OBSTETRIC AND GYNAECOLOGIC CASES AND COMMENTARIES

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This is to certify that Dr. S. N. Massawe personally managed these cases under my direct or delegated supervision

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INTRODUCTION:

A: ORGANISATION OF OBSTETRIC AND GYNAECOLOGICAL SERVICES IN DAR ES SALAAM:

Muhimbili Medical Centre in Dar es Salaam is one of the four referral hospitals providing Specialist services in Tanzania. It offers specialist services for the Dar es Salaam City and its suburbs, the Coastal region, and receives referred cases from other parts of the country, mainly the central, eastern and southern parts.

The Centre incooperates the Faculty of Medicine of the University of Dar es Salaam and provide courses for undergraduate and postgraduate doctors, pharmacists, densists, grade A nurses, health officers and various other paramedical courses.

The Centre caters for four major displines, namely Surgery, Medicine, Paediatrics and Obstetrics and Gynaecology. The department of Obstetric and Gynaecology handles the greatest number of hospital admissions.

Obstetric Services:

There are three districts within the City of Dar es Salaam. Each District has its own Maternal and Child Health Clinics, run by midwives. At these clinics, antenatal, postnatal and family planning services are offered. They select high risk patients and refer them to Muhimbili Maternity unit. This selection is done according to a prescribed list of risk factors. Deliveries

of normal cases are conducted at the delivery units within the three district hospitals, any complications arising during labour, are transferred to Muhimbili at risk labour ward. There are a few private clinics within the City offering antenatal and intrapartum services for about 5% of the patients they also refer at risk patients to the centre.

Antenatal care at Muhimbili Maternity Unit:

Outpatients:

The Centre runs a Specialist antenatal clinic for referred high risk patients from the peripheral clinics, and for a few grade I and II patients who book directly at the centres clinic. The clinic is conducted by residents, Specialists and Consultants.

At booking, the patients identity, present and past obstetric history, and initial examination findings are recorded in MFCWI form attached. Height, weight and blood pressure are recorded. Urine is tested for glycosuria and albuminuria, and blood is taken for haemoglobin estimation, blood group and rhesus factor, and for serological tests for syphilis. A detailed systematic examination is done, and any relevant investigation such as ultrasound or X-ray are ordered.

The expectant mother attends the clinic once every four weeks up to 28 weeks, once every fortnight until the 36th weeks, then once a week until delivery. Patients are seen more frequently when necessary.

At each subsequent visit, the patient is examined for evidence of anaemia and oedema. The weight and her blood pressure are

recorded. The abdomen is palpated and uterine size, lie, and presentation of the foetus noted, the foetal heart is ascultated and urine is tested for albumin. Haemoglobin is estimated at 4 weeks intervals. Tetanu toxoid is given to the mother at 28 weeks, 32 weeks and 36 weeks of gestation. Prophylactic ferrous sulphate 200 mgs twice daily, folic acid tablets 5mgs once daily, and chloroquine sulphate 300mgs once weekly, are given to every pregnant patient, from the time of booking until one month post partum.

Those referred patients whose conditions have been treated and cured, e.g. correction of anaemia, are sent back to their respective peripheral clinics to continue with antenatal care.

INPATIENT:

The Maternity unit has two antenatal wards with a total of 70 beds. These bed are not enough and the number of floor cases continue to increase. The main indications for admissions in the antenatal wards are: Anaemia consituting 51% of all antenatal admissions, followed by hypertensive disorders in pregnancy, premature rupture of membranes and false labour. Other common conditions include antepartum haemorrhage, multiple pregnancy, Mulpresentation, urinary tract infections, malaria, and patients admitted for elective caesarean section. Other seriously ill antenatal cases are admitted in our intensive care ward described below.

INTRAPARTUM CARE:

All at risk pregnancies are booked to deliver at Muhimbili Maternity Unit, whereas the normal cases deliver at Ocean Road Hospital, which is manned by midwives, an intern doctor, and a resident. Any complications which occur in labour at Ocean Road hospital is promptly referred to Muhimbili Maternity Unit for specialist attention. There is an efficient ambulance system between Muhimbili and Ocean Road Hospital. The number of deliveries per year at the centre is between 25,000 - 27,000. About half of the deliveries take place at Ocean Road Hospital and the other half at the Muhimbili Labour ward. In the year 1981, the total number of deliveries were 26146.

ADMISSION TO THE LABOUR WARD:

When a patient is admitted to the labour ward, history is taken. Urine is obtained and tested for albuminuria, glycosuria and ketonuria. The blood pressure, temperature, and pulse rate are recorded. She is examined for evidence of oedema and anemia. The abdomen is palpated and foetal heart sounds ascultated. A vaginal examination is done-, where indicated, as described in part B of the introduction depending on the stage of labour, an enema may be administered.

The progress of labour is observed graphically. We use a modification of Phillipot's composite labour record in which all details of labour progress, foetal and maternal condition are entered on a single piece of paper against a time scale. A copy is attached in Obstetric case No I.

The patients cervical dilatation is plotted on the Cervicograph once she is in the active phase of labour (3cm or more, with regular contractions). It is assumed that any patient who reaches 3cm dilatation is already in the active phase of labour, and is expected to progress at a minimum speed of 1cm. dilatation per hour. An 'alert line' is drawn 3 hours to the right of the initial vaginal examination (in otherwords allowing slower dilatation than 1cm per hour), and the 'Action line' is drawn four hours to the right of the alert line. In the absence of other abnormalities requiring action, these lines act as guidelines in the timing of action, such as argumentation or caeserean section. The partogram helps to differentiate normal progress of labour from prolonged labour, and enables action to be taken in time to prevent damage to the mother and baby.

Descent of the foetal head is assesed on abdominal palpation, how many fifths of the head are above the pelvic brim, and plotted on the appropriate space, as shown for obstetric case No.1. The uterine contractions are represented according to their strength, duration and frequency. A weak contraction is one which lasts for less than 20 seconds while 20 - 40 seconds and more than 40 seconds represents moderate and strong contractions respectively. The state of membranes and liquor are represented thus. I = intact, M = meconium stained, and C = clear liquor.

The labour ward in the Muhimbili Maternity Unit has a first stage, and a second stage rooms which are rarely used as such.

There are only three obstetric beds in the second stage room. So that most of the delivery take place in the beds in the first stage room, reserving the obstetric beds for complicated deliveries, such as breeches, multiple pregnancies, vacuum and forceps deliveries, as well as for repair of perineal lacerations and episiotomy.

There is also in this room a trolley for resuscitation of the newborn. Most deliveries are conducted by midwives, while abnormal deliveries like those mentioned above are conducted by doctors.

The labour ward team of doctors consists, of interns, and residents or registrars, of whom there is at least one in the labour ward throughout 24 hours of the day, and a specialist or Consultant on call. There is a special Obstetric and Gynaecological theatre, which is available during the day time for emergencies.

The thirdstage of labour is managed actively, syntrometrine intramuscularly or ergometrine intravenously is given by an assistant at delivery of the anterior shoulder. The placenta is delivered by the Brandt - Andrew's method. Any episiotomy or perineal tears are repaired immediately.

Asepsis in the labour ward is far from ideal. There is no isolation for infected cases, no boots, gowns or masks. There are boiled brushed and soap for scrubbing hands before vaginal examination and delivery, sterile rubber gloves, sterile swabs,

and antiseptic solutions.

POSTNATAL CARE:

Patients are observed in the labour ward for one hour after delivery, then they are transferred to the postnatal section. Patients who are in good condition are discharged home 24 hours after delivery. Such a short hospital stay is necessiated by patient congestion. Those with problems such as persistent hypertension, postnatal anaemia etc, are observed further in the post natal wards. There are two postnatal wards, one for keeping 'clean' cases following vaginal deliveries and postoperatively, and the other for septic cases. Babies with complications, or following complicated deliveries are kept in the neonatal ward where they are taken care of by the paediatricians.

There is a once weekly postnatal and family planning clinic. This is only for mothers who had abnormal labour or pueperium, the rest are advised to attend for these services at a their respective maternal and Child Health clinics in the peripher. While the mothers are seen by the Obstetrician, the babies are seen by the paediatrician at the same time.

OBSTETRIC INTENSIVE CARE WARD:

Ward 35 in the Muhimbili Maternity Unit caters for severely ill antenatal, intrapartum and postnatal patients. It has 9 beds, including one obstetric couch for vaginal operative deliveries. The commonest indications for admissions are severe preeclampsia and eclampsia, severe anaemia and cardiac failure, and other

obstetric emergencies such as shock, cerebral malaria, meningitis diabetes mellitus. Patients who no longer needed intensive treatment are discharged to either the postnatal or antenatal wards.

GYNAECOLOGICAL SERVICES:

Gynaecological patients are referred from nearby hospitals, dispensaries, health centres and private clinics. A few patients are referred from upcountry hospitals mainly from the eastern, central and southern zones of the country. Those who required hospitalization for operation or otherwise are admitted to the wards straight away or by appointment. Emergency cases are admitted to the wards through casualty. Patients with gynaecological malignancies requiring radiotherapy treatment are referred to this hospital from all over the country since we have the only radiotherapy unit in the country.

