She had no koilonychia. Her blood in pressure was 110/60 mmHg, pulse rate was 80 per minute, regular but bounding in volume. The respiratory rate was 20 per minute, and the body temperature was 36.8° c. The respiratory and central nervous systems were grossly normal.

CARDIO-VASCULAR SYSTEM EXAMINATION:

The pulse was bounding but regular. Pulse pressure was 50 mmHg. Pistol shots were present, but jugular venous pressure was not raised. The apex beat was at the 6th intercostal space, mid-clavicular line. There was no thrill. Both the first and second heart sounds were heard. There was a soft ejection systolic murmur, but there was no diastolic murmur.

ABDOMINAL EXAMINATION:

Uterine size was term. There was a singleton foetus presenting cephalic and in a longitudinal line. The foetal head was 4/5 above the pelvic brim. (we use nomenclature devised by Crichton and modified by Lasbrey). The foetal heart beat was regular at 138 per minute. She was having two uterine contractions lasting 20-40 second in 10 minutes. Both the liver and the spleen were not palpable.

PELVIC EXAMINATION:

The external genitalia was normal. There was no liquor or bleeding seen at the vulva. On digital exam, the cervix was fully effaced, soft, central and 4cm dilated. The membranes were bulging - there was no cord felt. The pelvis was adequate for a vaginal delivery.

Sweeping of the membranes was then followed by amniotomy obtaining clear liquor.

DIAGNOSIS:

A diagnosis of a primigravida with severe anaemia in active labour was made. She was planned to be assisted during the

second stage of labour with vacuum extraction. Blood was taken for grouping and cross-match.

INVESTIGATIONS AND RESULTS:

1. Full Haemogram : Hb - 5.7 g/dl.
 : Het - 18.8%.
 MCV - 52.1 fl (av = 84 ± 7).
 MCH - 15.8 pg (av = 29.0 ± 3.0).
 MCHC - 30.3 g/dl (av = 34 ± 2.0).
2. Peripheral blood film - No malaria parasites seen.
 - Hypochromasia, microcytosis,
 targetcells, polychromasia,
 anisocytosis.
3. Blood Group : "O" Rh "D" Positive.
4. Stool Exam : No ova or cysts noted.

PROGRESS IN LABOUR:

She was placed in a propped-up position, and partogram started immediately. Her progress in labour was good and she was very cooperative. At 11.00 a.m. the cervix was 6 cm dilated, the foetal head was 3/5 above the pelvic brim. There was already moderate caput succedaneum and moderate moulding. She had adequate uterine contractions. At 1.00 p.m. blood transfusion was started slowly under-cover of intravenous 40 mg of frusemide, and very vigilant and close observations in the acute room with resuscitation tray at hand. At 3.00 p.m. the cervix was fully dilated, the foetal head was at the pelvic cavity, the occiput anterior, and there were good uterine contractions. It was therefore time for vacuum extraction to avoid maternal effort and to shorten the stage of labour. There was absolute maternal co-operation after adequate explanation.

VACUUM EXTRACTION:

The patient was placed in the semi-sitting position, and vulvo-vaginal toilet done, draped with sterile surgical towels followed by aseptic bladder catheterization. A vacuum cup was placed as far back over the occiput as possible, in order to prompt the most favourable attitude to flexion of the head. The largest cup was used to facilitate greater adhesion. Before building up pressure and during the course of doing so, it was ensured that

no maternal tissue (vaginal wall or cervical tissue) was caught up within the cup. The vacuum was produced by means of a hand-operated vacuum pump by a nurse assistant. The vacuum pressure was built as described in the introduction. The thumb of the non-pulling left hand, monitored the descent of the head. With the right hand, traction was applied in the direction of the pelvic axis and perpendicular to the cup synchronous with uterine contraction. Analgesia was with perineal infiltration alone (1% lignocaine solution) at the site where episiotomy was done - left medio-lateral region. Delivery of the head was accomplished easily. As soon as the head was delivered the vacuum was released and delivery of the body completed in the usual way. The vacuum time was 10 minutes (thus obeying the 10-minute rule) and the insertion to delivery time was 15 minutes. A second dose of intravenous 40 mg of frusemide was given at this time. The placenta was delivered by controlled cord traction technique. It was full of white infarcts peripherally. No ergometrine was given. The episiotomy was then repaired in the usual manner. The infant was a female with a birth weight of 2.8 kg. APGAR score was 9 and 10 at 1 and 5 minutes respectively. The placenta weighed 430 gram. Estimated blood loss was 300 ml.

POST-DELIVERY CARE:

The patient was stable post-delivery. The blood transfusion was continued during the immediate post-partum period. There were no complications. Blood pressure was 110/70 mmHg, pulse rate was 20 per minute. She accepted, with some reservations the transient "chignon" in the area under the vacuum cup, when the condition and the transient nature was explained to her. There were no foetal scalp abrasions, cephalhaematoma, cerebral irritability or evidence of intracranial haemorrhage.

The patient was transfused two units of blood. Haemogram was checked on the third day, and the haemoglobin was 8.3 g/dl. She was discharged home in good condition on the 6th day on iron (ii) sulphate and folate tablets for 6 weeks, she was instructed to attend the child-well fare clinic in 2 weeks and the post-natal clinic in 6 weeks. She was actively breastfeeding.

She did not come back for a post-natal follow-up.

The patient presented came to us already in labour with severe anaemia. We employed elective vacuum extraction (VE) to effect delivery in her to avoid maternal effort and thus obviated maternal exhaustion and sudden cardiovascular embarrassment.

The idea of assisting delivery by using VE is several centuries old. IN 1706, James Younge of Plymouth was said to have described the use of the VE to assist delivery though unsuccessfully, and in 1849, Simpson J.Y. of Edinburgh described a similar instrument that consisted of a trumpet-shaped metal cup with a pump handle. Since then many vacuum instruments have been described but none gained much popularity until Malmstrom of Gothenburg Sweden designed the version of the vacuum extractor in 1956 - 90 years later - as we have now known it and restored interest in the instrument.

In our Obstetric unit, the vacuum extractor has been used regularly to the ~~ex~~clusion of the obstetric forceps, so the latter will not be mentioned any further. Many advantages have been claimed for VE. However, of these the following seem valid: No general anaesthesia is required (but the patient cooperation is desirable); ease of application and relative disregard for precise position; facilitates rotation for delivery and minimal maternal trauma (1-5). The incidence of vacuum extraction in our unit has increased from 2.9% in 1982 (3) to 6.3% in 1988 (4), and the success rate is 97% (4). A failed VE appears to be of little consequence, unless there is fetal distress, when the extra-time involved could mean the loss of the baby (5).

The more conservative application of VE limits its use mostly to the second stage of labour. Again it finds particular suitability where there is lack of progress and in unfavourable, persistent, posterior or transverse position of the fetal head (6). Other indications for its elective use include cardiac disease and hypertension in pregnancy, abruptio placenta, sickle-cell disease and severe anaemia. VE is contraindicated for face presentation and for the aftercoming head (6).

Our patient had anaemia which was profound by the time she came to us in labour. Although she had attended antenatal clinic at a

health centre, her anaemia remained undetected throughout her prenatal care. There was no record that she was ever given any iron and folate supplements. Her stool examination did not show hookworm ova, and her blood slide had no malarial parasites. Her blood picture showed iron deficiency anaemia most probably due to inadequate iron intake. This patient supports the belief that symptoms of anaemia due to iron deficiency may develop so insidiously that they remain unnoticed, for a long time, and at the same time also illustrates how patients with anaemia can tolerate pregnancy suprisingly well!

Her haemoglobin level was 5.8 g/dl - fortunately above the critical haemoglobin level of 4.4 g/dl (7) below which congestive heart failure could have occurred. She was transfused two units of blood during the intra-partum periods under cover of intravenous frusemide to prevent the possible circulatory overload and cardiac decompensation. With strict and vigilant close observations and monitoring, the patient proved that transfusion in the immediate post-partum period is not always harzadous!

The requirements of the vacuum extraction were satisfied in our case viz: there was vertex presentation at the pelvic cavity; the membranes were ruptured, there was absence of cephalopelvic disproportion; there was full cervical dilation and the infant was term.

There was no maternal complication in our case. Several authors have repeatedly emphasized the minimal morbidity caused to mothers by the vacuum extraction procedure and these mainly include vaginal tears and cervical laceration which heal well afterwards (1-5). Vesico-vaginal fistula may occur (1) however, due to failure to completely observe the basic rule in vacuum extraction of repeatedly checking for exclusion of maternal tissues during pressure build up.

In an extensive review of foetal cranial injuries related to delivery with the Malmstrom vacuum extractor, Plauche 1979 classified scalp lesions into two forms. Minor lesions (eg. the chignon, simple discolouration of scalp and oedema of the scalp) and major lesions (eg. scalp abrasions, lacerations or avulsion injuries, cephalohaematomata and subaponeurotic haematoma). In the present situation, the "chignon" was expectedly present because its formation is an integral part of the method. There were no major scalp lesions.

The success in our case has emphasized the fact that the vacuum extractor requires careful choice of use within a framework of recognised pre-requisites (eg good obstetric judgement) and indications to safe and successful operative vaginal delivery. When the basic steps in the procedure were followed and adhered to strictly the occurrence of serious foetal scalp damage were avoided. Minor foetal scalp lesion will continue to be an inevitable prize for vacuum extraction even in the best circumstance as long as the present day vacuum cup do not fit with the contour of the individual foetal head (1). The hope for complete elimination of these foetal scalp lesions perhaps lie in the use of a silastic vacuum cup of which recent reports declare even the lack of "chignon" with its use (2). (use of the silastic cup was developed by Koba-Yashi in 1973).

In conclusion, the vacuum extractor is a useful instrument in the obstetric armamentarium of the obstetrician working in developing countries. The present patient has demonstrated that the vacuum extraction offers safe and efficient delivery under the appropriate clinical circumstances especially in the shallow African pelvis (1). Its use to resolve foeto-maternal problems in the late first stage of labour and second stage of labour considerably reduce the incidence of caesarean section which is a major advantage in the African with ethnocentric aversion to abdominal delivery. Traction should be limited to 20-30 minutes and in cases where progress is not observed, other means of delivery such as caesarean section should be considered.

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the uterine size corresponded to her period of amenorrhoea. Her usual paludrine and folate were prescribed, and iron supplements given. Seemingly she did not take both paludrine and folate. Her second ante-natal visit was on 14.11.1989, when she was admitted to the ward because she was in a painful infarctive crisis.

FAMILY AND SOCIAL HISTORY:

She was married in 1988, and was staying with her husband at Kibera. The husband was a mechanic. She did not smoke or take alcohol. One of her aunt's had sickle-cell disease.

PHYSICAL EXAMINATION:

Her general condition was fair. There was pallor 2+, jaundice 2+. Clinically she was afebrile. There was no oedema, dehydration or palpable peripheral lymphadenopathy. She had a "slender build, with thin, long legs". There was no bossing of the skull, and no leg ulcers. Blood pressure was 130/80 mmHg; pulse rate was 80 per minute, respiratory rate was 20 per minute, and her body temperature was 37°c.

CARDIO-VASCULAR SYSTEM:

The first and second heart sounds were normal. There was no gallop rhythm. There was an ejection haemic systolic murmur present with pistol shots. There was no thrill. Pulse pressure was 60 mmHg.

CHEST EXAMINATION:

The chest was symmetrical and the trachea central. Air entry was equal on both sides. No adventitious sounds were heard. Vocal resonance was not increased. Whispering pectiloquay was absent.

ABDOMINAL EXAMINATION:

Uterine size was corresponding to 34 weeks gestation. There was a singleton fetus in cephalic presentation, and longitudinal lie. Fetal head was 5/5 above the pelvic brim, and the fetal heart beat was regular at 144 per minute. There was no tenderness. Both the liver and the spleen were not palpable.

PELVIC EXAMINATION:

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External genitalia was normal. On digital exam the cervix was long and os closed. Both the adnexae and the cul-de-sac were free.

DIAGNOSIS:

A diagnosis of sickle-cell disease in thrombotic crisis was made and the patient admitted to the ward for management.

INVESTIGATIONS AND RESULTS:

<u>Date:</u>	<u>16.11.89</u>	<u>24.11.89</u>
1. Haemoglobin	: 6.5 g/dl	8.3 g/dl.
2. Haematocrit	: 18.6%	25.2%
3. MCV	: 105.0 fl	106.0 fl
4. WBC	: $8 \times 10^9/l$	$8.3 \times 10^9/l$
5. Urinalysis	: No red blood cells.	
6. Blood slide	: No malarial parasites	
7. PBF	: Sickle cells present (marked).	
8. Serum Elect- rolytes	: Na ⁺ : 144 mmol/l.	
	: K ⁺ : 4.2 mmol/l.	
	: BUN : 3.2 mmol/l.	

MANAGEMENT IN THE WARD:

The patient was managed with parenteral fluids, analgesics in form of aspirin and pethidine, bed rest and ampicillin 500 mg 6 hourly for 5 days. She was also given chloroquine two tablets weekly till the puerperium, and this was planned to be changed to paludrine after 6 weeks post-partum. Both iron and folate were continued in the ward. She was active in the ward. The ophthalmologist reviewed her on 21.22.89.