The gynaecological outpatients clinics are conducted four times a week, and there is also a once weekly infertility clinics. There are two gynaecological wards with a total of 70 beds. These wards are always overcrowded with some of patients being nursed on the floor. The main gynaecological problems are abortions, pelvic infections, uterine fibroids, ectopic pregnancy, urinary fistula and cervical cancer.

Evacuation of uterus for incomplete abortions is usually done in the minor theatre by the ward, under sedation, except for septic cases which are done in the major theatre under general anaesthesia.

B: SPECIAL PROCEDURES:

In the cases presented, the following procedures were performed as explained below, they will not be described again in individual cases, reference will be made to these special procedures where necessary.

1. URINE TESTING FOR GLYCOSURIA:

Clinistix reagent strips were used. This is a quick test and specific for glucose. The impregnated part of the strips is dipped into freshly voided urine in a clean container. It is then observed for one minute, and the presence of glucose is indicated by the colour change into blue. This test is not quantitative and is useful only as a screening procedure.

This is an enzyme test, the strip being impregnated with glucose oxidase, peroxidase and orthotolidine. In the presence of glucose oxidase, glucose is converted into gluconic acid and hydrogen peroxide. In the presence of peroxidase, hydrogen peroxide converts orthotolidine to the blue oxidized form, hence the blue colour.

2. URINE TESTING FOR PROTEINURIA:

This was done using albustix reagent strips. The test area of the reagent strip is made up of cellulose impregnanted with tetrabromophenol buffered to an acid pH. In the presence of protein, the yellow test area turn green.

The test area is dipped into fresh uncentrifuged urine in a clean container, colour change is compared to scale on the bottle containing the strips. The amount of protein in the urine is expressed in mg. of protein per 100mls. of urine. It is a quick test and hence capable of handling the many antenatal patients.

The amount of protein in the urine is expressed as follows:-

Trace	=	5 - 20 mgs./100mls.
1+	=	30mgs./100mls
2+	=	100mgs/100mls
3+	=	300mgs/100mls
4+	=	1000mgs/100mls

3. METHOD FOR VAGINAL EXAMINATION IN LABOUR:

The hands are thoroughly scrubed using a boiled brush and soap for five minutes in running water. A sterile disposable glove or rubber glove is put on the right hand. With the patient in the dorsal position, the vulva is swabbed as follows:- A sterile gauze swab soaked in a savlon solution 1:20 is picked with the right hand and handed to the left hand. The right side of the labia is swabbed once anteroposterioly. Another swab is picked

and the same procedure repeated for the left labia. The labia are then parted using the left hand, and the vaginal introitus is then swabbed once anteroposteriorly using a fresh swab. While still parting the labia, the index and the middle fingers of the right hand are dipped into chlorhexidine cream for lubrication, and gently introduced into the vagina.

4. METHOD FOR URETHRAL CATHETERIZATION:

Scrubbing of hands is done as described for vaginal examination, and sterile gloves are worn on both hands. The patient is placed in dorsal position with the thighs wide apart. The labia are cleaned as described before. The urethral meatus is swabbed once while separating the labia. A sterile urethral catheter held with sterile gauze is dipped into chlorhexidine cream and gently introduced into the urethra. Slight suprapubic pressure is applied to ensure complete emptying. The colour and the amount of urine is noted.

5. Episiotomy:

The J shaped posterolateral episiotomy was employed in all cases who required episiotomy. This was done after scrubbing and wearing sterile gloves. The vulva was cleaned as described before. As soon as the presenting part distends the perineum, the perineum is infiltrated with 1% lignocaine - Two fingers are inserted into the vagina, and the episiotomy performed between the two fingers using Mayos' Scissors, bleeding vessels are clamped and ligated using chromic catgut number 00. The repair of episiotomy is done in three layers as described in obstetric case No.2.

6. PREOPERATIVE PREPARATION FOR LAPARATOMY:

The patient is examined thoroughly and found fit for anaesthesia and Surgery. The patient is given a light meal on the day prior to operation, and she is not allowed to take anything by mouth after 10.00pm on the night prior to operation. Abdomen and perineal hair is shaved, and cleaned with water and soap, then painted with alcohol or flavin in water. A simple enema is given on the same night. Haemoglobin is estimated, urine is checked for glycosuria and proteinuria, blood pressure, pulse, temperature, and weight are checked and recorded. Consent for operation is signed. Injection atropine 0.6mg. intramuscularly is given half an hour before proceeding to theatre.

7. PREPARATION OF ABDOMINAL SKIN FOR LAPARATOMY:

The Surgeon was scrubbed and dressed ready for the operation. Then standing at distance from the operating table to avoid contact, two swabs on swab holders soaked in savlon solution 1:20 were used in turns. The whole of the abdominal skin from the breasts to the mons pubis and laterally to the flanks was cleaned starting from the middline and working laterally. The anterior parts of the thighs are also cleaned. The same procedure was repeated with swabs of savlon in 70% alcohol. The patient was covered with sterile towels exposing only the operation area. The towel covering the mons pubis and the thighs was mounted in McIntosh. The sterile towels were kept in place using clips.

8. PROCEDURE USED IN OPENING THE ABDOMEN:

A midline subumbilical incision was made reaching just above the symphisis pubis using a blade on a scapel.

The blade was then changed, and the incision deepened through the subcutaneous fat layer till the rectus sheath was exposed. The bleeding points were clamped with artery forceps and ligated with plain catgut No. 2/0. The rectus heath was incised longitudinally using a curved Mayo's scissors, and the medial edge of the rectus muscle exposed. It was then separated from the adjacent tissues exposing the extraperitoneal fat and the peritoneum. The peritoneum was picked near the upper end of the incision, and incised between two Spencer - Wells forceps, taking care not to injure the bowel-underneath. The incision was extended downwards taking care not to enter the bladder. Any bleeding vessesl were clamped and ligated.

9. PROCEDURE USED IN CLOSURE OF THE ABDOMEN:

In each case haemostasis was ascertained, abdominal cavity mobbed dry, and swabs and instruments count confirmed correct before starting to close the abdomen. The upper and lower ends of the peritoneum were picked with artery forceps. The peritoneum was closed using continuous chromic catgut No.0, everting the edges. The rectus sheath was closed using interrupted chromic catgut No.2. A round body needle was used for the peritoneum, and a trocher needle for the rectus sheath. The skin was sutured with interrupted silk No.0 on a cutting needle.

ANTE NATAL

M.F.C.W. 1 (Revised 1957)

Classification M.F.M. 27 or 28 (If in use)..... Registered No.....

Mother's Name..... Tribe..... Age.....

Husband's Name..... Occupation.....

Address..... Religion.....

No. of Previous Pregnancies:

Results: 1..... 5.....

2..... 6.....

3..... Over 6.....

4.....

PRESENT PREGNANCY

Last Menstrual Period..... Expected Date..... Date of 1st Exam..... Examined by.....

Height of Fundus..... Foetal Heart..... Position..... B.P..... Oedema.....

Breasts .....

Teeth .....

Heart .....

Lungs .....

Abdomen .....

Urine .....

Blood — Hb. — Serology

Date..... W.R. .....

Kahn .....

Group .....

Rh. .....

Vaginal Exam. ..... Date .....

Remarks ..... Examined by .....

Date	Oedema	B.P.	Fundus	Wt.	F.H.	Position	Urine	Remarks	Treatment	Seen by

NORMAL VERTEX DELIVERY IN A FIFTEEN YEAR OLD PRIMIGRAVIDA

NAME: MRS. R.J.

AGE: 15 years

DELIVERY NUMBER: 2591/m/82

TRIBE: MZARAMO

DATE OF DELIVERY: 9th March, 1982

DATE OF ADMISSION: 9th March, 1982

DATE OF DISCHARGE: 11th March, 1982

SUMMARY

The patient was booked to deliver at Muhimbili at risk labour ward on account of her age as a risk factor. She was admitted on 9th March, 1982, in a labour, and she had a normal delivery 8 hours after admission. Her preperium was normal and she was discharged on the second postdelivery day in good condition.

Obstetric History

This was her first pregnancy. Her last normal menstrual period had started on 4th June 1981, so her expected date of delivery was 11th March, 1982. She has had no vaginal bleeding during the antenatal period.

Gynaecological History

Her menarche was at 13 years. Her menstrual cycle are regular, with 3 - 4 days of flow every 28 - 30 days. She had no dysmenorrhoea.

Past Medical History: was not significant

Family History:

There was no family history of hypertension or diabetes mellitus, and there was no family history of twin pregnancies.

Social History:

She had not completed primary school education. She was married as a second wife to a husband who was a messenger with the Ministry of Education. She did not smoke cigarettes nor drink alcohol.

ANTENATAL CARE AND PROGRESS:

She booked for antenatal care in one of the peripheral clinics at 28 weeks of gestation. Examination at that time revealed that she was not pale, and she had no pedal oedema. Her height was 160cm and her weight was 58 kilograms. Her blood pressure was 120/80mm of mercury. Her cardiovascular system and respiratory systems were normal.

She had the following investigations done:

1. Her haemoglobin was 11 gms per decilitre
2. Her blood group was O Rhesus D positive
3. VDRL was negative
4. Urine was negative for sugar and protein

The antenatal card she was carrying showed that she had continued to attend antenatal clinic regularly her blood pressure remained normal; and her weight gain was adequate. Her haemoglobin at 36 weeks was 11.5 gms per decilitre. She had been on prophylactic ferrous sulphate, folic acid and chloroquine throughout her antenatal period. She had been advised to deliver at Muhimbili Hospital.

History on Admission

She was admitted at 8.00 a.m. on 9th March, 1982, with history of labour pains having started at home at 6.00 a.m. There was no history of vaginal bleeding, or drainage of liquor.

Physical Examination and Findings:

Her general condition was good, she was not pale, and was not dehydrated. She was afebrile. Her pulse was 86 per minute regular and normal volume. Her blood pressure was 120/80mm of mercury. The rest of the systems were normal.

The Examination of the Abdomen

The abdomen was uniformly distended and contractions were felt, coming every five minutes and lasting for 30 seconds. The fundal height was 36 weeks and it corresponded to the dates. The foetus was in longitudinal lie cephalic presentation, and as the position was right occipital anterior. The descent of the presenting part was four fifth ($^4/_5$). The foetal heart rate was 140 per minute and it was regular.

MUHIMBILI MEDICAL CENTRE

RECORD OF LABOUR

NUMBER Delivery no. 2591

Surname:

Other Names: MRS R T

Address: MAGOMENI - DSM

Age 15 YEARS

Tribe MZARAMO

ADMISSION DATE 9/3/82 TIME 8.00am BY WHOM

ADMISSION (Reason of admission etc.) Labour pains had started at home at 6.00am

FROM (HOME) / HOSPITAL TRANSFER / ANTE NATAL WARD / CLINIC

SUMMARY OF ANTE NATAL: NORMAL

ABNORMALITIES YOUNG PRIMIGRAVIDA

LMP 4.6.81 EDD: 11.3.82

OBSTETRIC HISTORY: Gravida: Para Living Children:

YEAR	COMPLICATIONS	METHOD	WT	ALIVE	YEAR	COMPLICATIONS	METHOD	WT	ALIVE
		P	R	I M					

EXAMINATION

General condition good

Temperature 36.5°C

Blood pressure 110/70 mm. of mercury

Oedema Nil

Urine: Protein Nil Acetone Nil

Height 160cm

Hb.- estimation of present -

last recorded A/N 11.5gms per decilitre

BLOOD GROUP: O POSITIVE

Fundal height 36/40

Size of fetus medium

Lie longitudinal

Presentation Cephalic

Fetal heart 140 per minute regular

Liquor: (Membranes intact)
Clear
Meconium stained

If membranes ruptured: Date -

Time -

INITIAL VAGINAL EXAMINATION AND PELVIC ASSESSMENT

Date 9.3.82 Time 9.00 am

Examiner S N M

Cervix: State Soft, thin, fully effaced

Dilatation 4cm

Presenting part Vertex

Level 4/5

Position ROA

Moulding Nil

Caput Nil

Membranes / Liquor Artificial rupture
Clear liquor drained

BONY PELVIS (cross out which does not apply)

Sacral promontory Not / Just / Easily reached

Sacral curve: Flat / Normal

Ischial spines: Prominent / Normal

Subpubic angle: Narrow / Normal

Sacral tuberosities: No. of knuckles 4

Summary adequate pelvis

Consultant's / Registrar's opinion
SVA expected.

RECORD OF LABOUR

SPECIAL INSTRUCTIONS

NAME R.J NUMBER: 2591 PARA 0 GRAV 1 DATE 9.3.82

FETAL HEART RATE

DURATION OF RUPTURE OF MEMBRANES ____ Hrs.

LIQUOR (I, C, M)
MOULDING

CERVIX DILATATION

Alert line

Action line

DURATION OF LABOUR ____ Hrs.

Hours
TIME 9.00 10 11 12 1 2 3 4 5

Delivered 4.20 pm

UP TO 20 SECS.
20 - 40 SECS.
MORE THAN 40 SECS.
CONTRACTIONS PER 10 MINUTES

DRUGS AND I.V. FLUIDS

Pethidine 100mg intramuscularly

Ergometrine 0.5mg intravenously

OXYTOCIC DROPS / MINUTE

PULSE	86		88		92	
BLOOD PRESSURE	110/70		110/70	120/70	120/70	
URINE PROTEIN	Nil					
URINE ACETONE	Nil			Nil		
URINE VOLUME						
TEMPERATURE	36.5°C			37°C		

CHILD

Date of birth 9.3.82 Time of birth 4.20 pm

METHOD OF DELIVERY SPONTANEOUS VERTEX DELIVERY

Weight 2.9 Kgm Sex: Female APGAR 9

Method of Resuscitation Suction

Post delivery blood pressure 120/70 mm. Hg

SUMMARY OF LABOUR:

First Stage: Duration ≅ 10 hours Second Stage: Duration 15 minutes

Third Stage: Duration 4 minutes Placenta and Membranes Complete

Blood Loss 200 cc Reasons for PPH -

Perineum Episiotomy Repair by SNM

Delivered by S.N.M Supervision by -

Reduce to A4 Size

Seven hours after the initial vaginal examination she was found to be fully dilated, and the presenting part had descended to the low cavity. Preparations for vaginal delivery were made urgently.

PREPARATION FOR VAGINAL DELIVERY

The delivery tray which was ready contained scissors for episiotomy, two sterile syringes and needles, one containing 5cc of 1% lignocaine, and the other one contained 0.5mgs ergometrine; two sterile clamps, needles and suturing material for repair of episiotomy.

DELIVERY:

The patient was put in dorsal position. The attendant already scrubbed and wearing a clean apron and sterile gloves, cleansed the vulva with savlon 1% solution in water. The patient was encouraged to bear down with each uterine contraction. As the perineum was bulging and stretching infront of the presenting part, it was infiltrated with 5cc of 1% lignocaine. Two fingers were inserted into the vagina to prevent injury to the baby while a -shaped posterolateral episiotomy was being made.

The delivery of the foetal head was then controlled, flexion was maintained by the right hand supporting the perineum, and extension of the head was allowed only when the occiput was clear of the symphisis pubis. There was no cord around the neck. The face was wiped with a sterile gauze,

Vaginal Examination: preparation as detailed in the introduction. The vulva and vagina were normal. The cervix was thin and fully effaced. It was 4cm dilated. The vertex was presenting. The membranes were intact so artificial rupture was done using a sterile Kochers forceps to speed up the first stage of labour. The liquor was clear. The position was right occiput anterior, and it was just above the level of the ischialspines. There was no caput formation. The pelvis was of normal size and shape as detailed on the labour chart attached.

Further management and progress of labour

The following observations were made during labour.

1. Auscultation of the foetal heart rate every 30 minutes during the first stage of labour.
2. Maternal pulse and blood pressure every two hours.
3. The strength and frequency of uterine contractions were checked every 30 minutes and they were getting progressively stronger and more frequent.
4. Descent of the foetal head was assessed by abdominal palpation in fifths above the pelvic brim.
5. Vaginal examination under sterile conditions every 4 hours.

The above observations and findings were charted on a modified Phillipoti labour chart attached. The contractions became more frequent coming every two minutes and lasting 50 - 60 seconds.

restitution then external rotation was performed. The shoulders were easily delivered by first traction downwards to free the anterior shoulder, then upwards. The rest of the baby was delivered gently. Mucus was sucked from the airways by an assistant before it took the first breath. Ergometrine 0.5mg was given intravenously, after delivery of the baby. The cord was doubly clamped and divided, and the baby whose APGAR score was 9 at one minute was wrapped with a sterile towel to keep it warm. The placenta and membranes were delivered completely by the Brandt-Andrew's method. The perineum and the vaginal walls were inspected and there were no tears or bruises. The uterus was opized to expel clots. The episotomy was repaired immediately.

PROCEDURE FOR REPAIR OF EPISOTOMY

With the patient still in dorsal position, the vulva was cleaned again with sterile gauze swabs soaked in savlon 1% in water. The repair of the episiotomy was done in 3 layers. First the vaginal mucosa was repaired with a continuous chromicised catgut No.0 starting from the apex of the incision towards the fourchette. Then the deeper tissue, including muscles were approximated with interrupted chromicised catgut No.0. Finally the perineal skin was repaired with interrupted stitches using the same suture material as for the other layers. The patient was cleaned, and a sterile vulva pad was applied. The total blood loss was 200 cc. The post delivery blood pressure was 120/70mm. of mercury, and the pulse was 92 per

minute regular and of normal volume.

THE INFANT

A female baby, weighed 2900 gm. She had no congenital malformations. The patient and her baby were transferred to the postantal ward after one hour observation in the labour ward.

POSTPARTUM MANAGEMENT AND PROGRESS

1. Her general condition remained good.
2. She was instructed to bathe her perineum with warm savlon in water twice daily to keep the episiotomy wound clean.
3. She was educated on childcare and on the importance of breast feeding.
4. The baby was given BCG vaccination while in the postantal ward.
5. She was discharged home on the second post-delivery, and she was instructed to comeback to the postantal clinic for checking of episiotomy ten days after discharge.

POSTNATAL FOLLOWUP

She was seen at the clinic ten days later; her general condition was good, and she had established statisfactory breast feeding. The uterus was equivalent to 10 weeks on abdominal palpation, and it was firm. She was discharging lochia alba, and was of normal amount. The episiotomy had already healed.