OPHTHALMOLOGICAL FINDINGS:

There were coma-shaped conjunctival vessels on the bulbar conjunctiva. The cornea was clear. Pupils were equal and reacting to light.

Right Eye: Fundoscopy showed tortuous vessels with haemorrhages; oedema at the disc and at the macular region - there was an ischaemic area inferior to the papulo-maculo bundle with temporal scotoma. No peripheral sea-fanning was seen.

Left Eye: was normal.

On 3.12.89, she had spontaneous onset of labour, and was immediately taken to labour ward for delivery.

VAGINAL DELIVERY:

Her labour was managed as is done for cardiac patients, with a few exceptions.

In propped-up position, she was put on oxygen by mask. Intravenous fluids were administered, and she was placed on her left lateral position. Intravenous 10 mg morphine was given in the first stage of labour to allay anxiety and apprehension. The second stage of labour was shortened by use of vacuum extraction. Her labour was infact very short and easy. No ergometrine was given during the third stage of labour, and no diuretic was administered. Estimated blood loss was only 100 ml. Episiotomy was sutured satisfactorily.

The baby was female with a birth weight of 2200 gram. The placenta weighed 400 gram and complete. APGAR score was 9 and 10 at 1 and 5 minutes respectively. The placenta had alot of peripheral white infarcts. Liquor was clear.

The baby was reviewed by paediatrician who recommended it to be with the mother.

POST DELIVERY CARE:

Her vital signs remained stable post-delivery. Blood pressure was 110/80 mmHg; pulse rate was 80 per minute, and respiratory rate was 20 per minute.

She was advised on adequate bed rest and liberal oral fluid intake. Her folate and iron supplements were continued, as was chloroquine prophylaxis. Haemogram checked on 7.12.89 showed:

Haemoglobin : 8.0 g/dl.
Haematocrit : 24.2%.
MCV : 110.9 fl.
WBC : $13.0 \times 10^9/l$.
PBF : showed polychromasia, poikilocytosis, target cell and sickle cells.

She was discharged home on the 6th day post-delivery after having been reviewed in the eye clinic. Her general condition was fair. She was to be seen in the Eye clinic and the Haematology clinic in two weeks time; the post-natal clinic and the orthopaedic clinic in 6 weeks time. She was to bring the baby to the child-welfare clinic in 2 weeks time.

The human adult haemoglobin molecule contains 574 amino acid residues, and despite the restraints which may exist, the number of possible abnormal haemoglobins is enormous. The purpose herein is to present a patient who had sickle-cell-hereditary-persistence-fetal haemoglobinopathy complicated by unilateral blindness in pregnancy.

There are few diseases of man whose aetiology can be traced to as basic a level as sickle cell disease (SCD). Sickle cell anaemia is due to the substitution at position 6 from the N-terminal in the B-chain of the hydrophobic valine for glutamic acid, which in turn is due to the substitution of a single base in the glutamic acid DNA codon (1). Because a large number of inherited and acquired factors influence the pathogenesis of clinical symptoms, the sickling disorders vary in clinical severity from the virtually symptomless sickle-cell trait to the potentially lethal state characteristic of sickle cell anaemia (SCA). Fetal haemoglobin acts as palliative protector of the red cell from sickling. It is distributed heterogeneously in the red cells of an S - S homozygote and those cells with the largest amount are least susceptible to sickling (1). In adults, HbS constitutes more than 50% of the haemoglobin of persons who are heterozygotes for HbS and hereditary persistence of HbF. The patient presented manifested the full-blown clinical picture of SCA despite the presence of HbF. It is therefore permissible to conclude that HbF was present in low amounts, (less than 25%) in the red cells, and thus was an inert bystander in the sickling process.

The incidence of sicklers who become pregnant is unknown. Otieno reported only 26 patients with sickle-cell haemoglobinopathy during a six year period from 1981 to 1986, but did not find any case of HbSF at the Kenyatta National Hospital (2).

Sickle cells were first described in 1910 by Kerrick who linked the "peculiar and elongated sickle shaped red blood corpuscles" with the severe anaemia of a West Indian Medical Student, and many cases have been reported thereafter. However, it is only in the last 4 to 5 decades that women with SCD have survived to child-bearing age in any number (3). The first report of a successful pregnancy in a woman with SCD was in 1931. Since then

there have been a number of further reports with a variable experience of maternal mortality rates, but general agreement that there is an increase in fetal loss in HbSC and HbSS disease.

Our patient had a chronic haemolytic anaemia, with a steady state haemoglobin of 8.0g/dl. Sickle cells have a low oxygen affinity and therefore release more oxygen to the tissues per gram of Hb than normal cells (1). Because of this good tissue oxygenation, transfusing our patient with an initial Hb of only 6.5 g/dl was pointless and because of increasing blood viscosity, potentially dangerous. Under normal circumstances, a patient with an Hb above 6 g/dl should not require a transfusion. The indication for transfusion is deteriorating function; not an arbitrarily set haemoglobinometer reading. Otieno (2) found that HbSS mothers did not show marked improvement in their haemoglobin concentration after blood transfusion. In any case, prophylactic blood transfusion was not protective against severe anaemia and bone/haemolytic crises in 25% of the transfused HbSS mothers who later died in his series.

The combination of sickle cell syndromes and pregnancy is hazardous both to the mother and baby, although the specific pathophysiological mechanisms which lead to this are not known. We assume that certain observed features may be relevant in the process. A relatively greater increase in plasma volume than in red cell mass during pregnancy produces haemodilution, while there are also areas of circulatory congestion. The maternal blood in the intervillous space of the placenta circulates relatively slowly and at low pressure. It receives blood at arterial O_2 tension (100 mmHg) and discharges venous blood (PO_2 50 mmHg), so that the intervillous space contains a non-homogenous mixture where the O_2 tension in various places can vary between 50 and 90 mmHg (3). Alterations in coagulation mechanism in pregnancy lead to an increase in thromboembolic episodes. For a combination of reasons, therefore, microscopic and macroscopic infarction occur relatively frequently in the placentae of women with SCD. (These could explain the multiple white infarcts that occurred in the placenta of the patient under discussion). Also, there is an increase in the number of apparently spontaneous sickle cell crises occurring during pregnancy. Our patient was admitted to the ward because of painful vaso-occlusive crisis and unilateral blindness.

and occlusion of arterioles resulting in neovascularisation. Retinitis proliferans may develop. This can lead to haemorrhage with field defects, blindness or retinal detachments (5), and such patients are best referred to an ophthalmologist for specialist care. Repeated infarction in bones leads to avascular necrosis particularly of the femoral heads and humeral heads. Our patient had no pain on movements of her limbs.

There is an increased incidence of fetal growth retardation with HbSS disease, the results of various series indicating between 30 and 40% of babies weighing less than 2500 g at term. Our baby weighed 2200g. The cause of fetal growth retardation here seems to be multifactorial, and profound maternal anaemia together with sickling in the maternal venous sinuses of the placenta are contributory factors. In addition, our patient lived in poor socio-economic circumstances with all its implications of poor nutrition and disease.

The effect of maternal anaemia on fetal growth is almost certainly due to reduced O₂ supply to the fetus. From our case, malaria, folate deficiency and altered maternal stature do not seem to be important, as our patient was fully protected from malaria and folate deficiency, and her height was similar to the mean height of the healthy pregnant women (6).

The presence of a chronic haemolytic anaemia often means that these patients start pregnancy with depleted iron stores, and they are usually poorly able to withstand the pregnancy requirement of about 1000 mg of iron. Folic acid deficiency is also made significantly worse by the demands of pregnancy (7). Appropriately therefore, our patient was given both iron and folate supplements.

The incidence of pregnancy - induced hypertension is increased to between 30 and 40% in women with HbSC and HbSS disease (3). There is also an increase in the occurrence of infections, the most common being pneumonia, puerperal infections and acute pyelonephritis, and the rate of infection is variously reported between 56% and 67% (3).

Prophylactic partial exchange blood transfusion is not routine in our unit because (i) the mortality of SCD in pregnancy had been

overestimated in the past; (ii) the benefits from such therapy are marginal (iii) the risks inherent in multiple blood transfusion prohibits their use and (iv) shortage of blood.

In summary therefore, sickle cell syndromes are amongst the most common genetically transmitted disorders, and have a worldwide distribution. Yet confusion still reigns about the actual risks involved for a woman with SCD who undertakes a pregnancy. There is, however, agreement that they have a greatly increased rate of spontaneous abortion, perinatal mortality, and "light for dates" babies. Prevention of infection and maintenance of adequate haematinic and Hb composition form the basis of clinical management. The increasing numbers of people with SCD living in Kenya mean that we will have to become more aware of their problems and familiar with techniques for their medical care in pregnancy.

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ACQUIRED IMMUNODEFICIENCY SYNDROME IN PREGNANCY.

<u>Name:</u>	J.O.	<u>LMP:</u>	12.5.1989.
<u>Age:</u>	20 years	<u>EDD:</u>	19.2.1989.
<u>Unit No:</u>	0008750	<u>Gestation:</u>	32 weeks.
<u>Parity:</u>	0+0	<u>Admission:</u>	24.12.1989.
		<u>Discharge:</u>	20.1.1990

PRESENTING HISTORY:

Mrs.J.O. presented herself to labour ward on 24.12.89 with a history of excessive vaginal bleeding following pre-term delivery at home the same day. She had spontaneous vertex delivery at a gestation of 32 weeks, and this was immediately followed by primary post-partum haemorrhage necessitating her admission to the hospital.

Throughout the month of December, 1989, she had had chronic diarrhoea, cough and epistaxis on and off, but she did not attend any health unit for these. She had had no blood transfusion in the past.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 12 years and subsequently had had regular menstrual periods lasting 3-4 days every month. Para 0+0 (but now was para 1+0 following the delivery at home). Her last menstrual period was on 12.5.1989, giving her expected date of delivery to be on 19.2.1990. She was thus at a gestation of 32 weeks at delivery. There was no history of contraceptive use.

She could not recall the age of her first coitus, but recalled that she had had multiple sexual partners. There was no history of the use of any hard addicting drugs.

PAST MEDICAL HISTORY :

Her past medical and surgical history was not remarkable.

FAMILY AND SOCIAL HISTORY:

She was married in June, 1989, and was staying with her husband. There was no history of any major illness in the family.

She did not smoke or take alcohol.

PHYSICAL EXAMINATION:

Her general condition was sick looking. She had pallor +++, but was afebrile. There was no cyanosis and no palpable peripheral lymph nodes.

Her blood pressure was 90/60 mmHg, pulse rate was 110 per minute, and the respiratory rate was 22 per minute. Her body temperature was 37°c.

The cardiovascular and central nervous systems were grossly normal.

THROAT EXAMINATION:

There was "cheesy" white extensive oral thrush covering the hard and soft palates and the fauces.

SKIN EXAMINATION:

There was no skin rash, needle-marks or tattoos.

CHEST EXAMINATION:

The chest was symmetrical. On the right side, air entry was reduced, vocal fremitus and resonance were also reduced, and percussion note was dull. There were multiple transmitted sounds and soft crackles in the chest, but there were no rhonchi.

The left side was normal.

ABDOMINAL EXAMINATION:

Uterine size was corresponding to 20 weeks. It was well contracted and retracted. There was no tenderness. Both the liver and the spleen were not enlarged.

PELVIC EXAMINATION:

The vulva was uniformly blood stained, and there were minor lacerations at the perineum. The vagina was intact, but it

had some blood clots. The cervix was soft and the os was open about 3 cm. There were blood clots at the cervix and lower uterine segment - at this time, there was no active bleeding.

MANAGEMENT:

The blood clots were manually removed, and intramuscular ergometrine 0.5 mg given with good effect. Intravenous line was set up, and blood for grouping and cross-match taken. Three units of blood were asked for. When her condition was clinically stable, she was transferred to the lying in - ward for further observations. In the ward, she remained very weak and unable to move without support or breast-feed her baby. She was started on iron (ii) sulphate, folate, septrin ii BD and nizoral 200 mg BD. On 27/12/1989, (3 days post-delivery), she had massive epistaxis. Ear-Nose-Throat clinical officer was contacted. He came and applied anterior packing of both the nostrils, and the bleeding stopped. She was transfused two units of blood. She however, remained weak till she was given two more units of blood on 18.1.1990. Throughout this period, the baby was taken to the nursery unit for care.

She was discharged home on 20/1/1990.

INVESTIGATIONS DONE AND RESULTS:

1. Haemoglobin : 5.3 g/dl. (initially).
2. Haematocrit : 13.1%.
3. WBCC : $18.5 \times 10^9/l$ (70% poly; 29% lymf; 1% mono).
4. MCV : 92.4 fl.
5. MCH : 38.0 pg (29.0 ± 3).
6. MCHC ; 41.1 g/dl (34.0 ± 2).
7. Platelets Count: $40 \times 10^9/l$ ($290 \pm 150 \times 10^9/l$).
8. Serum chemistry: Na^+ 141 mEq/l.
 . K^+ 4.6 mEq/l.
 BUN 3.5 mmol/l.
9. HIV test: ELISA: Positive.
 Western blot: Positive.
10. Blood Group; "A" Rh D positive.
11. Chest X-ray showed pleural effusion on the right base.
 The left lung field appeared clear.