She was seen again six weeks after delivery, her general condition was good, she was not pale, her haemoglobin was 11 gms per decilitre. Vaginal examination revealed no discharge, the vulva and vagina were normal and the uterus was fully involuted. She was explained in detail on the importance of family planning, and advised on the methods. She was also advised to send her baby to the maternal and Child Health Clinic, where she would also get family planning services.

COMMENTARY

There is no universal agreement regarding the ideal age for the woman's first pregnancy. Lawson (6) recommends 18 years of age as the most desirable age for commencing child bearing while others regard anywhere between 20 and 24 years as most suitable.

In Tanzania 70% of primipara are younger than 20 years, and most first births occur between 16 and 17 years. Twenty percent of primigravidae delivering in this hospital are aged 15 years or below. We regard pregnancy below 16 years as high risk requiring specialised antepartum and intrapartum care. This is because studies have shown that teen age pregnancy is associated with a high incidence of anaemia, premature labour, pre-eclampsia and perinated deaths, and this is the picture here. During labour there is increased frequency of prolonged labour due to uterine dysfunction and

cephalo-pelvic disproportion. Accordingly this patient was booked for delivery at the high risk labour ward.

During the antenatal period, these complications should be looked for and corrected. These young primigravidae, are less likely to receive adequate prenatal care. It is not uncommon to see these young patients admitted in our labour ward, severely anaemic, or with severe eclampsia having fitted several times at home, and having had no antenatal care. This is a reflection of their low education and low social economic status, since it is in this group, where early marriage and early childbearing are common. In this group, ignorance on pregnancy and its possible complications, as well as on the advantages of antenatal care, prevails. Fortunately this patient had good antenatal care, and no complications occurred.

Increased incidence of pelvic contraction in this age group is thought to occur because the bony pelvis has not developed to its full capacity at the time of delivery. However, this is not universally agreed on, as most authors state that, the bony pelvis has more or less completely ossified by the age of puberty or shortly afterwards, and it has attained its maximum dimensions at that time. In a series of controlled studies, Clark and Hullin (2.5) found no evidence to confirm that the pelvis of the young adolescent was insufficiently developed to allow delivery of a term infant.

Cephalopelvic disproportion, however, is a common problem in our community in this age group. It is our policy to do a

clinical pelvimetry in these patients at 37 weeks. So that we detect those with gross pelvic contraction for elective caesarean section. This was not done in this patient as she was not referred early to our clinic. However disproportion in this patient was ruled out at the first vaginal examination in labour. She was managed actively in labour, by early rupture of membranes to accelerate the first stage of labour. Progress of labour was recorded in the partogram which would ensure early detection of poor progress. Her labour progress was normal and she developed no intrapartum complications.

The patient was accordingly advised on infant care, and the importance of breast feeding. It would have been desirable to keep her longer in hospital, but congestion in our postantal wards necessitated early discharge in the absence of serious complications. Jahnn (1975)(4) have pointed out that, for these very young patients a problem with serious consequences is that of recurring unplanned pregnancies. The likelihood of the very young patient completing another pregnancy 18 months after the initial one was more than twice as it is for her counterpart over 19 years. This patient was carefully explained on the importance of family planning, and a method was suggested.

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PREVIOUS LOWER SEGMENT CAESAREAN SECTION

TRIAL OF SCAR AND ASSISTED

VAGINAL DELIVERY

NAME: MRS. H.J.

AGE: 29 Years.

ADDRESS: Magomeni, Dar es Salaam.

DELIVERY NUMBER: 13,065.

DATE OF ADMISSION: 10th December, 1981.

DATE OF DELIVERY: 10th December, 1981.

DATE OF DISCHARGE: 12th December, 1981.

SUMMARY

This patient was booked for anatenatal care and delivery at Muhimbili high risk maternity unit because her second delivery had been by lower segment caesarean section. She had a normal anatenatal period, and was planned for a trial of scar. She went into spontaneous labour at term and had a normal vaginal delivery. Her puerperium was normal.

Present Obstetric History:

Her last normal mostrual period had started on 6th March, 1981, so her expected date of delivery was on the 14th December, 1981. She had not had any vaginal bleeding since conception.

Past Obstetric History:

She was gravida 4 Para 2 + 1. Her first pregnancy had ended as an abortion at three months. Evacuation of the uterus was done. In her second pregnancy which was in 1977, she was delivered by lower segment caesarean section, due to cord prolapse. There was no history suggestive of postoperative sepsis. She was discharged from hospital on the tenth post operative day in good condition. The baby weighed thre Kilograms. Her third pregnancy was in 1979 and she had a fullterm assisted vaginal delivery at Muhimbili Hospital. The weight of the baby was 3.05 kilograms. She had no postpartum complicatioms.

Gynaecological History:

Her menarche was at 15 years, her cycles were regular, with periods lasting four - five days every twenty eight days. She never used any contraceptives.

Past Medical History:

She has had no serious illness, in the past. She had had no other operations except the caesarean section which she had in 1979.

Social and Family History:

She was a primary school teacher who was married to a laboratory technician. She did not drink alcohol, nor smoke

cigarettes. There was no family history of Diabetes mellitus, or hypertension, and there was no family history of twin pregnancies.

Antenatal Care:

She booked for antenatal care at twenty weeks of gestation. She had felt foetal movements one week prior to booking.

Physical Examination at Booking:

Her general condition was good. She was not pale. She had no peripheral oedema. Her pulse was 80 per minute regular and of normal volume. Her blood pressure was 110/70 mm. of mercury. Her cardiovascular system, respiratory system and central nervous system revealed no abnormality.

Abdominal Examination:

The abdomen showed a mediam subumbilical surgical scar which had healed well. The liver and spleen were not palpable. There was no renal angle tenderness, and no scar tenderness. The fundal height was about 20 weeks of gestation and corresponded to the dates. Vaginal examination was done and revealed nothing abnormal.

Investigations:

Her height was 160 cms.

Her weight was 63 Kilograms.

Her urine was negative for protein and glucose.

Her blood group was A rherus D positive.

VDRL was negative.

Her haemoglobin was 11 gms. per decilitre.

Antenatal Progress and Plan for Delivery:

She made a total of eight subsequent visits to the antenatal clinic. Her blood pressure, haemoglobin, and weight gain were normal. She was put on prophylactic oral iron, folic acid and weekly chloroquine throughout her pregnancy. Her haemoglobin at 36 weeks was 11.5 gms per decilitre. At 36 weeks, a vaginal examination was done to asses the adequency of the bony pelvis.

Vaginal Examination:

The patient was put in dorsal position. The right hand was gloved, the vulva was swabbed with savlon 1:20 solution. The labia minora were separated with the left hand, and the introitus swabbed again. The index finger and middle finger of the right hand were lubricated with chlorhexidine obstetric cream. The middle finger was first introduced into the vaginal

introitus, and pushed the fourchette down posteriorly, the index finger was then gently introduced into the vagina.

Findings:

The sacral promontary could not be tipped at 11 centimetres. The true conjugate was therefore thought to be normal. The anterior surface of the sacrum was palpated and found to be smooth and well curved. The ischial spines were not prominent. The width of the sacral sciatic notch on each side was assesed by placing two fingers on the sacrospinous ligament, it accomodated two fingers. The pelvic walls were normal. The pelvic outlet was assesed. The sub pubic angle was normal. The intertuberous diameter was assessed by fitting four knuckles of the right hand, which was equivalent to 8 centimetres. The perineum was soft and stretchable.

The baby was of medium size and the head could easily be made to engage by the Munro Kerr's method. Thus the pelvis was clinically adequate for the baby. She was scheduled for a trial of scar. She was told to come to Muhimbili labour ward as soon as labour starts.

Labour and Outcome:

She was admitted on the 10th of December, 1981 at 5.00 p.m. with history of labour pains which started at home around 2.00 p.m. There was no history of vaginal bleeding.

Examination on Admission:

She was in pain, she was not pale, and had no pedal oedema. Her pulse was 84 per minute regular and of normal volume. Her blood pressure was 110/70 mm. of mercury. Her lung fields were clear.

Abdominal Examination:

The fundus was equivalent to 36 weeks of gastation. Regular uterine contractions were palpable, lasting 30 - 40 seconds every 4 - 5 minutes. The foetus was in longitudinal lie; cephalic presentation. The descent was thre fifths. There wasno scar tenderness. The foetal heart rate was 140 per minute, regular. Her urine was negative for protein and acetone.

Vaginal Examination:

(Procedure) As detailed under introduction.

Findings:

The vaginal walls were normal. The cervix was soft and fully effecxed; and it was four centimetres dilated. Membranes which were intact were artificially ruptured using a sterile Kocher's forceps, and clear liquor was drained. There was no cord prolapse. The vertex was presenting and it was at the level of the ischial spines. The position was left occiput

anterior. There was no moulding, nor caput formation.
The pelvic capacity was reassesed and was found to be adequate.