DISCUSSION:

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Since 1981, when it was first recognized as a clinical entity in United States, Acquired Immune Deficiency Syndrome (AIDS) has become one of the major health problems in the whole world. The Syndrome involves breakdown of cell-mediated immunity leading to the development of opportunistic infections or Kaposi's sarcoma (1-5). Epidemiologic and serologic evidence indicate that the cause is a retrovirus, HIV-1 and 2, which may be transmitted through sexual contacts, sharing of contaminated needles, and blood transfusion.

Presented herein, was a 20 year old patient who came to us at stage 6 (Walter- Reed staging classification) (2) of the disease after having bled alot following the pre-term delivery at home. It is most probable that she was infected long before marriage. Seronegativity before seroconversion is 6 to 12 weeks or more after infection (2) and it takes time for progression of the disease from stage 0 to stage 6.

The incidence of AIDS in Pregnancy at Kenyatta National Hospital is not known, but the prevalence at Pumwani Maternity Hospital has been quoted at 3.5% of delivering women at term and 9.2% of those who delivered prematurely (3). Studies of HIV seropositive persons have shown the development of AIDS in 4 to 19% during one to 5 year follow-up periods (1). It is reasonable to anticipate, therefore, that more pregnant AIDS patients will be seen in the next several years and obstetricians caring for high-risk population should be aware of the diagnosis and course of the disease.

The "gold standard" in the diagnosis of most infectious diseases heretofore has required recovery of the infectious agent from a patient, in a culture (obvious exceptions include syphilis and hepatitis). Current culture systems exist for HIV but are cumbersome, time consuming, costly. Culture is not widely available, nor widely used, outside research settings.

The initial "working" diagnosis of AIDS, which antedates definitive diagnostic tests is based on clinical evidence of HIV- which includes severe immune deficit without other obvious cause, opportunistic infections, involuntary wasting (of over 10% of body weight) or dementia. Our patient had oral thrush, chronic

diarrhoea, chronic cough due to pneumonia and pleural effusion, fatigue, anaemia and epistaxis. But the mainstay of diagnosis of HIV infection was detection of antibodies to HIV. The positive ELISA in our patient was confirmed with a Western blot test.

Oropharyngeal candidiasis is the most common infection seen in patients with AIDS and is predictive of progressive immunosuppression (4). Pregnant women frequently have vaginal candidiasis. This generally has limited perinatal significance, with congenital moniliasis being exceedingly rare, and neonatal thrush of little consequence. Our patient was given ketoconazole 200 mg orally OD for 14 days. She was also given septrin for pleural effusion - an attempt to tap this effusion was not made because of her severe thrombocytopenia of $40 \times 10^9/l$.

A common haematologic change in the HIV-positive patient is thrombocytopenia. The prevalence of thrombocytopenia in the HIV-positive patient may be as high as 10% (4). The cause of the thrombocytopenia is not clear. Hypothesis have included antiplatelet antibodies and non-specific binding by immune complexes.

Some studies have suggested that pregnant women have a decreased ability to control viral diseases and a concomitant increase in morbidity and mortality. This has been noted in association with influenza, varicella, hepatitis, polio, and coxsacki virus (1). Pregnancy also has been reported to alter immune status. In vitro studies have shown alterations in T₄ and null lymphocytes, decreased lymphocyte responses and decreased levels of helper T cells. Additionally, the patient with AIDS - related complex may present with symptoms such as fatigue or anorexia, which can be common findings in pregnancy. Therefore, it might be anticipated that the course and diagnosis of AIDS may be modified by pregnancy. Further more, latently infected T₄ lymphocytes may be activated by the paternal antigens on the fetal graft - each pregnancy giving a further stimulus (5). This could lead to waves of further damage to the immune system.

The first case of AIDS and opportunistic infection in pregnancy was reported in 1983 and involved a woman who was diagnosed as having AIDS and listeriosis at 32 weeks gestation (1). She delivered shortly after her initial hospital admission and died

15 hours later. Thus delivery does not appear to improve the maternal prognosis. Our patient also delivered prematurely at a gestation of 32 weeks. The cause of her pre-term delivery was most likely HIV infection (3). Her chest X-ray did not show features of Pneumocystis Carinii such as alveolar, fluffy, reticular or diffuse infiltrates in the lung fields. She went home one month after delivery.

Very little information is available regarding the post-partum course of HIV-infected women. In the patient presented, the immediate post-partum period was stormy, and she required four units of blood before she could be strong enough to go home. She did not come back for review, so we do not know what eventually became of her. However, we know that longer followup has revealed a high frequency of clinical illness, and a diagnosis of AIDS is a death sentence!

The infant was not tested for HIV, but if a mother is seropositive, and has not previously had a child with HIV-1 infection, the risk appears to be between 20 to 50% for having an infected infant (6). The actual mechanism of perinatal transmission is not known but may occur in-utero (transplacentally), at the time of delivery from exposure to the mothers infected blood or post-natally. Post-natal transmission due to breast-milk has been documented in several cases (5,6). But women with HIV who do not transmit it in utero have a low infectivity and are unlikely to transmit HIV in their milk (7). For that reason therefore, most authors are of the opinion that the small additional risk for the baby to a mother with established HIV infection may be out weighed by the benefits of breast feeding. This is especially true in developing countries where maternal antibodies are important in preventing neonatal infections.

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UMBILICAL CORD PRESENTATION IN FIRST STAGE OF LABOUR-
EMERGENCY CAESAREAN SECTION - LIVE BABY.

Name:	E.W.	<u>LMP:</u>	20.9.87
Age:	24 years	<u>EDD:</u>	27.6.88
<u>Unit No:</u>	905466	<u>Admission:</u>	10.7.88
<u>Parity:</u>	3+0	<u>Discharge:</u>	17.7.88

PRESENTING HISTORY:

Mrs. E.W. presented herself to labour ward on 10.7.88 at around 4.00 a.m., with a history of labour pains since 3.00 p.m. the previous day. No liquor was draining, and there was no vaginal bleeding. She had been attending antenatal clinic at Nazareth Health centre since the second trimester. Her ante-natal visits were un-eventful and the uterine size corresponded with her dates.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 13 years of age, and subsequently had had regular periods lasting 3 - 4 days every 28-30 days. She was para 3+0. All were spontaneous vertex deliveries. She had 2 girls and one boy - all were delivered at term and were alive and well. The last delivery was in 1985. Her last normal menstrual period was on 20.9.87, giving her expected date of delivery to be on 27.6.88. Gestation on admission was therefore 41 weeks and six days.

PAST MEDICAL HISTORY:

Her past medical and surgical history was not remarkable.

FAMILY AND SOCIAL HISTORY:

She was married, and was educated upto primary standard seven. Her husband ran a private business in Nairobi. There was no relevant family medical history.

PHYSICAL EXAMINATION:

Her general condition was satisfactory. She was moderately pale. There was no jaundice, oedema or palpable peripheral

lymph nodes. The blood pressure was 120/70 mmHg; pulse rate was 20 per minute, and her body temperature was 36.6° c.

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

ABDOMINAL EXAMINATION:

The uterine size was term. There was a singleton foetus presenting cephalic, and a longitudinal lie. The foetal head was all above the pelvic brim (5/5), and ballotable. The foetal heart rate was heard at 144 beats per minute and regular. She was having one uterine contraction lasting 20-40 seconds in 10 minutes. The liver and the spleen were not palpable.

PELVIC EXAMINATION:

The external genitalia was normal. There was no liquor nor bleeding seen at the vulva. Digitally the cervix was fully effaced, soft, central and 4 cm dilated. The membranes were felt bulging and the umbilical cord was felt pulsating ahead of the presenting head anteriorly. The pelvis was adequate for a vaginal delivery, however. The membranes were left intact.

DIAGNOSIS AND MANAGEMENT:

A diagnosis of umbilical cord presentation in early active phase of labour was made. A decision was then made to undertake an emergency caesarean section. She was explained adequately about the prompt necessity of an operative abdominal delivery, and consent obtained from her. Blood was withdrawn for grouping and cross-match (two units of blood was sent for), and an intravenous line was set up with 5% dextrose solution 500 ml. While all these were being done, and theatre being prepared, the patient was placed in left lateral recumbency position, and kept in a head down tilt position by raising the foot of the bed, so that the foetal presenting head could not press on the cord against the maternal pelvis. A close watch was meanwhile kept for any evidence of rupture of membranes. The foetal heart rate remained at 144 beats per minute and regular. The patient was given some oxygen by the use of the oxygen mask. Counter-pressure

on the presenting part was considered not necessary in this case, but the left lateral recumbency position was maintained till she was placed on the operating table in theatre.

A quick vulvo-vaginal toilet was done and bladder catheterized. A second vaginal examination was not performed. Upto this time there was no drainage of liquor. The foetal heart rate was still stable at 140/minute and regular.

Anaesthesia was induced after the patient was already cleaned and draped with sterile towels. The abdomen was opened through a mid-line sub-umbilical incision. A lower uterine segment caesarean section was done in the usual manner. The liquor was clear. A live male baby who had an Apgar score of 10 at 1 minute and 10 at 5 minutes was delivered and handed over to the receiving mid-wife and the Paediatrician for resuscitation. The umbilical cord appeared unduly long and was found to be presenting ahead of the foetal head-anteriorly. Ergometrine 0.5 mg was given intravenously to the patient. The placenta (which was fundal) and the membranes were delivered complete and in-toto by controlled cord traction. The uterus was well contracted and retracted. The uterus was then closed up in the usual layers. Both the fallopian tubes and ovaries appeared normal. Haemostasis was achieved and the abdomen closed in 3 layers. The estimated blood loss was 400 ml. The baby weighed 3000 gram and placental weight was 650 gram. Anaesthesia was reversed and the patient taken to labour ward for observations.

POST OPERATIVE CARE:

Routine post-operative care was instituted: She was given analgesia in form of Pethidine 100 mg intramuscularly every 8 hours for 48 hours, and then put on paracetamol tablets; she was given prophylactic ampicillin, and intravenous fluids maintained. On the second day after the operation, she had adequate bowel function and I.V. fluids were substituted with oral sips and later free fluids followed by light diet.

Mobilisation was encouraged as soon as possible, and she did quite well post-operatively. No blood transfusion was required. Post operative haemoglobin was checked on the third day, and was 9.6 g/dl, with a low mean corpuscular haemoglobin of 24.6pg. Peripheral blood film showed hypochromasia, Poikilocytosis and anisocytosis. No reticulocytes were seen.

Differential white blood cell count showed 75% polymorphs and 25% lymphocytes. These features were in keeping with iron-deficiency anaemia, and she was appropriately commenced on iron supplements. Her post-operative period was however, uneventful. and all stitches were removed on the 7th post-operative day. She was discharged home the same day with her well baby, on iron (II) sulphate 200 mg TDS and folate tablets 5 mg OD the next 6 weeks. She was instructed to attend the child welfare clinic in two weeks and the post-natal clinic in 6 weeks time.

She did not come back to the post-natal clinic and got lost to follow-up.

DISCUSSION

Cord presentation and prolapse are considered as one and the same complication in terms of management. They are an obstetric emergency because of their potential high perinatal mortality rate (1).

When the membranes remain intact and the umbilical cord lies ahead of the presenting part, it is referred to as cord presentation. When membranes rupture, this becomes cord prolapse. However, although the two are similar, the foetal mortality is slightly lower with cord presentation (1).

Cord presentation was diagnosed in our patient on admission with a 4 cm dilated cervix and a live fetus presenting cephalic. The incidence of cord prolapse in Nairobi is 0.8% (2). Ochiel (1980) found an incidence of 0.57 per 100 deliveries at Kenyatta National Hospital. Prolapse of the umbilical cord is a rare obstetric emergency with a worldwide reported incidence varying between one in 164 and one in 500 births (4). Associated with a variety of high-risk antepartum and intrapartum events, it possesses an additional potentially lethal hazard to the wellbeing of an otherwise healthy fetus and its mother (4).

The basic factor predisposing to prolapse of the cord is incomplete filling of the pelvic inlet by the presenting part. The incidence of overt umbilical cord prolapse in cephalic presentation is 0.5%; frank breech, 0.5%; complete breech, 5%; footling breech, 15%; and transverse lie, 20%. More than one factor may contribute to cord presentation and/or prolapse, viz: (1)

- (a) The presenting part does not fill the lower uterine segment and is poorly applied to it. Such cases include transverse lie and breech presentation. Occipito-posterior positions, cephalopelvic disproportion and rarely pelvic tumours, predispose to cord prolapse as will be excessive fetal mobility in hydramnios.
- (b) Prematurity: the fetus is small in relation to copious liquor;
- (c) Multiparity: because of increased fetal malpresentation;
- (d) Artificial rupture of membranes is responsible for upto 20% of cases in various series.
- (e) Abnormalities of the cord: A long cord or low placental insertion, have been contributory in some cases.
- (f) Foetal hypotension may contribute

in some cases of prematurity and foetal hypoxia.

The patient presented had cord presentation during the first stage of labour. This diagnosis was made at the initial vaginal examination, when the cord was felt for diligently before artificial rupture of membranes could be attempted. The latter was therefore appropriately deferred, and the membranes kept intact whilst preparations for caesarean delivery were being made; meanwhile the patient was kept in the left lateral-recumbency position, and she was given oxygen by mask.