Management: Trial of scar was conducted as follows:

1. Blood was taken for crossmatching and one litre of group A rhesus D positive blood was reserved.
2. Abdominal and perireal hair was shaved.
3. She was to have nothing orally, so she was given an intravenous drip of 5 percent Dextrose solution.
4. Her pulse and blood pressure were recorded ½ hourly.
5. The foetal heart rate was recorded ½ hourly.
6. Urine was tested for protein and acetone two hourly.
7. Scar tenderness was checked ½ hourly.
   The partogram was used for observations as in obstetric case No. 1.
   She was nursed on her side through out labour. All parameters remained normal. She was given pethilofan 100 mg. intramuscularly at 6.00 a.m. She was reassesed four hours later at 9,00 p.m. She was found to be 8 centimetres dilated and the descent was one fifth. Progress of labour was satisfactory.
8. The second stage of labour was to be electively assisted so a vacuum excrator tray was kept ready; and the patient was transferred to a high bed.

Delivery:

At 10.00 p.m., the patient started feeling like bearing down. Contractions were lasting for 50 seconds, and coming at two minutes intervals. Vaginal examination showed a fully dilated cervix.

Preparation for Vacuum Extaction:

The patient was put in lithotomy position. The attendant was scrubbed and wore sterile gown and gloves. The perineum was cleaned with savlon 1:20 solution, and draped with sterile towels. The bladder was aseptically catherterized. The perineum was infiltrated with 10 mls. of 1 percent lignocaine.

The cup and rubber tube of the extractor were assembled and checked for leakage; there was no leakage. A five centimetre cup was applied on the foetal scalp, taking care not to include the cervix or the vaginal walls, by careful palpation around the rim of the cup. The electric pump was used to create a negative pressure in the system up to 0.2 Kgms per cm^2 squere centimetre (0.2 Kgms. per cm^2), and increased by 0.7 Kgms. per cm^2 was reached within three minutes. A finger was swept around the cup, each time, before increasing the pressure; there was no maternal tissue interposed between the cup and the head. A J - shaped postero-lateral episiotomy was made on the left side. The patient was encouraged to bear down with each uterine contraction. Traction on the foetal head was applied synchronously

with a uterine contraction in the direction of the birth canal. This was first downwards and forwards, then slowly changed upwards, following the descent of the head, and it was almost perpendicular at the crowning of the head.

The vacuum was released, and the cup removed as soon as the head was born, and delivery was completed in the usual manner. The baby was wiped and mucus was sucked from the airways its apgar score was 9 at one minute; Ergometrine 0.25 mg. was given intravenously after delivery of the baby, and the placenta and membranes were delivered complete by the Brandt-Andrew's method. There were no perineal or vaginal lacerations, so the episiotomy was repaired immediately after delivery of the placenta. The whole procedure took 20 minutes and the total blood loss was 200 mls. The lower segment was explored by two fingers, and the scar was found to be intact.

Pueperium:

The patient was kept under close observation in the labour ward for one hour. Her pulse and blood pressure were normal, and the uterus was well contracted. She was transferred to the postnatal ward where she was observed for a further twenty four hours. Her pulse and blood pressure remained normal. She was instructed to bath her perinum with warm savlon in water twice daily to keep the episiotomy wound clean. She was discharged home on the third post delivery day, and was instructed to have

her episiotomy wound checked at the nearest dispensary seven days after discharge. She was given an appointment to attend postnatal clinic six weeks post delivery.

Infant:

The baby was a male, weighing 3.3. kilograms at birth. He had no congenital malformations, and was already suckling at the time of discharge.

Postnatal Followup:

She was seen at the postnatal clinic six weeks later. Her general condition was good. She was not pale; and her blood pressure was 110/70 mm. of mercury.

Vaginal Examination:

The vulva and vagina were normal, the episiotomy had healed well. There was no more lochia discharge. The uterus was well involuted, and there were no adnexal masses. She was advised to attend family planning clinic at the nearest Maternal and Child Health Clinic.

Commentary:

In the absence of a recurrent indication for caesarean section, vaginal delivery in a subsequent pregnancy can be allowed. Because of its potential complications, labour has

to be very closely monitored and this is called Trial of Scar. The aim of the trial is to test if the scar will stand the stress of labour bearing in mind that scarred tissue does not stretch easily and so gets torn readily.

Rupture of the uterus is the most serious complication of attempted vaginal delivery in patients with previous lower segment scar. The risk of scar rupture can be reduced by proper selection of patients for trial, and vigiliant supervision during labour.

During the antenatal period, early booking should be advised, presence of anaemia looked for and corrected early. The indication for the operation as well as the type of operation whether lower segment or classical section should be established. Classical caesarean section is very rarely done nowadays due to the weak scar it leaves, which may easily give way even before labour. Previous records of this patient showed that she has had a lower segment caesarean section due to cord prolapse. The records also showed that she had no post operative sepsis, as this also predisposes to a weak scar.

Attempts have been made to study the intergrity of the scar with hysterography, and it is suggested that irregular deformities indicate poor healing and a weak scar; however such defects are also found in patients undergoing uneventiful vaginal delivery, so that such a finding is of limited significance. For this reason we do not undertake this investigation in our unit, so it was not done in this patient.

Before a trial of scar is contemplated, the capacity of the bony pelvis should be adequate beyond doubt; where there are doubts, an elective repeat section should be done, and no trial of labour is allowed. In this patient, a clinical pelivemetry was done at 36 weeks, and the pelvis was found to be adequate for the baby. A radiological pelvimetry was desirable, but could not be done. Its main place is in the confirmation of clinical findings. This is however not a routine investigation in our institution, so a clinical pelvimetry is relied on in almost all cases. The patient had no other adverse medical or present obstetric conditions such as hypertension, breech presentation, a poor obstetric history, which might constitute a further risk to her already precarious labour, in which case an elective repeat section would be done.

Admission to hospital one or two weeks before term is advocated in patients with a previous scar. The aim of this is to ensure instant treatment in the event of scar rupture. We do not practice this here because it is unnecessary as long as the patient is aware of the necessity to come to hospital early, and has the means, and we have shortage of Antenatal beds, which we reserve for patients whose admission is necessary.

Delivery should be in a hospital which is well equipped with staff and facilities for close monitoring, caesarean section and blood transfusion services. In our institution, trial of labour is frequently practiced in selected patients. With the

limited facilities and staff, labour is monitored as described, any deviation from normal curve, is considered seriously, and the trial abandoned in favour of a repeat caesarean section. The signs of impending rupture, the most important of which are a rising pulse, and scar tenderness are carefully checked to detect an accident of rupture before it occurs. The patient is therefore kept in readiness for an urgent caesarean section should the need arise.

Frequently we have shortage of staff, so that adequate observations as described may not be possible for all patients undergoing a trial, thus increasing the risk of rupture, but we do not feel that the risk is so high as to justify elective repeat caesarean section in all patients, as caesarean section in our environment is associated with high postoperative morbidity. The second stage of labour is electively shortened to avoid excessive and prolonged stretching of the lower segment, and the lower segment is explored at the end of the second stage to check the integrity of the scar.

The lower segment is weakened by repeat sections as well as repeat vaginal deliveries, so that the patient should be made to understand this. In a patient with more than one scar, the dictum "twice a caesarean section always a caesarean" should be adopted, although it is not uncommon to see patients with two previous scars, coming to the labour and delivering themselves without any complications.

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ANTEPARTUM HAEMORRHAGE DUE TO PLACENTA PRAEVIA AT 37 WEEKS OF PREGNANCY MANAGED BY LOWER SEGMENT CAESAREAN SECTION:

Name: Mrs. A. A.

Age : 37 Years

Address: Temeke Dar Es Salaam.

Delivery No. 7401/M/82

Date of Admission: 25th June, 1981

Date of Delivery: 25th June, 1981

Date of Discharge: 4th July, 1981.

SUMMARY:

The patient was admitted to the labour ward with history of painless vaginal bleeding at a gestation of 37 weeks. She was examined under anaesthesia and found to have placenta praevia. She was delivered by lower segment caesarean section and blood transfusion given. Her post operative period was uneventful. The mother and her infant were discharged home on the 9th postoperative day in good condition.

Present Obstetric History:

She had booked for antenatal care at Temeke antenatal clinic, at a gestation of 20 weeks. Her last normal menstrual period had started around early October 1980, so her expected date of delivery was mid July 1981. There was no history of vaginal bleeding during early pregnancy and she had no other problems.

Past Obstetric History:

She was para 5 - 0. All her pregnancies had ended as full term normal deliveries. Only two of herchildren were alive, the others had paediatric deaths. The last child was born in 1978. There was no history of postpartum complications.

Gynaecological History:

Her menarche was at 15 years, and her cycles were regular with 4 - 5 days of normal flow every 30 day. She has never used any contraceptive.

Past Medical History: was not significant.

The following investigations were done.

1) Urine was negative for protein and glucose
2) VDRL. was negative
3) Blood group was A rhesus D positive
4) Her haemoglobin was 10.5gms per decilitre.

Antenatal Progress:

She made four subsequent visits to the antenatal clinic, there was no abnormality detected. She was put on proplylactic chloroquine, ferrous suphate and folic acid throughout the antenatal period. Her last haemoglobin checked one week prior to admission was 10.8gm per decilitre.

History of Admission to the labour ward:

The patient had sudden onset of vaginal bleeding on the morning of the admission day; she had noted it as she woke out of bed, and as she was going to the bathroom she passed a few clots. The blood was bright red, and she estimated it to be approximately 1½ cup-fulls (200mls). She had no associated abdominal pain, and she was feeling foetal movements. Her micturation and bowel motions were normal; and there was no history of haematuria, constipation or rectal bleeding. This was the first episode of vaginal bleeding since conception. She denied history of recent coitus.