In the negro it is common for the fetal head to engage in the maternal pelvis only after labour is well advanced (Briggs 1981). This phenomenon which allows the fetal head a longer time interval above the pelvic inlet, might encourage umbilical cord presentation and subsequent prolapse during labour (5).

Procedures used to relieve pressure on the umbilical cord as first aid measures pending caesarean section include manual elevation of the presenting part and placing the patient in the knee-chest, Trendelenburg or Sim's positions. Knee-chest or Trendelenburg positions although effective are uncomfortable for the mother, and tiring for the doctor, who has to elevate the presenting part with two fingers in the vagina. This is particularly necessary if the patient has to be transported for some distance from a primary care centre. Sim's position, or modified Sim's position with a pillow under the buttocks on the lateral aspect is therefore very appropriate. Attempts to replace the cord within the uterine cavity during this time are impractical, ineffectual and are to be discouraged. Reposition of the cord is in fact of historical interest only.

Even under optimal conditions, the minutes that may elapse between diagnosis and operation may be crucial. Filling the bladder with 400-500 ml of normal saline relieves the pressure on the umbilical cord by displacing and maintaining the presenting part above the pelvic brim. The full bladder may also inhibit uterine activity - and the patient lies in the more comfortable Sim's position (6); tocolytics may be used with this first aid measure.

Immediate delivery of the fetus remains the cornerstone of

treatment of cord presentation/prolapse. Rapid expert assessment is necessary to determine the best course of action. Immediate delivery is mandatory if the fetal heart-beat is present and the fetus is mature. Our patient had caesarean section done on her soon after the diagnosis of cord presentation, and alive male baby was delivered. This baby had good Apgar score and did not need any resuscitation by the Paediatrician who was on standby. Some authorities believe that with a completely dilated cervix and the presenting part at a satisfactory station, vaginal delivery with vacuum extraction is acceptable. In either case, delivery should be accomplished without undue delay. However, the ready use of immediate caesarean section instead of heroic vaginal manipulations to achieve delivery through an incompletely dilated cervix has led to a decrease in the high perinatal mortality rate associated with prolapse of the cord.

The management of prolapsed cord in a viable fetus is generally agreed upon. More recent advances in its management by Driscoll JA et al (1987), hold promise for improvement in fetal salvage (7). The finding of the presence of fetal heart movements by ultrasound in the absence of cord pulsation and audible fetal heart sounds should further reduce the perinatal mortality rate.

Fenton and D'Essopo (1951) reported 36 singleton pregnancies complicated by a prolapsed non-pulsatile cord in the absence of fetal heart sounds. Vaginal delivery was allowed and unexpectedly three (8.4%) of the patients were delivered of living babies. Despite this, however, it is generally accepted that a non-pulsatile prolapsed cord with absence of fetal heart sounds is diagnostic of fetal death. This premise is challenged in the light of the experience of some obstetricians and may be no longer legally defensible if ultrasound facilities are available as in the case in our unit currently.

Ultrasound machine is now becoming standard equipment in most labour wards. There should be immediate recourse to it in all cases of prolapsed cord, unless pulsation is obvious and the fetal heart sounds are easily heard. Repeated palpation of the cord, when pulsation is in doubt, may cause spasm of the vessels and prejudice the fetal outcome. Please, "keep fingers off the cord".

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PLACENTA PRAEVIA TYPE IV - CAESAREAN SECTION - A LIVE BABY

<u>Name:</u>	A.A.	<u>LMP:</u>	17.9.87
<u>Age:</u>	32 years	<u>EDD:</u>	24.6.88
<u>Unit No:</u>	898571	<u>Admission:</u>	2.6.88
<u>Parity:</u>	3+0	<u>Discharge:</u>	9.6.88

PRESENTING HISTORY:

Miss A.A. presented herself to labour ward on 2.6.88 at around 9.45 p.m. with a history of vaginal bleeding for 3 days. The bleeding was painless and had come on unexpectedly while she was at Rusinga Island in South Nyanza. On admission, she had bright fresh bleeding with clots. For 24 hours before admission, she had travelled by BUS from Rusinga to Nairobi - a distance of more than 500 km. Bleeding continued throughout this time and distance. There was no history of draining of liquor. Spontaneous labour pains started at about 4.00 p.m. after admission to labour ward.

Her antenatal care was at Kaswanga Health Centre since the second trimester. The antenatal visits were uneventful, and the uterine size corresponded with her dates. There was no history of any other previous bleeding, a part from the present continuous one.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 15 years, and subsequently had had regular periods lasting 3 days every 26 - 28 days. She was para 3+0. The last two were spontaneous vertex deliveries, but the first delivery was by caesarean section in 1973 (because of a big baby). Her last delivery was in 1985. She had used oral contraception for sometime between these pregnancies. Her last menstrual period was on 17.9.87, giving her expected date of delivery to be 24.6.88. Her gestation on admission was therefore 37 weeks.

PAST MEDICAL HISTORY:

This was not significant.

She was an unmarried mother of 3 children and was staying mainly in Nairobi, but commuted between Rusinga Island and Nairobi quite often. She had a private business, and took alcohol but did not smoke. There was no relevant family history.

PHYSICAL EXAMINATION:

Her general condition was fair. She was moderately pale, but there was no jaundice, oedema, shock or palpable peripheral lymph nodes. The blood pressure was 120/80 mmHg; pulse rate was 92 per minute, respiratory rate was 22 per minute, and her body temperature was 37° c.

The cardio-pulmonary and the central nervous systems were essentially normal.

ABDOMINAL EXAMINATION:

The uterine size was term. There was a singleton foetus presenting cephalic, and in a longitudinal lie. The foetal head was all above the pelvic brim. The foetal heart beat was heard at 132 per minute and regular. She was getting one uterine contraction lasting between 10 and 20 second in 10 minutes. The uterus was however soft and non-tender.

SPECULUM EXAMINATION:

A carefully performed speculum examination was carried out using Cusco's bivalve speculum. There were alot of blood clots within the vagina - these were carefully removed to expose the cervix. The cervix was found to be congested and patulous, with fresh bright bleeding seen coming from within the os. There were no local causes of bleeding seen.

DIAGNOSIS AND MANAGEMENT:

A diagnosis of antepartum haemorrhage at 37 weeks of gestation and in early phase of labour was made. A decision was then made to take her in for examination under anaesthesia and repeat

caesarean section immediately. She was adequately explained about the prompt necessity of a vaginal examination in theatre and abdominal delivery. Consent was obtained from her. Blood was withdrawn for grouping and cross-match (4 units of blood were sent for), and an intravenous line using a 16 - gauge canular was set up with 500 ml of 5% dextrose solution. While all these were being done, and theatre being prepared, the patient was placed in the left lateral recumbency position. A close watch was meanwhile kept for any evidence of profuse vaginal bleeding. The foetal heart rate remained at 136 beats per minute.

EXAMINATION UNDER ANAESTHESIA AND CAESAREAN SECTION:

With the patient in lithotomy position, on the operation table, and under anaesthesia, a quick vulvo-vaginal toilet was carefully and gently done. She was then catheterized and a sterile Sim's speculum carefully introduced to expose the cervix. There was no local lesion seen. Bright fresh blood was coming from the os. The vaginal fornices were then carefully and diligently palpated. A boggy mass was felt against the foetal head in the lower uterine segment all round the four fornices. The index finger which was also carefully introduced through the cervix encountered the placental tissue immediately at the os. Producing brisk bleeding. (throughout this procedure both the assistant surgeon and the instrument nurse were already scrubbed up and ready). The diagnosis of total placenta praevia (type IV) was therefore firmly entertained, and we immediately proceeded to do the caesarean section.

The patient was repositioned, cleaned and draped with sterile surgical towels. The abdomen was opened through the previous operation scar. There were only minimal adhesions encountered. A repeat lower uterine segment caesarean section was done in the usual manner, encountering the placenta first - it was completely and totally covering the cervix - we went above it. The lower uterine segment was found to be very congested, and there was alot of bleeding. A live female baby, presenting cephalic was delivered, and handed over to the receiving mid-wife. Apgar score was 9 and 10 in 1 and 5 minutes respectively. Liquor was clear. Ergometrine 0.5 mg was given I.V. The placenta was then delivered complete by controlled cord traction and bleeding

stopped almost instantaneously. The uterus was well retracted, and it was closed in the usual manner. Both the fallopian tubes and the ovaries appeared grossly normal. Haemostasis was achieved and the abdomen closed in 3 layers. The estimated intra-operative blood loss was 800 ml. The baby's weight was 2700 gram, and that of the placenta was 480 gram. The baby however, developed transient tachypnoea of the newborn, and was admitted to the nursery. It was discharged from there to join the mother on 6.6.88.

POST OPERATIVE CARE:

Routine post-operative care was instituted. She was given 100 mg pethidine 8 hourly for 48 hours, and then put on para - cetamol tablets. She was also put on prophylactic ampicillin and I.V. fluids maintained. On the second day, she had adequate bowel function, and I.V. fluids were substituted with oral sips and later free fluids followed by light and normal hospital diet. Mobilisation was encouraged as soon as possible. Her post-operative period was un-eventful. No blood transfusion was needed. Haemoglobin checked on the third day was 8.8 g/dl, and she was started on iron supplements. All stitches were removed on the 7th day, and was discharged home the same day. She was given iron (II) sulphate 200mg TDS and folate 5mg OD for 6 weeks and instructed to attend the child-welfare clinic in two weeks and the post-natal clinic in 6 weeks.

Seen at the post-natal clinic in 6 weeks, she had no complaints. The uterus was well involuted, and the incision was nicely healed. She was counselled adequately on contraception, she started oral contraceptive method.

The patient presented had placenta praevia type IV in which the cervical internal os was covered completely by the placenta. The type of the placenta praevia depends in large measure on the cervical dilatation at the time of examination.

Most reviews quote an incidence of placenta praevia ranging from 1 in 100 to 1 in 250, and it is much more common in multiparous women than in those with low parity (3); it is also more common in women who are well into the reproductive span of life (4). The patient presented was para 3+0, and was only 32 years of age. Parity is seen as the most common aetiology of placenta praevia in that the endometrium in the fundal region has been scarred by previous implantation and the fertilized egg searches for a more favourable location for nidation (3). Our patient had had a previous caesarean section, in 1973. A low cervical caesarean section is said to triple the incidence of placenta praevia (2,7).

The most common clinical manifestation of placenta praevia is significant but painless vaginal bleeding in the third trimester. Our patient presented with sudden, painless and continuous vaginal bleeding for 3 days, and travelled with this bleeding over a distance of 500 km, boarding two buses on the way! She appeared not to have been alarmed by this bleeding! She denied any history of spotting previous to this episode. Spontaneous labour began on the third day since the bleeding started, and only when she was already in our labour ward. This case supports the view widely held that placenta praevia gives the most unpredictable and inevitable haemorrhage; it also showed that although this initial bleeding episode was continuous and substantial in amount, it did not produce maternal shock or fetal compromise. Another practical point illustrated by our patient is a surprising but a well authenticated fact that a placenta which is entirely situated in the lower uterine pole may cause no warning symptoms and severe haemorrhage may not occur until labour starts. It is permissible to suppose that a placenta so situated is less likely to be dislodged by the "geographical" realignment which occurs when the lower uterine segment is forming in the last few weeks of pregnancy, than is one which is situated partly in the upper and partly in the lower

segment.

The early and accurate diagnosis of placenta praevia is imperative in the management of patients to insure that patients with placenta praevia receive the close observation required and to spare those patients with normally implanted placentas the economic, emotional and social expense of an intensive and extensive program of conservative case (4). The other causes of bleeding in the second half of pregnancy were excluded in this patient. The majority of the benign causes of genital bleeding (vulvar lesions, haemorrhoids, cervical erosion, cervical polyps, vaginitis and haemorrhagic cystitis) and carcinoma of the cervix were excluded by visual inspection of the vulva and a speculum without significant maternal risk. Definitive digital examination was only performed in theatre.

All patients who present with vaginal bleeding in late pregnancy are managed expectantly to increase the maturity of the pre-viable fetuses (4). In our case, the gestation was already 37 weeks, and the maternal haemorrhage demanded immediate termination of the pregnancy.

The most common diagnostic tool is ultrasonography. It is non-invasive and can be performed in the labour suite. Amniography, in which 30 - 50 ml of radiopaque dye (conray, renografin - 60) can be injected into the amniotic sac, can also be used to outline the placenta (3). Additionally, soft tissue X-ray and displacement placentography, have been utilised. Placental localisation using radioactive iodinated albumen or technetium can also be performed (3). Arteriography, while accurate, is time-consuming, and very complicated for both mother and fetus. Thermography has been used but like isotope scans is very difficult to interpret, particularly if the placenta is posterior (3).

The majority of placenta praevia are asymptomatic and remain so by migration and spontaneous conversion. A minority of placenta praevia patients become symptomatic and although conversion can occur in this group, a significant percentage will have a placenta praevia at delivery as did our patient. The mechanism whereby such an apparent migration occurs is not clear. The various theories involve either changes in the

architecture of the lower uterine segment with advancing gestation or "dynamic placentation", in which microscopic abruptio placentalis and re-attachment occur throughout the second and third trimester to allow the fraction of uterine wall covered by the placenta to diminish from one half at 16 week's gestation to become one quarter to one third at term. The importance of the concept of dynamic placentation or whether it occurs at all is not yet clear, but it is certainly an intriguing theory (5).