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Examination on Admission:

Her general condition was good, she was not pale, she had no oedema, and she was afebrile. Her pulse was 88 per minute, regular and of normal volume. Her blood pressure was 110/70 mm of mercury. Her heart size and heart sounds were normal, and her lung fields were clear.

Abdominal Examination:

The abdomen was uniformly distended, the liver and spleen were not palpable. The fundal height was equivalent to 36 weeks of gestation. The uterus was soft and non tender. The foetus was in the longitudinal lie; cephalic presentation, and the presenting part was above the brim. The foetal heart rate was 140 per minute, regular. The foetus was estimated to weigh 2.5kilogrammes. Inspection of the vulva and vagina prevealed no active bleeding. Digital examination was not done.

Impression was Antepartum haemorrhage, possibly due to placenta praevia. The plan of management was to prepare patient for examination under anaesthesia and delivery.

Pre-operative preparation:

1) An intravenous drip of Dextrose in saline was set to keep an open vein.
2) Blood was taken for crossmatching and 1.5 litre of group A rhesus D positive blood were requested.
3) The vulval and perineal hair was shaved.
4) Consent for operation was obtained. In view of her age and high parity tubal ligation was advised but she refused.

Operation: Examination under anaesthesia and lower Segment Caesarean Section:

Two separate trays had been prepared, one for vaginal examination and another for caesarean section, and an assistant and theatre nurse were scrubbed and gowned in readiness.

Anaesthesia:

Premedication was by intravenous 0.6mg atropine sulphate. Induction was by intravenous 250mg thiopentone sodium. Muscular relaxation was achieved by 40mg of intravenous suxamethonium bromide (brevidil). She was intubated and anaesthesia was maintained by oxygen and nitrous oxide.

Procedure and findings:

The patient was kept in lithotomy position. The vulva, perineum and inner parts of the thigh were cleaned with 1% chlorhexide and drapped with sterile towels. The bladder was aseptically catheterised. A Sims speculum was used to expose the vaginal walls and the cervix. The vaginal walls and the cervix were normal and there were no varisosities. There was a small trickle of blood from the cervix. The speculum was withdrawn. The middle and index finger of the right hand were gently introduced into the vagina along the lateral vaginal wall and the fornices were systematically palpated in order to detect the pressure of interposing structure, between the uterine wall, and the foetal head. An assistant applied fundal pressure to press down the foetal head into the pelvis. The foetal head was easily felt through the posterior, right lateral and anterior fornices, but not so through the left fornix. The os was about 1.5cm dilated and the index finger was gently inserted into the cervix. The placenta was felt, covering the anterior part on the left side and coming down as far as the internal os but was not covering it.

At this moment some bleeding ensued. The patient was quickly repositioned into the dorsal position. The surgeon immediately changed gloves and proceeded with caesarean section.

The abdomen was cleaned with 1% aquous chlorhexidine and painted with flavin in spirit 1:1000. Sterile drappings were applied to expose only the site of operation. The abdomen was opened in layers through a subumbilical median incision. With the help of a Doyen's retractor applied to the lower part of the incision. The lower uterine segment and the bladder were identified. Large veins were found over the lower uterine segment. The lateral sides of the uterus were packed with wet tailed abdominal packs held on artery forceps.

The loose utero-vesical peritoneum was picked up, and excised transvessely. The dilated veins over the lower segment of the uterus were doubly clamped and cut as the peritoneum was being incised. The veins were tied, and the bladder was gently stripped off by blunt dissection with gauze. A Doyen retractor held the bladder down while a transverse incision was made on the exposed lower segment carefully in order not to cut the placenta, curving upwards. The transverse incision was extended laterally with fingers, after identifying the plaue between the uterus and placenta, which was encoutered laterally to the left side. The membrane on the right side of the incision were punctured and the baby was

delivered without delay.

The head was delivered by passing fingers between it and the placenta, and the lowe segment of the uterus, and lifting it using fingers as a lever. The fundal pressure was applied and the foetal head delivered. The delivery of the body was completed gently. The cord was immediately clamped doubly and cut. The baby a female weighing 2.7 kilogrammes had an apgar score of 8 at one minute. Ergometrine 0.25mg was given intravenously after delivery of the baby, and the placenta which was on the left lateral aspect extending anteriorly was removed manually by gently separating it from the uterus digitally. Bleeding from the cut edge of the uterus, and the placental site was rather excessive. Greenarmitage clamps were used to temporarily arrest bleeding from the cut edges.

The uterine wound was closed in two layers using chromisized catgut No. 2, the first stitch in each case was placed beyond the edge to assure haemostasis, and the second layer burried the first layer. The lower segment of the uterus was peritonised using No. '0' chromic catgut. The uterus was gently squezed to expel clots. Total blood loss was approximately 800mls. The badominal packs and clots of blood were removed from the peritoneal cavity.

Both tubes and ovaries were normal. The abdomen was closed in layers after the instruments and swab counts were pronounced correct.

Sterile swabs on a sponge holder were used to remove clots from the vagina. The blood pressure immediately after the operation was 120/80mm of mercury, and the pulse was 92 per minute.

Infant:

A female baby weighing 2.7kilogrammes, it was examined for the presence of congenital malformations, which are commonly associated with placenta praevia. She had none. It was transferred to the neonatal ward for care.

Post Operative Care and Progress:

1) She was given 1 litre of group A rhesus D positive blood, soon after the i operation.
2) The blood pressure and pulse were checked hourly for 12 hours, then 4 hourly thereafter, they remained normal.
3) Pethidine 100mgs intramuscularly 6 hourly was given to relieve pain in the first 24 hours.
4) Intravenous Dextrose in saline 2.5 litres in 24 hours were given for the first 48 hours after which she was started on oral feeds.
5) Her temperature was checked every four hours and charted; it remained normal.

6) She was observed hourly for vaginal bleeding and no undue bleeding occured.

The patient made quick and uneventful recovery. After 48 hours, she was put on oral feeds and ambulated. She started breast feeding her infant. Her haemoglobin checked on the 4th postoperative day was 8.4 per decilitre. She was given oral iron and folic acid.

The stitches were removed on the 8th day postoperative day the wound had healed well. She was discharged home on the 9th post operative day and instructed to come for post natal check up six weeks later.

Postnatal followup six weeks after delivery:

She had her baby were in good condition. She was not pale, and her haemoglobin was 11.5 per decilitre.

Vaginal Examination:

The vulva and vaginal walls were normal, the cervix was healthy and had no discharge. The uterus was normal size and there were no adnexial masses. She was given advice on contraception, and she was educated on the importance of having early antenatal care and hospital delivery in her next pregnancy, in view of the scar or her uterus.

COMMENTARY:

This was a case of antepartum haemorrhage due to placenta praevia. The ectiology of placenta praevia is not known, but some of the predisposing factor include multipavity and advancing age, previous caesarean section and multiple pregnancy. The possible predisposing factors in this patient could be advancing age (35 years) and high parity.

There is an increase in perinatal mortality and morbidity rates in pregnancies with placenta praevia. Prematurity is the most important cause of foetal loss. Others are intrauterine hypoxia, congenital anomalies, and hazards of delivery. The policy of expectant management as advocated by Macafee (1945) has reduced the high foetal mortality due to prematurity which was present when a policy of early intervention was fashionable. He advanced the concept that, in the absence of vaginal or rectal manipulations, placenta praevia can be treated expectantly without increasing the maternal risks.

The objective of expectant management is to allow the pregnancy to continue in the foetal interest; delivery of the patient is undertaken when the foetus is considered viable. The treatment should only be

undertaken in a hospital where the patient is under constant observation, and where immediate active measures can be adopted if and when necessary. During expectant management, the patients general condition is checked, any existing anaemia is corrected and compatible blood is made available in the event of sudden haemorrhage. When the foetus is judged to be capable of surving, (37 weeks of gestation, and above 2.5kgms) further attempts to prolonged the pregnancy may be detrimental to both mother and foetus. We practice expectant management here, but the major shortcoming is unavailability of blood transfusion which puts a greater risk to the mother.

Placenta praevia usually presents for the first time after 30 weeks, but there may be a history of bleeding occuring before this, which is usually slight and stops spontaneously. This is known as the 'warning' haemorrhage. Bleeding occurs around this time because of the shearing stress from formation of the lower segment, it may also occur as a result of coitus causing trauma to the thin walls of the venous simuses of the placental bed in the lower segment.

This patient had no 'warning' bleeds, and she presented for the first time at 37 weeks. The diagnosis was confirmed by digital examination under anaesthesia. Placental localization by other methods such as ultrasound could not be done.

The double set up preparation before vaginal examination in theatre ensures prompt arrest of haemorrhage which is likely to be provoked by the manipulations by prompt delivery. In some cases it has been possible to do this examination with double set up without anaesthesia, but anaesthetist having everything in readiness for quick anaesthesia. This spares some patients unnecessary general anaesthesia.