While relative post-partum uterine atony and bleeding from the placental site has been reported to occur with higher frequency in patients with placenta praevia (4), our patient escaped and did not have post-partum haemorrhage, nor did she require blood transfusion. She went home 7 days after delivery in good general condition together with her well baby. The primary factors which have been reported as influencing perinatal survival are the gestational age when vaginal bleeding first occurs, the type of placenta praevia involved, gestational age at time of delivery, maternal haemorrhage, the effectiveness of expectant therapy, and the mode of delivery (4). Most of these factors were in favour for our patient.

In conclusion, I stress the fact that ante-partum haemorrhage is still one of the gravest obstetric emergencies, and its greatest incidence of maternal mortality and morbidity can only be reduced by a good ante-natal care and proper management.

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TRIPLET PREGNANCY - CAESAREAN SECTION - LIVE BABIES

<u>Name:</u>	M.W.	<u>LMP:</u>	4.6.87.
<u>Age:</u>	25 years	<u>EDD:</u>	11.3.88.
<u>Unit No:</u>	878284	<u>Admission:</u>	17.2.88.
<u>Parity:</u>	2+0	<u>Discharge:</u>	26.2.88.

PRESENTING HISTORY:

Mrs M.W. was admitted to the maternity ward from the antenatal clinic on 17.2.88 for bed rest because she was very uncomfortable. She felt she could not walk alot, and was unable to have enough bed rest at home.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 16 years of age, and subsequently had had regular menstrual flow for 3-4 days every 30 days. She was para 2+0. All were spontaneous vertex deliveries, and the last delivery was in 1985. Both were alive and well. She had no history of "pills" or of fertility drug ingestion. Her last menstrual period was on 4.6.87, giving her expected date of delivery to be 11.3.88. Gestation on admission was therefore 37 weeks.

ANTENATAL CARE:

She attended ante-natal clinic at Kenyatta National Hospital. The initial visit was at 26 weeks of gestation. At that time, the uterine size was corresponding to a 36 weeks pregnancy. Her blood pressure was normal at 130/80 mmHg, and she had no proteinuria. Triplet pregnancy was diagnosed at 28 weeks of gestation by palpation, and later confirmed by ultrasonography. In total she had 8 antenatal visits. Throughout the index pregnancy, she had no complications.

PAST MEDICAL HISTORY:

Her past medical history was un-remarkable.

FAMILY AND SOCIAL HISTORY:

She was married, and un-employed. Her husband was the only bread winner in the family. They were staying at Gatundu. She did not smoke or take any alcohol. There was no history of multiple births in the family.

PHYSICAL EXAMINATION:

Her general condition was fair. She was very uncomfortable especially on lying supine, and preferred "rolling-over". There was no pallor, dehydration or palpable peripheral lymph nodes. Leg oedema was 1+. Clinically she was afebrile, and had no jaundice or cyanosis. Her blood pressure was 120/80 mmHg, the pulse rate was 86 per minute, respiratory rate was 24 per minute, and the body temperature was 36.6°c. The cardio-respiratory and the central nervous systems were grossly normal.

ABDOMINAL EXAMINATION:

The abdomen was grossly distended and tense. The uterus was more globular, but was term. Multiple fetal parts and poles could only be felt with alot of difficulty. The first baby was presenting oblique right. Multiple fetal heart tones were heard - each was regular at about 138 per minute.

PELVIC EXAMINATION:

The external genitalia was normal. On digital exam, the cervix was central, soft and 75% effaced. The os was parous and admitted two fingers. Membranes were bulging. The presenting part of the baby was high - 5/5 above the pelvic brim and the pelvis was roomy.

DIAGNOSIS:

A diagnosis of triplet pregnancy at 37 weeks of gestation was made.

1. Haemoglobin : 11.6 g/dl.
2. Haematocrit : 33.9%.
3. Blood Group : "B" Rh + ve.
4. Serology for syphilis : Negative.
5. Serum Electrolytes - Na⁺ : 144 mmol/l.
K⁺ : 4.2 mmol/l.
BUN : 3.1 mmol/l.
Creatinine : 92 mmol/l.
6. Ultrasound (18.2.89) demonstrated triplets - one was breech, one was transverse and the other oblique with head in cephalic presentation. Cardiac activities of all three were seen. Biparietal diameter of one fetus corresponded to 36 weeks gestation. Only one placenta was seen and shown to be anterior and more to the right side.

MANAGEMENT:

She was prescribed bed rest in the left lateral position, and was given oral supplements of iron (II) sulphate 200mg TDS and Folate 5mg OD. On 19.2.88 she went into spontaneous labour, and was taken to labour ward for delivery by emergency caesarean section after obtained informed consent.

CAESAREAN SECTION:

Intravenous line was set up and blood for grouping and cross-match was taken, and two units of blood were asked for.

In theatre, she was placed in dorso-lithotomy position, vulvo-vaginal toilet done, and she was aseptically catheterized obtaining clear urine. She was then repositioned, cleaned and draped with sterile surgical towels. Under anaesthesia, an infra-umbilical mid-line vertical incision was made and the abdomen opened in layers. Routine lower uterine segment caesarean section was then performed. The first baby was delivered cephalic with a birth weight of 2600 gram. APGAR score was 8 and 4 at 1 and 5 minutes respectively. The second baby was delivered breech, with a birth weight of 2200 gram.

APGAR score was 8 and 9 at 1 and 5 minutes respectively. The third baby was initially transverse, but following internal cephalic version, was eventually delivered cephalic. Birth weight was 2300 gram, with APGAR score of 8 and 9 at 1 and 5 minutes respectively. All babies were females in separate amniotic cavities, but sharing one big placenta. Intravenous ergometrine 0.5 mg was given. This large placenta was delivered by controlled cord traction, and weighed 1500 gram. It was complete. The uterus contracted and retracted well and was closed in the usual 2 layers followed by closure of the utero - vesical peritoneum. Estimated, intra-op. blood loss was 800 ml.

POST OPERATIVE CARE:

Routine post op care was instituted. She was given 100 mg pethidine 8 hourly for 48 hours and intravenous fluids maintained. On the second day, her bowel function was adequate and she was allowed oral sips followed by free fluids and later normal hospital diet. Ambulation was encouraged as soon as the pain was less. Haemoglobin, which was checked on the third day was 10.7 g/dl. Oral iron supplements were continued. All stitches were removed on the 7th day, and was discharged home, together with her 3 babies in excellent condition: with instruction to attend the child welfare clinic in two weeks and the post-natal clinic in 6 weeks time.

FOLLO -UP:

Seen in the post - natal clinic on 15.4.88, she was counselled on contraception, and chose bilateral tubal ligation which was carried out on 27.6.88 by the Pomeroy technique at Rahimtulla Wing as described elsewhere in this book.

The incidence of multiple births has a variable genetic and geographical pattern. In the African, twinning is reported to be three to four times as common as in the European, and triplet pregnancies occur 16 times as frequently (1) whereas the natural occurrence of multiple pregnancies with more than two fetuses is low, the increasing use of superovulation has increased their number (2). Oyieke J.B. (1985) found a high twinning rate of one in 59 births at the Kenyatta National Hospital (3). And if we follow Hellin's Law, the incidence of triplets would be expected to be 59^2 or once in 3481 births at the same hospital - this is obviously higher than Hellin's figure of 1: 7921 births.

The patient presented denied having taken any of the fertility drugs like clomiphene: her triplets were therefore of natural and spontaneous occurrence. There was no history of infertility prior to the index pregnancy. She was a para 2+0, and of low socio-economic status - her husband was the only bread-winner in their family. Multiple pregnancy is said to be prevalent in the low socio-economic group (1). The reasons for this are not clear. Large family size alone may not explain the phenomenon. Our patient had had only two previous singleton deliveries. The possible aetiologic association of the chronic malaria with multiple pregnancy has been suggested, and opinions vary on the role of malnutrition in this respect (1). As in twin pregnancy, genetic factors are probably more relevant in the aetiology of triplet pregnancy. Our patient had no history of multiple deliveries in her family, or having been taking oral contraceptive drugs prior to the index pregnancy - the latter could have been a reflection of high "rebound" gonadotrophin secretion (if any).

It is estimated that at least two-thirds of multiple pregnancies end in a single birth. the other embryo is lost with bleeding, is absorbed within the first 10 weeks of pregnancy, or becomes mummified (fetus papyraceus) - the vanishing twin.

Monozygotic triplets result from repeated twinning (also called supertwinning) of a single ovum. Trizygotic triplets develop

by individual fertilization of 3 simultaneously expelled ova. Triplets may also be produced by the twinning of 2 ova and the elimination of one of the 4 resulting embryos as above (5).

Preterm labour is the most common complication of multiple pregnancy and responsible for a high perinatal mortality and morbidity. The greater the number of fetuses, the earlier is labour likely to commence (2). In the present patient, the gestational age was 37 weeks. The factors that determine the onset of labour are imperfectly understood. Hormone factors probably play the leading role but mechanical factors especially uterine volume and distension, constitute an important background element (Bulmer, 1970).

In the patient presented, the combined birth weight of triplets was 7100 gram, and labour started spontaneously at 37 weeks of gestation. Female infants seem to predominate in triplet births that go to term, and the female triplet seems to have a better chance of survival (5). These facts were clearly illustrated in our patient.

Accurate early diagnosis of the number of fetuses is essential to allow adequate monitoring and planning. In the present patient the first ultrasound examination was done on 18.2.1988 and demonstrated triplets. Repeat ultrasound examination is usually necessary solely to confirm the diagnosis (2).

It is not universally accepted that hospital bed rest, or prophylactic treatment with tocolytics prolong pregnancy or avoid fetal growth retardation (MacGillivray, 1975). The present patient was only admitted to the ward at 37 weeks of gestation, and was in the ward for less than 48 hours before the onset of labour. She was not given any tocolytics. As in twin pregnancy so also in triplet pregnancy routine hospital admission for the purpose of maintaining adequate bed rest has been found unnecessary.

Cervical suturing seems to be of some benefit in prolonging some triplet pregnancies, especially in selected patients with a history of cervical incompetence, and in those where silent effacement and dilatation is found during second trimester. It is felt that routine suturing is not of value, nor is emergency

suturing with the patient already in premature labour.

Emergency cerclage is never very successful (2). Our patient did not have a cervical suture but went upto term.

The observation that birth weight difference, when considerable within a set, affects survival, indicates that growth retarded triplets are at a higher risk and serial ultrasound examinations and cardiotocographic monitoring of each fetus are of importance. This is in keeping with the uterine "crowding theory" of McKeown and Records. The combined weight of triplet sets masks the poor growth rates, and maturity rather than birth weight is the determinant of fetal survival. (5).

The perinatal mortality and neonatal morbidity of triplets increase with birth order. Several studies indicate a worse outcome of third and second triplets only after vaginal delivery but equal survival when delivered by caesarean section (1,2,3,4,5). In vaginal deliveries the second and even more the third triplet suffer because of changes in haemodynamics resulting from the reduced capacity of the uterus in that myometrial retraction after delivery of the first and again after the second triplet reduces the uteroplacental blood flow and leads to relative hypoxia of subsequent fetuses (Muller - Holve et al, 1976). Another factor that increases the perinatal loss is poor monitoring of the second and third triplet during labour, when midwives are few, and only external fetal recording is used as in our unit currently. In high risk pregnancies continuous surveillance of every fetus during labour must be effective, and if not, caesarean section ought to be the method of delivery. Our patient was therefore appropriately delivered by emergency caesarean section with survival of all her triplets.

Mortality and low APGAR scores are commoner with triplets delivered vaginally by the breech, as has been reported by many authors (1,2,5). Malpresentation of one or more fetuses ought to be an additional indication for caesarean section.

Our patient had sterilization operation done on her on 27.6.1988 because of the increased economic burden that these triplets added to the meagre income of the family.

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<u>Name:</u>	M.W.	<u>LMP:</u>	22.9.87
<u>Age:</u>	36 years	<u>EDD:</u>	29.6.88
<u>Unit No:</u>	903470	<u>Admission:</u>	29.6.88
<u>Parity:</u>	6+0	<u>Discharge:</u>	3.7.88

PRESENTING HISTORY:

Mrs. M.W. presented herself to labour ward on 29.6.88 at about 6.15 p.m. with a history of labour pains since that morning. Meconium stained liquor was draining, but there was no vaginal bleeding. The membranes ruptured spontaneously at about 5.00 p.m. that same evening. She had not attended any antenatal clinic during the index pregnancy.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 14 years of age, and subsequently had had regular periods lasting 4 days every month. She was para 6+0. All were spontaneous vertex deliveries. The birth weights of these babies were not known to her. The last delivery was in 1978. Her last menstrual period was on 22.9.87, giving her expected date of confinement to be 29.6.88. Gestation on admission was therefore 40 weeks. In 1979, she had an intra-uterine contraceptive device inserted, but this was removed in 1987 because she wanted another baby.

PAST MEDICAL HISTORY:

Her past medical history was not remarkable.

FAMILY AND SOCIAL HISTORY:

She was married, but had had no formal education. Her husband had a private business in Nairobi. She did not smoke or take alcohol. There was no relevant family medical history.

PHYSICAL EXAMINATION:

Her general condition was satisfactory. She was slightly obese.

There was no pallor, jaundice, oedema or palpable peripheral lymph nodes. The blood pressure was 120/80 mmHg; pulse rate was 80 per minute, respiratory rate was 22 per minute, and body temperature was 36.7° c.

The cardiopulmonary and the central nervous systems were grossly normal.

ABDOMINAL EXAMINATION:

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Uterine size was term. There was a singleton foetus in breech presentation, and in a longitudinal lie. The foetal breech was already engaged, that is the intertrochanteric diameter of the foetal pelvis had already passed through the pelvic inlet, and the breech was therefore not movable above the pelvic brim - the firm breech was beneath the symphysis pubis. The heart sounds of the foetus were heard loudest below the umbilicus, at a rate of 138 beats per minute and regular. She was having 3 uterine contractions lasting 20 to 40 seconds in 10 minutes.

PELVIC EXAMINATION:

The external genitalia was normal. Thick meconium stained liquor was draining. The breech was easily felt in the vagina on digital exam. Both ischial tuberosities, the sacrum and the anus were readily palpated. The lower extremities were flexed at the hips, and extended at the knees, and therefore no feet were felt alongside or inferior to the buttocks. The cervix was fully effaced and 10 cm dilated. No cord was palpated. The pelvis was roomy and adequate for assisted breech delivery.

DIAGNOSIS AND MANAGEMENT:

A diagnosis of frank breech in second stage of labour was made, and I decided to do assisted breech delivery. She was placed comfortably in lithotomy position, vulvo-vaginal toilet done with savlon solution, and draped with sterile surgical towels. She was encouraged to push with each uterine contraction. As the breech spontaneously emerged from the birth canal, my

"hands were kept off the breech", and the breech allowed to descend on its own.

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The shoulders however, presented to the pelvic outlet with their widest anteroposterior diameter. Since they did not deliver readily, the arm of the posterior shoulder was drawn down by passing my two fingers over the infants shoulder and down the arm to the elbow, then sweeping the flexed arm across the infant's face and chest and out. The anterior arm was delivered in the same way. External rotation then occurred spontaneously to bring the head into the best outlet diameter. To aid delivery of this after coming head, the trunk of the infant was straddled over my right forearm. Two fingers of my right hand were placed in the infant's mouth. The left hand was slid into the vagina, palm down, along the infant's back, and applied pressure over the occiput to flex the foetal head fully. Gentle traction applied to the shoulders (upward and outward) delivered the foetal head easily. Intramuscular syntometrine (1 vial) was then given. The whole process of this assisted breech delivery took about 7 minutes. APGAR score was 10 at both 1 and 5 minutes. The sex was female and the birth weight was 4400 gram. The placenta weighed 800 gram - it was delivered complete by controlled cord traction. Estimated blood loss was 300 ml.

The baby, because of its large size, was admitted to nursery for observations. It did not develop any complication, and was discharged to join the mother on 2.7.88 in good general condition.

POST - DELIVERY OBSERVATIONS:

After delivery, her vital signs were stable. The cervix, vagina and the perineum were all intact. Blood pressure was 120/80 mmHg; pulse rate was 80 per minute and the respiratory rate was 20 per minute. She passed adequate urine 4 hours later, and she was transferred to the lying-in ward for bed rest and further observations 6 hours later. There were no complications. and was discharged home on 3.7.88, with instructions to attend the post-natal clinic in 6 weeks time. She did not come back for post-natal follow-up.

DISCUSSION:

The patient presented came to us with breech presentation in second stage of labour. Her past obstetric performance was excellent, but her pelvis was un-assessed antenatally. She however, had a smooth assisted breech delivery to a macrosomic infant of 4.4 kg weight at term.

Breech presentation, described as early as the first century A.D., is one of the most controversial subjects and challenging problems in present day obstetrics. It is defined as the entrance of the foetal buttocks or the lower extremities into the maternal pelvic inlet (1). The incidence of breech presentation varies from 3% -5%, and is almost five times higher among infants weighing less than 2500 gram than those at term (1,2). Njuki found the incidence of breech presentation at Kenyatta National Hospital to be 3.5% (2). Three types of breech presentation based on fetal attitude, are described (1). The first and most frequent (65%) is frank breech, in which both thighs of the fetus are flexed on the abdomen and both legs are extended over the chest. Next, with a frequency of 10%, is the complete breech, in which both thighs of the fetus are flexed on the abdomen and both legs are flexed at the knees. Finally, the incomplete or footling breech, in which one or both lower extremities of the fetus are extended below the level of the fetal buttocks, accounts for approximately 25% of all breeches. The patient presented had frank breech presentation.

In over half the cases, the aetiology is not known. During the second and early third trimester of pregnancy, the ratio of the intra-uterine volume to the size of the foetus is large - thus prematurity is the most common known causative factor of breech presentation. In addition, breech presentation results from any condition interfering with the accommodation of the fetus in the uterus (1-7). The septate uterus, placenta praevia, or uterine myomas predispose to breech presentation. Other factors favouring breech presentation include fetopelvic disproportion, multiparity, multiple gestation, hydramnios, and hydrocephaly. The only predisposing factor in our patient was grand-multiparity, in which there was probable abdominal

and uterine relaxation. Njuki found 82.7% of the mothers with breech presentation at KNH to be multiparous.

The patient presented came to us already in advanced second stage of labour. On the other hand, if the diagnosis of breech presentation is made early in the third trimester, external cephalic version can be attempted. The conversion of a breech to a cephalic presentation will diminish the incidence of caesarean section (3). There is no point in attempting version before 34 weeks gestation although it can be done from that time until term. The use of tocolytic agents may improve the success rate of external cephalic version (1). It is however unnecessary in circumstances where abdominal delivery is already planned, and it is contraindicated in the presence of premature rupture of membranes, engagement of the breech in the pelvis as was in our patient, previous caesarean section scar, previous myomectomy scar that had penetrated the uterine cavity, multiple pregnancy, pregnancy induced hypertension and premature separation of the placenta. It should not be attempted on a rhesus negative mother as there is a considerable risk of feto-maternal transfusion (3). Certain factors may not preclude the external cephalic version, yet their presence makes the operation unwarranted viz: dystocia due to tumour and other complications of pregnancy requiring caesarean delivery, and placenta praevia. Routine external cephalic version is not practiced in our unit. It should also be noted there is a high incidence of fetal distress in labour following successful version which is often associated with cord entanglement or presentation (3).

X-ray pelvimetry is performed on most patients before deciding on a trial of vaginal delivery (4). In our unit, only erect lateral pelvimetry is performed because it is felt that the increased amount of information gained from full X-ray pelvimetry does not justify the increased dose of radiation to the fetus. Similarly a specific search for hyperextension of the fetal neck is not made. Vaginal delivery is only permitted in a well-formed average to large gynecoid pelvis with normal morphologic characteristics including the outlet. The transverse diameter of the inlet is to be 12 cm, and the true conjugate to be 11.5 cm as minimum requirements. In addition, the sacrum should be hollow and the subpubic arch normal. The interspinous diameter should be 10 cm (5). But

a radiologically normal pelvis does not guarantee an easy vaginal delivery! One then wonders whether this routine X-ray pelvimetry is really worthwhile as fetal exposure to X-rays may predispose to later childhood leukaemia.

The main hazards of vaginal breech delivery are the increased neonatal morbidity and mortality as a result of trauma or asphyxia. This is particularly related to cord compression, difficulty of the nuchal arms followed by the aftercoming head. Hyperextension of the neck is also associated with a high incidence of spinal cord transection if delivered vaginally (6).

The patient presented, delivered vaginally. She was a healthy multigravida who had no complicating factors; she had a normal capacious pelvis, and she progressed well during both the first and second stage of labour despite the fetal weight being 4.4 kg. It was ensured that the cervix was fully dilated before she began to push. The dictum of a wide medio-lateral episiotomy for all breech deliveries! is no longer held. This is clearly supported by our patient who managed to deliver a macrosomic breech without any complications both to herself and her infant.

Elective caesarean section for breech presentation was suggested by Soni (1931), and has become the standard management for many obstetricians. Recently encouraging results have been reported for vaginal delivery of carefully selected cases (4). Although our baby that weighed 4400 gram, was successfully delivered vaginally, any baby estimated to weigh 3800 gram or more is best delivered abdominally.

Trauma, often associated with asphyxia is the main threat to the life of the baby in breech birth. Fetal damage can also be caused even at caesarean section (7). The most frequent single cause of death in breech delivery is intracranial haemorrhage due to tentorial tears (2,7).

The place of a trial of labour in breech presentation is controversial. It is concluded that it has no place in present day obstetric practice.

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<u>Name:</u>	E.N	<u>LMP:</u>	29.11.88
<u>Age;</u>	27 years	<u>EDD:</u>	5.9.89
<u>Unit No.:</u>	988215	<u>Admission:</u>	7.9.89
<u>Parity:</u>	6+0	<u>Discharge:</u>	14.9.89

PRESENTING HISTORY:

Mrs E.N. presented herself in labour ward on 7.9.89 at 3.15 p.m. with a history of labour pains since the previous day. There was no drainage of liquor or vaginal bleeding.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 16 years, and subsequently had had regular menses of 3-4 days every month. She was para 6+0, all were spontaneous vertex deliveries - two at home and 4 at Pumwani Maternity Hospital. All were alive and well. They were 4 girls and 2 boys. She did not use any contraception. Her last menstrual period was on 29.11.88 giving her expected date of delivery to be on 5.9.89. Gestation on admission was therefore 40 weeks and 2 days. Her ante-natal care was at Machakos General Hospital, but she preferred to deliver at the Kenyatta National Hospital.

PAST MEDICAL HISTORY:

Her past medical and surgical history was un-remarkable.

FAMILY AND SOCIAL HISTORY:

She was married, and her husband was a machine-operator. She did not smoke or take alcohol. There was no history of any major illness in the family.

PHYSICAL EXAMINATION:

Her general condition was satisfactory. There was no pallor, cyanosis, oedema, dehydration or palpable peripheral lymph nodes. Clinically, she was afebrile. Her blood pressure was 140/80 mmHg; pulse rate was 80 per minute, respiratory rate was 20 per minute,

and the body temperature was 36.9°c.

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The cardio-pulmonary and central nervous systems were grossly normal.

ABDOMINAL EXAMINATION:

Uterine size was term. There was a singleton foetus in cephalic presentation in a longitudinal lie. The head was 4/5 above the pelvic brim; and the foetal heart beat was heard at 142 per minute and regular. Uterine contractions were 1 in 10 minutes lasting 20-40 second. The foetal back was easily felt near the anterior abdominal wall.

PELVIC EXAMINATION:

The external genitalia was normal. On digital exam, the cervix was soft, central and fully effaced. The os was open about 4 cm. Membranes were bulging. The pelvis was roomy. No cord was palpated. Amniotomy was done, and clear liquor amnii obtained. The brow was then felt on repeat examination.

DIAGNOSIS :

A diagnosis of brow presentation in active phase of labour was made. Partogram was commenced immediately, and she was to be reviewed after 4 hours.

PROGRESS OF LABOUR:

Progress of labour was poor. She peaked up 2 uterine contractions in 10 minutes lasting 20-40 second after 6 hours, but the head had not descended adequately. Cervical dilation had only gone upto 5 cm. Meconium stained liquor was now draining; and foetal heart tones were reported to be irregular. Repeat pelvic examination revealed face presentation in direct mento-posterior position. The chin, mouth, nose, the malar prominences and the orbital ridge were easily felt. A decision to do an emergency caesarean section was then made.

The necessary informed consent was obtained from her. Intravenous line set up, blood for grouping and cross-match was taken and two units of blood were asked for. She adamantly refused tubal ligation insisting that she would use injectable contraception.

In theatre, she was placed in dorso-lithotomy position, vulvo-vaginal toilet done, and was aseptically catheterized obtaining clear urine. She was then repositioned, cleaned and draped with sterile surgical towels. Under anaesthesia, an infra-umbilical mid-line incision was made and the abdomen opened. Routine lower uterine segment caesarean section was performed and a live male baby was delivered. The baby's neck was hyperextended but had no oedema of the face. The birth weight was 3020 gram. APGAR score was 9 and 10 at 1 and 5 minutes respectively. The baby was handed over to the Paediatrician who was on standby. Both the placenta and the membranes were delivered by controlled cord traction and were complete-placenta weighed 680 gram. The uterus contracted and retracted well after intravenous ergometrine 0.5 mg was given. It was closed in the usual 2 layers followed by closure of the utero-vesical peritoneum. The estimated intra-operative, blood loss was 500 ml. Tubal ligation was not performed as she had refused pre-operatively. The abdomen was closed in the usual fashion. Haemostasis was adequately achieved.

POST-OPERATIVE CARE:

The patient had a smooth recovery from anaesthesia, and routine post-operative care was instituted. She was given 100 mg pethidine 8 hourly for 48 hours, and then put on paracetamol tablets. Intravenous fluids were maintained for 24 hours, and when her bowel function was adequate, she was allowed oral sips, and later free fluids followed by normal hospital diet. She was given prophylactic ampicillin. Post-operation period was un-eventful. All stitches were removed on the 7th day, and she was discharged home the same day. Ampicillin was given for 7 days at 500 mg QID.