Caesarean section is the best mode of delivery in all types of placenta praevia. Vaginal delivery can be allowed in minor degrees of placenta praevia (Type I), only if bleeding is not severe. Excessive bleeding is likely to be encountered during the operation because of torn dilated veins over the lower segment. This can be minimized by applying Gree Amytage Clamps to the cut edge, avoiding cutting through the placenta, and speed in suturing to achieve haemostasis. These measures were observed in this patient.

Postpartum haemorrhage is a serious complication in patients with placenta praevia. It may occur because of unsatisfactory contraction and retraction of the lower uterine segment after delivery. At operation, this can be controlled by temporary compression of the lower uterine segment; and placing haemostatic sutures. Infection is another possible complication because of the low placental site.

The major causes of maternal mortality in placenta praevia is haemorrhage and shock. Good antenatal care, prevention of anaemia, availability of blood transfussion, and better understanding of the management of shock and its complications, will greatly reduce maternal mortality and morbidity associated with placenta praevia.

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RETAINED PLACENTA: MANUAL REMOVAL UNDER GENERAL ANAETHESIA AND BLOOD TRANSFUSION:

NAME:	MRS. R.B.
AGE:	27 YEARS
DELIVERY NO.	IP NO. 5014/M/82
DATE OF ADMISSION	10th JUNE, 1982
DATE OF DELIVERY	10th JUNE, 1982
DATE OF DISCHARGE	15th JUNE, 1982

S U M M A R Y

The patient was referred from Ocean Road hospital on account of retained placent and postpartum haemorrhage. She was resuscitated with intravenous fluids and blood transfusion. The placenta was manually removed under general anaestheria. She was discharged home on the fourth postdelivery day in good condition.

HISTORY ON ADMISSION:

Labour had started at home at 4.00 a.m. on 10th June 1982. She was sent to Ocean Road hospital on the same day. She had a satisfactory progress of labour, and she delivered a normal male baby after eight hours of labour. She continued to bleed post delivery and attempts to deliver the placent at Ocean Road hospital had failed. She was referred to Muhimbili hospital where she arrived one hour after delivery, as a case of retained placenta with postpartum haemorrhage.

The blood loss was estimated to be 700 mls. She had been given intravenous ergometrine but the timing of administration was not stated on the referred note.

ANTENATAL CARE AND PROGRESS:

The antenatal card she carries howed that she had booked at Magomeni Antenatal clinic at a gestation of 28 weeks. Her last normal menstrual period had started on 6.9.81 so her expected date of delivery was 13.6.82. She had the following investigations done at the antenatal clinic

1. Urine was negative for sugar and protein
2. VDRL - was negative
3. Haemoglobin estimation was 11.5 gms. per decilitre at booking.
4. Blood group was A Rhesus D positive
5. Her blood pressure was 120/70 mm. of mercury at booking.

She had continued to attend antenatal clinic regularly until term. All the parametas remained normal. She had no history of vaginal bleeding in this preginancy and she had no oedema. Her haemoglobin checked at 36 weeks 11 gms/dl. She was booked to deliver at the Ocean Road hospital.

PAST OBSTETRIC HISTORY:

This was her third pregnancy. The previous pregnancies had ended with fullterm normal deliveries at Ocean Road hospital. She has had no history of third stage complications. Her last child was born two and half years ago.

GYNAECOLOGICAL HISTORY:

Her menarche was at fourteen years, followed by regular menstrual periods of four days duration in cycles of 28 days. she had never used contraception.

PASTMEDICAL HISTORY:

She had no history of chronic illnes, and has had no surgical operations.

FAMILY AND SOCIAL HISTORY:

There was no family history of diabetes mellitus, no hitory of hypertension and had no history of tuberculosis contact. She was a housewife, and the husband was a clerk with the Post Office. She did not smoke cigarettes. She drank alcohol occasionally.

PHYSICAL EXAMINATION ON ADMISSION:

She was in a fair general condition. She was moderately pale. Her pulse was 98 per minute, regular and of normal volume. Her blood pressure was 110/70 mm. of mercury. Her respirating system and central nervous system were unremarkable.

ABNOMINAL EXAMINATION:

The uterine fundus was at the level of the umbilicus, it felt firm and well contracted.

VAGINAL EXAMINATION:

There was no active bleeding. The umbilical cord was hanging out

of the vaginal introitus. Digital examination was not done.

INITIAL MANAGEMENT:

1- She had a drip running from Ocean Road hospital, which continued to run during the examination.

2- The urinary bladder was aseptically ctherterised and 200 mls. of cleat urine was obtained.

3- Intravenous ergometrine 0.25 mgs. was given, and an attempt was made to deliver the placenta by controlled cord traction (Brandt Andrew's method). In this method, the attendant stands on the right side of the patient. The left had is put on the uterus, with the plmar surfaces of the fingers applied on the anterior surface of the uterus at approximately the junction of the upper and lower uterine segment; pushing the uterus upwards and backwards. This has the effect of strightening the genital canal in line with the pull on the placenta. This manouvre failed, and it was decided to do manual removal of the placenta under general anaesthesia.

PREPARATION FOR MANUAL REMOVAL:

1- The intravenous drip of detrose in saline continued to run during the preparations.

2- Blood was taken for crossmatching and 1000 cc. of group A rhesus D positive blood were requested.

3- Consent was obtained for the operation

4- The vulval and perineal hair was shaved.

ANAESTHESIA:

Anaesthesia was induced by 250 mgs. of thiopentone sodium intravenously, and it was maintained by a mixture of Ether/nitrous Oxide and oxygen.

THE OPERATION: MANUAL REMOVAL OF THE PLACENTA:

The surgeon and assistant were scrubbed and dressed with sterile gown and gloves. The patient was put in lithotomy position. The vulva and the inner parts of the thighs were cleaned by an antiseptic sol solution, (1% chlorhexidine) and drapped with sterile towels. The abdomen was also covered with a sterile towel.

The umbilical cord which was clamped near the vulva was held by an assistant to keep it taut. The right hand, with its four fingers shaped into a cone, was introduced into the vagina and the cord was followed into the uterine cavity. A constriction ring was encountered at the juctioon of the upper and lower segment, but this was gently and slowly dilated with the intrauterine fingers shaped into a cone as the patient was adequately anaesthesized. The left had was kept over the abdominal wall all the time. to push the uterus down, and control the internal manipulations. When the lower border of the placental uterine juction was reached, the placenta was sheated form its attachment by a sawingmovement of the hand, using mainly the

ulnar border. The external had kept constant control of the fundus. Placental detachment was not difficult as most of the placenta had separated except for a small portion. Grasping movements of the fingers to remove the placenta were avoided, as the fingers could havefound their way into the uterine musculature.

When placental detachment was completed the placenta was withdrawn, by gentile traction on the cord using the left had, without withdrawing the internal hand, which remained to explore the uterine cavity for retained placental pieces or membranes; there were none. This avoided the dangers of introducing infection by taking the right hand out, to remove the placenta, and reintroducing it to explore the fundus.

The uterus was messaged to obtain a contraction, which was enhanced by intravenous orgometrine 0.25 mgs. The blood loss during the procedure was 350 cc. The vulva was swabbed clean and a clean sanitary pad was applied to the vulva.

POST OPERATIVE CARE:

1. She was observed for further bleeding while in the ward.
2. Her pulse and blood pressure were recorded hourly for 8 hours then 4 hourly.

3. She was transfused with 1000 cc. of group A positive blood.
4. She was kept on a four hourly temperature chart.
5. The colour and smell of her lochia were observed daily.

PROGRESS:

The had recovered from anaesthesia completely six hours later; her pulse and blood pressure remained normal. She started lactating on the third day post delivery. She showed no evidence of infection, as her pulse rate, temperature and lochia discharge remained normal. Her haemoglobin checked on the fourth day post delivery was 10 gm/dl. She was discharged on the ourth post-delivery day and she was given an appointment for postnatal follow up six weeks later.

THE INFANT:

An normal male baby, weighing 3.2 kilograms at birth. He was in good condition and was breast feeding well at the time of discharge.

POSTNATAL FOLLOW UP:

Her general condition was good. She was not pale, she had no more lochia discharge. The vulva and vagina, were normal, and the uterus was fully involuted. She had continued to breast feed her baby who was also in good health. She was given family planning advice and she was explained on the importance of having her next delivery in a hospital. Also advised on immunization of the baby.

COMMENTARY:

Retained placenta is a dengerous complication of the thirdstage of labour. Torrential, and at times fatal haemorrhage may occur. The placenta is usually delivered within 10-15 minutes of the birth of the baby in normal cases. It may be said to be retained if it has not been expelled within 30 minutes of the birth of the baby.

Uterine atony, formation of a constriction ring and moroid adherence of the placenta are the known actiological causes. An hour glass constriction ring forms at the junction of the upper and lower segment, and holds up a portially or completely separated placenta. In this patient it appears that the cause was the constriction ring. By far the commonest cause of this abnormality is meddlesome manipulation of the fundus in an attempt to hurry the thirdstage of labour. Messaging, pushing or squeezing, overstimulates the uterus, leading to partial separation of the placenta, formation of a constriction ring, and prevent expulsion of the placenta. It is not clear whether infact this was what was done with this patient, as she had delivered at another hospital.