Adequate counselling was repeated in the presence of her husband and they finally agreed to have interval tubal ligation later. She was to be followed-up at Machakos General Hospital in 6 weeks' time. Haemoglobin checked on the third post-op day was 9.2 g/dl.

Face presentation is a malpresentation in which the head is hyperextended with the occiput in contact with the fetal back. The mentum (chin) is the denominator on the presenting part (1). The purpose herein is to present face presentation that occurred in a grand-multiparae with favourable outcome.

Face presentation occurs once in every 500 to 600 deliveries (i.e. an incidence of 0.125 to 0.3%) (3). The incidence in our unit is unknown, but the one reported in the Nairobi birth survey is 0.2% (5).

In our patient, the predisposing factor was grand-multiparity, associated with laxity of maternal abdominal muscle. The pendulous abdomen probably permitted the back of the fetus to sag forward, in the same direction in which the occiput pointed and thus promoted extension of the cervical and thoracic spine.

Other aetiological factors include prematurity, fetal macrosomia, anencephaly with a attendant hydramnios and cephalo-pelvic disproportion (1,2,3,4).

The diagnosis of face presentation usually is delayed until late in labour (3). In our case the diagnosis was made during the first stage of labour. Magid and Gillespie noted that 61% of their patients were found to have a face presentation in the second stage of labour or at the time of actual delivery. In other series rarely have more than half of the patients been identified as having a face presentation during the first stage of labour (3).

There are certain features of both the abdominal and vaginal examination that should alert the physician of the diagnosis of face presentation. Evaluation of the patient by the traditional Leopold manoeuvres should demonstrate several important findings: unlike the situation with a well flexed vertex, the cephalic prominence will be palpable on the same side as the back rather than the small parts. A distinctive groove may be felt between the fetal back and the occiput reflecting the extreme hyperextension of the head. The dorsum of the fetus may be concave

rather than convex and may be felt distinctly only near the breech. Finally, the heart sounds may be transmitted through the thorax rather than the back, and thus may be heard on the side of the small parts, usually below the umbilicus (1,3).

Vaginal examination in our patient was quite distinctive: palpation demonstrated the irregular landmarks of the orbits, nose, malar prominences, mouth and chin; but face presentation initially still may be confused with a frank breech presentation. One technique for distinguishing between the two is to consider the anatomic relationship between them.

In breech presentation, the anus is on a straight line with the adjoining ischial tuberosities. In face presentation the relationship between the mouth and adjacent malar prominences was that of an "inverted" triangle.

Face presentations are rarely observed above the pelvic inlet (2). The brow initially presented in the case under discussion and was converted to a face presentation after further extension of the head during descent through the pelvis.

In face presentation, the largest diameter of the fetal head that engages in the transverse diameter of the pelvic inlet is the mento-bregmatic diameter. This dimension may be slightly larger than the sub occipito-bregmatic diameter and may therefore create a condition of relative disproportion between pelvic inlet and engaging diameter. In face presentation, the distance from the parietal eminences to the face is much greater than to the occiput, and thus the face must descend well below the level of the ischial spines before the mento-bregmatic diameters have passed through the inlet (3).

If spontaneous internal rotation to the mentum anterior position does not occur, then vaginal delivery is impossible. It was illustrated in our patient, when the mentum is persistently posterior, the neck and the head of a normal-sized live fetus cannot negotiate the space between the symphysis pubis and anterior surface of the sacrum (the latter measures about 12 cm in length (2)) - it can only be forced over the perineum by further extension of the head: this is impossible because it already is completely hyperextended. Since the head in our patient descended with the chin pointed directly posteriorly,

rotation was not likely to occur. Only if the fetus is extremely small or macerated is it possible for the head, neck, and shoulders to enter the pelvis simultaneously, pass beneath the symphysis pubis and deliver as persistent mentum posterior (1,2,3,4).

"If a face is making progress, and there is no fetal heart rate abnormality, leave it alone" (3). The likelihood of spontaneous vaginal delivery is excellent when the face presentation is mentum anterior, mentum posterior presentations may also rotate to the anterior position late in the second stage of labour. But in our patient there was arrest of cervical dilatation and arrest of the descent of the presenting part with development of fetal distress as evidenced by passage of meconium and the irregularity in fetal heart rate, and caesarean section was thus performed at the appropriate time in labour. The perinatal outcome was excellent with a negligible maternal morbidity.

Other methods of management of face presentations are rarely, if ever, indicated in present day obstetrics - they are outmoded.

There is no known method of preventing face presentation. With proper management, a face presentation should not entail greater risk to the fetus or newborn than the more common occiput presentation.

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TRANSVERSE LIE WITH ARM PROLAPSE - CLASSICAL CAESAREAN SECTION-
LIVE BABY.

<u>Name:</u>	D.M.K.	<u>LMP:</u>	15.10.87
<u>Age:</u>	25 years	<u>EDD:</u>	22. 7.88
<u>Unit No:</u>	908784	<u>Admission:</u>	29. 7.88
<u>Parity:</u>	2+0	<u>Discharge:</u>	8. 8.88

PRESENTING HISTORY:

Mrs. D.M.K. was referred to us from Machakos Distric Hospital with a diagnosis of arm prolapse and transverse lie in established labour. At Machakos, caesarean section could not be done because there were no intravenous fluids and muscle relaxants. The patient was initially from Makindu District Hospital where she had presented herself the previous day on 28.7.88 in labour. The arm prolapsed at the latter Hospital at 1.00 p.m., when the membranes ruptured spontaneously.

OBSTETRIC AND GYNAECOLOGICAL HISTORY:

Her menarche was at 14 years of age, and subsequently had regular menstrual cycles every 30 days lasting 3-4 days with normal flow. She did not use any contraception. She was para 2+0. All were spontaneous vertex deliveries at term. The last delivery was in 1986 at home. Both the children were alive and well, and both were females. Her last menstrual period was on 15.10.87 giving her expected date of delivery to be on 22.7.88. Gestation on admission was therefore 41 weeks. She had no antenatal care during the index pregnancy.

PAST MEDICAL HISTORY:

Her past medical and surgical history was not remarkable.

FAMILY AND SOCIAL HISTORY:

She was married and was staying with her husband at Makindu. She did not smoke or take alcohol. There was no family history of any major illness.

PHYSICAL EXAMINATION:

Her general condition was fair. There was no pallor, jaundice, cyanosis, oedema or palpable peripheral lymphnodes. Clinically she was afebrile and NOT dehydrated. The blood pressure was 110/70 mmHg; pulse rate was 88 per minute, respiratory rate was 22 per minute, and the body temperature was 36.7°c. The cardio-pulmonary and central nervous systems were grossly normal.

ABDOMINAL EXAMINATION:

Uterine size was term. There was a singleton foetus in a transverse lie with the head to the right side of the mother, with a shoulder presentation. The foetal heart beat was 140 per minute and regular. She was having 3 uterine contractions lasting 20-40 seconds in 10 minutes. Bandl's ring was present, but there was no tenderness. The liver and the spleen were not palpable.

PELVIC EXAMINATION:

The external genitalia was normal. There was an indwelling Folley's catheter in-situ. The left arm was prolapsed outside the vulva. It was very oedematous but pink in colour and could move on stimulation and shaking of the hand. On digital exam, the cervix was open about 9 cm. No cord was felt. Both the left shoulder and the chest wall were easily palpated. There was no liquor drainage.

DIAGNOSIS:

A diagnosis of a neglected transverse lie with arm prolapse and an impending uterine rupture was made, and an emergency caesarean delivery was prepared for.

PREPARATION FOR OPERATION:

Blood for grouping and cross - matching was taken and two units of blood were sent for. An intravenous line was already on from Machakos Hospital. The patient was placed on her left lateral position and oxygen given by mask. An informed consent was

obtained from her. Intravenous ampicillin 500 mg was given as a statim dose, and premedication was with atropine sulphate 0.6 mg. She was taken to the operation suite.

CLASSICAL CAESAREAN SECTION:

In theatre, the patient was placed supine. The abdomen was cleaned, draped with sterile surgical towels and anaesthetized. An infra-umbilical mid-line vertical incision was made, and the abdominal wall opened in layers from just above the upper margin of the symphysis to near the umbilicus. The incision was of such sufficient length to allow the infant to be delivered without difficulty, but was not made any higher than for a lower uterine segment caesarean section.

The classical uterine incision was a longitudinal one down the mid-line of the anterior wall of the uterus. The uterovesical reflection of peritoneum was first pushed down as is done for the lower segment operation. Then the vertical incision into the uterus was initiated with a sharp scalpel beginning above the level of the attached bladder. It was essential to incise through the uterine wall but not to lacerate the fetus. The incision was extended cephalad with scissors until it was sufficiently long to permit delivery of the fetus. The uterine incision was made about 12 cm in length. The placenta was encountered anterior. This was entered through by pushing the hand, and the infant delivered by hooking the head at near the fundus on the right, and the rest of the delivery completed in the usual way. The umbilical cord was clamped with pressure forceps and divided, and the baby handed to the mid-wife who was ready to look after it. The child cried at once. APGAR score was 8 and 10 at 1 and 5 minutes respectively. Thus pushing the hand through the placenta did not result in fetal exsanguination. Both the placenta and the membranes were easily removed by sweeping movements of the fingers within the uterus. The uterus was then exteriorized, and the uterine incision closed in such a manner that the cut edges were evenly and completely coapted and haemorrhage was controlled. A layer of continuous No. 1 chromic catgut was used to approximate the inner halves of the incision. The outer half of the uterine incision was also closed with similar chromic catgut, using a continuous

suture. Each stitch was placed sufficiently deep into the myometrium that it would not pull out. To achieve good approximation and to prevent the suture from tearing through the myometrium, an assistant compressed the myometrium as each suture was placed and tied. The edges of the uterine serosa were approximated with continuous 2.0 chromic catgut. The operation was then completed as for lower uterine segment transverse incision, in the customary manner.

The infant was a male, with birth weight of 3800 gram. The placenta weighed 710 gram, and was complete. Estimated, intra-operative blood loss was 600 ml. Blood transfusion was thus not required.

POST OPERATIVE CARE:

Routine post-op management was instituted. Two litres of intravenous fluids were given (with at least 500 ml of normal saline) within the first 24 hours, 100 mg pethidine was given 8 hourly for 48 hours. Ampicillin 500 mg 6 hourly was continued for 10 days. Gentamycin and flagyl were added to the treatment armamentarium. Indwelling Folley's catheter was left in-situ for 10 days. She did remarkably well, and did not have any post-op complications. Ambulation was encouraged as soon as the pain was less, and all stitches were removed on the 8th day post-op. Her haemoglobin which was checked on the third day was 10.0 g/dl. She was started on oral iron supplements, and was discharged home on the 10th day - the day the catheter was removed. She was instructed to attend the post-natal follow-up at Machakos General Hospital in 6 weeks, and to take the child for immunization at the same hospital. Adequate counselling for any future possible problems at subsequent pregnancies was given.

With transverse lie, the long axis of the foetus lies at right angles to the longitudinal axis of the mother: its head lies in one flank and its buttocks in the other (1). Of all the lies which the fetus may assume, oblique or transverse lie is the most unfavourable (2). The purpose herein is to present a 25 year old patient who came to us with a neglected transverse lie, oedematous arm prolapse, and an impending uterine rupture as evidenced by the presence of a pathological retraction (Bandl's) ring. She was only saved by an emergency classical caesarean section. Both the mother and the baby survived.

Transverse lie is an unusual and potentially dangerous complication of pregnancy to both the mother and the foetus - as rupture of the membranes, which is liable to occur prematurely, will result in shoulder presentation with prolapse of the arm. The foetal shoulder is likely to become impacted, and uterine rupture may then occur if treatment is delayed. When the patient came to us there was already a neglected transverse lie, which resulted from long transfer from two hospitals after initiation of labour. At that point in time, a vaginal delivery was impossible since the head and the thorax could not enter the pelvis at the same time.

The rates for the occurrence of transverse lie range from 0.25% to 0.95% (1-4). Until 32 weeks gestation, the amniotic cavity is large in relation to the fetal mass and there is no crowding of the fetus by the uterine musculature. Therefore, the mobility of the premature fetus is increased, up to that point. The incidence is 0.3% to 0.5% in labouring women who continue singleton pregnancies to term (1-3).

No cause was found in the patient under discussion other than multiparity. She was however, only para 2+0. The fact that the patient was parous therefore seemed more important than the degree of her parity. Her past obstetric performance was superb and there was no uterine anomaly. The incidence of transverse lie increases with parity, occurring approximately ten times more frequently in patients of parity 4 or more than in nulliparous women (1,4). Relaxation of the abdominal wall with

a pendulous abdomen allows the uterus to fall forwards, deflecting the long axis of the fetus away from the axis of the birth canal into an oblique or transverse position. Placenta praevia and pelvic contraction act similarly. It is also claimed that fundal implantation is a cause - the foetus tending to face its own placenta (2), but the placenta in the case presented was anteriorly placed as is present in 40% of cases (2). A transverse or oblique lie occasionally develops in labour from an initial longitudinal position, the head or breech migrating to one of the iliac fossae (4).

The diagnosis of transverse lie in our patient was readily made by inspection alone. There was the arm prolapse and the abdomen was unusually wide from side to side. The particular arm which prolapsed was recognized by shaking hands with the fetus. Because of strong uterine contractions with little rest between these, it was not possible to carry out the various Leopold's manoeuvres.

In general, the onset of active labour in a woman with a transverse lie, is an indication for caesarean section. Once labour is well established, attempts at conversion to a longitudinal lie by abdominal manipulation are not likely to be successful (4). Before labour or early in labour, with the membranes intact, attempts at external version are worthy of a trial in the absence of other obstetric complications that point toward caesarean section. If during early labour the fetal head can be manoeuvred by abdominal manipulation into the pelvis, it should be held there during the next several contractions, to try to fix the head in the pelvis, while closely observing the foetal heart rate. Internal podalic version has no place in present day obstetrics, as in all cases of obstructed labour, the lower uterine segment is progressively stretched and thinned.

Very occasionally, however, spontaneous delivery does occur (2) especially in a premature or dead fetus, although one should never reckon upon such a termination. It may take place in one of the three following manners: spontaneous version, spontaneous evolution, or birth with doubled - up body (partus conduplicato corpore) (1,2). If the cervix is fully dilated

and the fetus is dead, decapitation by means of a blunt hook and scissors or sickle knife may permit vaginal delivery (4). However, since destructive procedures may rupture the uterus, caesarean section is preferable, even with a dead baby.

Because neither the feet nor the vertex of the fetus occupied the lower uterine segment, a low transverse incision into the uterus might have led to difficulty in extraction of the fetus with an impacted shoulder presentation. A classical caesarean section was therefore appropriately chosen for her.

Traditionally, the use of a classical caesarean section is thought to be associated with a morbidity and mortality rate, secondary to infectious complications, greater than when a low uterine segment caesarean section is used (5). Several reasons are believed to explain the higher incidence of puerperal sepsis with classical caesarean section. The reasons noted are: greater blood loss, longer uterine incision, greater exposure of uterine incision to peritoneum, arm prolapse-into the vagina/vulva, higher dehiscence of uterine incision and greater contamination. Our patient did not develop any puerperal infection or paralytic ileus despite her having had a long duration of labour, prolonged rupture of membranes and having sojourned in three different hospitals.

Without a doubt many changes have occurred in obstetric practices in the past 35 years, and these changes could account for the apparent lack of difference in puerperal infection between classical caesarean section and lower uterine segment caesarean section. Upper most on the list must be the improved antibiotics as well as more aggressive treatment of post-partum infections if they occur. In all probability, there are fewer indications for classical caesarean section, and there probably has been a general improvement in surgical technique and nursing patient care.

This case should not encourage the performance of classical caesarean section. It does show, however, that with proper selection and early use of antibiotics, correction of dehydration with intravenous fluids, administration of glucose to combat exhaustion and continuous bladder drainage, classical caesarean section is not accompanied by major infectious complications.

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TRANSIENT BLINDNESS FOLLOWING INTRA-PARTUM ECLAMPSIA-COMplete RECOVERY.

<u>Name:</u>	A.M.	<u>Unit No.</u>	981700
<u>Age:</u>	26 years	<u>DOA:</u>	15.8.1989.
<u>Parity:</u>	1+0	<u>DOD:</u>	19.9.1989.
<u>Date of Delivery:</u>	11.8.1989.		

PRESENTING HISTORY:

Ms. A.M. was referred to us from Pumwani Maternity Hospital (PMH) on 15.8.1989. She had presented herself to that Hospital on 11.8.1989 with a high blood pressure (BP) of 150/100 mmHg. The uterine size then was 34 weeks by palpation, and the foetal heart beat was present. On 13.8.1989, her BP was 160/100 mmHg, the cervix was 4 cm dilated, and was draining clear liquor. She was managed with a cocktail therapy (i.e. pethidine, largactil, phenergan) and intravenous syntocinon infusion. On 14.8.1989, she had a major generalized convulsion. The cervix was fully dilated, but there was caput succedaneum and moulding of the foetal head. A decision was then made to deliver her by emergency caesarean section. This was performed successfully and alive growth-retarded female infant of birth weight 2200 gram was delivered. APGAR score was 4 and 10 in one and five minutes respectively. But 3½ hours post-operation, she was noticed to have developed severe post-partum haemorrhage and she was returned to theatre where vaginal examination under anaesthesia was done. The cervix was found torn at 3'0'clock position (laterally) and bleeding actively. The tear was sutured and haemostasis achieved. On 15.8.1989, the patient had not voided despite intravenous fluids and intravenous frusemide. An impression of acute renal shut-down was made at PMH and she was transferred to us for further management. The neonatal course was however uncomplicated.

OBSTETRIC HISTORY:

She was then a para 1+0. Last delivery was as depicted above. Her last normal menstrual period was on 28.10.1988, and her expected date of delivery was 4.8.1989. She was thus at a gestation of 41 weeks by dates on admission at PMH. She initially had her antenatal clinic attendance at Mbotela Health Centre from where she was referred for further antenatal care to PMH because

her BP was elevated. At PMH, she was given alphas-methyl dopa for the control of her hypertension. It is not known how often she went there, and how many ante-natal visits she made.

GYNAECOLOGICAL HISTORY:

She had her menarche at 14 years, and subsequently had regular menses lasting 4-5 days every 28 days. She had no dysmenorrhoea.

PAST MEDICAL HISTORY:

Her past medical and surgical history was un-remarkable.

FAMILY AND SOCIAL HISTORY:

She was a single lady, and was staying with her cousin at Mbotela Estate in Nairobi. She was a casual worker in Industrial Area. There was no family history of hypertension or diabetes mellitus. She had no history of epilepsy. She did not smoke or take any alcohol.

PHYSICAL EXAMINATION:

She was a sick looking young lady. She had moderate pallor. There was no cyanosis, no dehydration and no oedema. She was not in shock. Her skin was warm and extremities were not cold and clammy. She was clinically afebrile. Temperature was 36.4°C.

CENTRAL NERVOUS SYSTEM:

She was semi-conscious, with no adequate verbal response, although she could respond to her name, and move her limbs on command. She had no lateralizing signs. Her eyes were opening spontaneously. Both pupils were equal and reacting adequately to light. Fundoscopy was not done.

CARDIO-VASCULAR SYSTEM:

Her blood pressure was 130/95 mmHg, and pulse rate was 120 per minute, regular and full volume. She had no murmurs or thrills.

RESPIRATORY SYSTEM :

Her respiratory rate was 24 per minute, regular. She had no cyanosis. Trachea was central, and the chest was clear. There were no adventitious sounds. There was no sign of pulmonary oedema.

ABDOMINAL EXAMINATION:

She had an infra-umbilical mid-line incision which was dressed. The uterine size was 16 weeks. There was no other organomegaly.

PELVIC EXAMINATION:

The perineum, vulva and vagina were intact with no tears. She had lochia rubra. The cervix was sutured at the left lateral angle. The uterus was well contracted and retracted.

DIAGNOSIS:

A diagnosis of acute renal failure following eclampsia was made.

INVESTIGATIONS AND RESULTS:

- . Haemogram : 7.5 g/dl.
- . Haematocrit : 20.6%.
- . Urinalysis : Trace albumen, trace glucose.
- . Serum chemistry:
 - Na⁺ : 140 mmol/l.
 - K⁺ : 4.0 mmol/l.
- . Random blood sugar : 7.0 mmol/l.

MANAGEMENT AND PROGRESS:

15.8.1989: She had an indwelling Folley's catheter FG 16, and was draining clear urine especially after intravenous 80 mg of frusemide challenge.

17.8.1989: She was conscious. However, she was confused, but not overtly psychotic. She could not see! On coming out of coma, she found herself blind. Her urine output was 2,000ml in 24 hours.

- 18.8.1989: Her general condition was good, and vital signs were stable. She was transferred to the lying-in ward from the Acute room in Labour Ward.
- 21.8.1989: All stitches were removed on the 8th post-operative day, but the wound gaped. Daily cleaning and dressing of the wound was commenced.
- 26.8.1989: Pus-swab taken early grew no organisms on culture. Her eye-sight was returning, but still she was not able to see well. The BP steadily settled to normal at 120/80 mmHg. She had reduced reading ability.
- 5.9.1989: She was improving steadily. Ophthalmological opinion was sought and the following were the findings:
- poor vision for far and near,
 - visual acuity for RE = 6/60, and LE = 6/36.
 - pupils: bilaterally equal and reacting to light.
 - Fundoscopic Findings were
 1. Normal disc appearance
 2. No vessel tortuosity or engorgement
 3. No vessel attenuation
 4. No haemorrhages or exudates, or oedema
 5. No retinal detachment
- 16.9.1989: Secondary stitching of her wound was done when there was good granulation tissue. Her vision had markedly improved, and was now able to read letters.
- 19.9.1989: Her haemoglobin was 10.1 g/dl. She was discharged back to PMH to join her newborn baby. Her general condition was good. She was given haematinics, and counselled on contraception.

Transient blindness with pregnancy-induced hypertension without other neurological symptoms is a rare phenomenon, and few cases have been reported in the world literature (1-3). Permanent loss of vision with severe pre-eclampsia has also been documented (4). The purpose herein is to discuss a patient who had total blindness following intra-partum eclampsia, but later regained her vision.

Retinal changes occurring in pregnancy-induced hypertension were first described by Von Graefe in 1855. Most of these changes involve the retinal arterial vasculature, with spasms being the most common findings. Duke-Elder divided the retinal changes into 3 stages: Stage I, arteriolar spasms, stage II, organic changes in vessels, stage III, oedema, haemorrhage and damage to extravascular tissues. Other ocular findings include retinal detachment and spasms of the conjunctival arteries (5). We think that our patient's blindness was due to arteriolar spasms—thus ophthalmological review revealed normal fundus, when eclamptic pathology was already in reversal!

Transient blindness has been reported in 1% to 3% of patients with eclampsia (2). With early detection and current methods of treatment of pregnancy-induced hypertension, the present incidence is probably much lower.

There are many possible causes of blindness in eclampsia. Carpenter et al (6) listed nine: (1). Central retinal arteriolar or venous thrombosis, (2) oedema of the retina, (3), central disturbance of the optic nerve, (6) Psychogenic disturbances (7) Intracranial venous thrombosis, (8) Retinal ischaemia following severe haemorrhage, and (9) Persistent spasm of the retinal vessels.

Sudden blindness is a distressing problem to the patient and a matter of great anxiety to the attending physicians. Most cases of impairment of vision accompanying pregnancy-induced hypertension have been reported to have a surprisingly good prognosis (1-7) as was well demonstrated in our patient. Because vasospasm is the hallmark of pregnancy-induced hypertension, we believe selective ischaemia of the optic nerve head

was the most likely cause of this patient's visual loss and may, indeed be a more common cause of blindness in eclamptic patients than has been previously recognized. Beck et al (2) reported a similar case in 1980. Primary post-partum haemorrhage appeared to have played a minor role in the patient presented in the aetiology of her blindness. A differential diagnosis was cortical blindness. Grimes et al (3) thoroughly investigated one patient with transient blindness and found abnormality of the occipital cortex on CAT scan in the presence of normal optic fundi and normal optic reflexes in 1980. We were not able to do CAT scan in our patient as the machine is not available in our unit.

We were also unable to determine precisely the length of time during which our patient was totally blind, but this episode apparently lasted a few days with recovery returning slowly over several days.

Complete recovery following such an episode is difficult to explain given our knowledge of the reaction of the central nervous tissue to hypoxia, yet a review of published reports discloses several cases of similar recovery after several hours or days of complete blindness in association with eclampsia.

In managing such patients it appears to be important to seek ophthalmological opinion to exclude retinal detachment and central retinal vessel occlusion. Serious retinal detachment in pregnancy - induced hypertension is thought to be due to choroidal infarction with ensuing extravasation of serous fluid into the sub-retinal space and choroid (5). This can be confirmed with fluorescein angiography. The visual prognosis with serous retinal detachment in mothers with pregnancy - induced hypertension is generally good with proper management of hypertension.

The prompt delivery of the baby is the most effective treatment, however, the average time for serious retinal detachment to resolve after delivery is about two weeks (5). But, although spontaneous retinal re-attachment and gradual improvement in visual acuity the noted following resolution of the hypertensive

and haematologic state, residual retinal pathology remains (7). Our patient was examined fundoscopically three weeks post-partum, and showed normal fundoscopic findings. Dornan K.J. et al (7) stated that 5 month post-partum fundoscopy may show macular changes, fluorescein angiograms may demonstrate foci of retinal pigment epitheliopathy, and focal visual impairment may be evident.

Recent finding suggest that pregnancy - induced hypertension is a disease involving all terminal arterioles and not just those of an individual organ. The recognition of conjunctival vasospasm and isolated cortical blindness without retinopathy further support this hypothesis.

Serial examination of the optic fundi, visual acuity and central visual field assessment by the ophthalmologist will help identify threatened patient with severe pregnancy - induced hypertension. Timely obstetric inter-vention in severe cases is recommended.

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