When ergometrine has been given intravenously towards the end of the second stage of labour, it is not necessary to wait for the signs of placental separation before effecting its delivery, rathe the placenta should be delivered as soon as the cord has been clamped and divided. If these measures are not observed, a constriction ring may form and cause; placenta retention, is an uncommon cause;

However it could also have been the case in this patient. Educating the midwives on the proper management of the thirdstage of labour will prevent this accident from repeating itself in another patient.

A morbidly adherent placent may be a cause of placenta retention. In such cases, the trophoblast has penetrated through the decidual and is attached to the myometrium, (placenta accreta) or has penetrated the muscle fibres to a varying degree (placenta increta and percreta). This is however, and uncommon cause of placental retention; does not appear to have been the cause in this patient as the pacenta was easy to remove. In such cases removal may be impossible and total abdominal hysterectomy may be resorted to.

The mainstay of management of this condition has been clearly demostrated in this patient; prompt resuscitation with intravenous fluids followed by blood transfusion is mandatory. Preparations for manual removal of the placenta should be made without undue delay, to minimize further haemorrhage, shock and infection. In our set up however, the peripheral delivery units are not equipped for this procedure, so that, some patients come to our centre moribound. In a situation where haemorrhage is serve, and facilities for general anaesthesia are not at hand, the procedure could be done under light sedation with pathidine and valium in the

labourward, the patient in this case should be given antibiotics prophylactically as the aseptic conditions in this case would be far from ideal.

The manipulations in this case should be done gently to avoid trauma to the uterus and introduction of infection into the uterine cavity. In this patient the procedure was carried out in theatre under strict aseptic conditions, hence there was no need for prophylactic antibiotics. Her recovery was uneventful.

Most people agree that a patient with a previous history of retained placenta runs an appreciably greater risk of the same misfortune in subsequent deliveries. This patient was accordingly advised to have her future deliveries in a well equipped hospital, although it is unlikely for her to have the same problem if the cause of retention of placenta was mismanagement of the third stage, as it appears to have been the case with her.

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INTRAPARTUM ECLAMPSIA MANAGED BY INTRAVENOUS DIAZEPAM AND ASSISTED VAGINAL DELIVERY

Name:	Mrs. Z.M.
Age:	19 years
Address:	Buguruni, Dar es Salaam.
Date of Admission:	16th April, 1982
Date of Delivery:	16th April, 1982
Delivery Number:	4504
Date of discharge:	26th April, 1982

SUMMARY

The patient was admitted to Muhimbili labour ward at 10.00 a.m. with history of labour pains which had lasted five hours. She developed eclamptic fits on arrival to the labour ward. Her blood pressure was 160/100 mm of mercury, and she had heavy proteinuria. Her fits were controlled with intravenous diazepam (valium) and she was delivered by vacuum extraction four hours later.

Obstetric History:

She was a primigravida. She did not remember the exact date of her last normal menstrual period, but it was about mid July, 1981, so her expected date of

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delivery was about end of April, 1982. She had booked for antenatal care at Ilala Maternal and Child Health Clinic at the gestation of 24 weeks. She had felt foetal movements one week prior to booking. She had no vaginal bleeding since conception.

Gynaecological History: Menstrual Hx

Her menarche was at 14 years, her cycles were regular, with 4 - 5 days of menstrual flow every 28 days. She had no dysmenorrhoea, and had never used any contraceptives.

Past Medical History:

She had no serious illness in the past. She had no history suggestive of renal disease nor hypertension.

Family History:

There was no family history of hypertension or diabetes mellitus. There was no family history of twin pregnancies.

Social History:

She was a housewife, and had completed primary education. She did not drink alcohol nor smoke cigarettes.

Examination at Booking:

Her general condition was good, she was not pale, and she had no pedal oedema. Her pulse was 80 per minute, regular and of good volume. Her blood pressure was 110/70 mm

of mercury. Her heart size and heart sound were normal.

Abdominal Examination:

The abdomen was uniformly distended below the umbilicus, the liver and spleen were not palpalbly enlarged, and the renal angles were not tender. The fundal height was equivalent to 24 weeks of gestation and the foetal heart was heard.

She had the following investigations done:

1. Her height was 160 cm and the weight was 59 kilogrammes.
2. Her haemoglobin was 10.9 gm per decilitre
3. VDRL was negative
4. Urine was negative for glucose and protein
5. Her blood group was A rhesus D positive

Antenatal Progress:

She made seven subsequent visits to the antenatal clinic, there were no abnomalities detected. Her haemoglobin at 36 weeks was 11.5 gms per decilitre. Her blood pressure had ranged between 110/70 and 120/80 mm of mercury. Her weight gain was within normal limits. At her last visit which was one week prior to admission her weight was 69 kilogrammes. She had developed no oedema and her urine had remained negative for glucose and protein. She was booked to deliver at Ocean Road Hospital, but she decided to come to Muhimbili.

HISTORY ON ADMISSION

She was admitted to our labour ward on the 16th April, 1982 at 10.00 a.m. with history of labour pains having started at home at 5.00 am. There was no history of vaginal bleeding nor draining of liquor. She had vomitted once at home but had experienced no headache, blurred vision or epigastric pains. As she was being interviewed in our admission room, she developed an eclamptic fit which lasted for one minute.

The following measures were immediately instituted:

1. She was kept on her side, with her neck stretched to ensure a clear airway.
2. Diazepam (valium) 40 mg intravenously was given as a bolus, this controlled the fits, and she was adequately sedated. Valium 60 mg was put in a drip of 500 mls of 5% Dextrose to run at 30 drops per minute and maintained the sedation. Drip rate was to be regulated depending on the level of the sedation.

EXAMINATION OF THE PATIENT:

This was performed after the patient was adequately sedated.

FINDINGS:

Her general condition was fair, she looked puffy on the face, and had peripheral oedema,+ She was not pale and she was not cynosed. She was afebrile. Her pulse was 96 per minute, regular and of normal volume. Her blood pressure was 160/100 mm of mercury. Her heart size and heart sounds were normal, and there were no murmurs. Her lung fields were clinically clear.

Her pupils were normal size and reacting to light. Her neck was not stiff and kernig's sign was negative. Her reflexes were normal.

The abdomen:

It was uniformly distended. There were no tender areas over the abdomen. The liver and spleen were not palpably enlarged. The fundal height corresponded to a full term pregnancy. The lie was longitudinal and cephalic presentation. Descent was 3/5. The foetal heart rate was 144 per minute and it was regular. Contractions were palpated coming every 3 - 4 minutes, and lasting 50 seconds.

Vaginal Examination at 10.30 a.m.

Preparation as detailed in the introduction. The bladder was aseptically catheterized, using a soft Foleys catheter number 14, and 200 cc of clear urine was obtained.

The catheter was left in situ for accurate charting of urine output and determination of its protein content. It showed protein^{++} and no acetone nor sugar.

The vulva and vaginal walls were normal. The cervix was thin, fully effaced and it was 6 cm dilated, the membranes were artificially ruptured using a sterile Kocher's forceps and clear liquor was drained. The vertex was presenting and the position was left occiput anterior, it was at the level of the ischial spines. The bony pelvis was adequate for the baby, and vaginal delivery was anticipated within 5-6 hours.

FURTHER MANAGEMENT AND PROGRESS IN LABOUR

1. She was transferred to the intensive care unit.
2. She was nursed in a semiprove position with the foot of the bed slightly raised to ensure drainage of bronchial secretion. A suction machine was available to assist in suction of secretions as necessary.
3. No oral feeds were allowed till the patient was conscious enough to drink from a cup herself. Oxygen was readily available at bed side.

The following observation and chartings were made

1. Pulse, blood pressure and respiratory rate half hourly.
2. Foetal heart rate half hourly
3. Maternal temperature every two hours

4. Urine output was recorded every hour; and the urine was tested for protein and acetone every two hours.
5. The progress of labour was monitored as prescribed in obstetric case no (1) and the findings were entered on a partogram
6. Blood was taken for urea, creatinine and serum electiolyte estimation
7. A second of fits, duration and frequency if they occured.
8. She was to have assisted second stage labour so the vacuum exatractor tray and the delivery tray were kept ready
9. Ampicillin 250 mg intramuscullarly was given every every six hours
10. Pupils were checked for equality and reaction to light.
11. Maternal knee reflexes were checked as a guide to amount of sedation

The blood pressure settled at 140/90 mm of mercury after sedation, and the progress of labour was satisfactory.

Re-assessment at 2.00 p.m.

She was reassessed vaginally at 2.00 p.m. She was found to be fully dilated and the presenting part was in the low cavity. Preparation for vacuum delivery were made

as for obstetric case No.2

Valium 20 mgs intravenously was given to deepen the sedation. The perineum was infiltrated with 10 mls of 1% lignocaine before application of vacuum cup. A J shaped posterolateral episiotomy was made as described in the introduction. Traction on the vacuum was applied synchronously with uterine contractions, in the direction of the birth canal. This procedure has been described in obstetric case no.2.

A male baby was delivered, its face wiped and mucus was extracted from airway. The cord was doubly clamped and divided. Apgar score of the baby at one minute was 8. The second stage of labour lasted 15 minutes. Signs of placental separation were awaited, and the placenta and mebranes were delivered complete by Brandt-Andrew's method. Ergometrine was not given. The episiotomy was repaired immediately. The uterus was gently squeezed to expel clots. Total blood loss was 200 mls; mainly from the episiotomy. She was heavily sedated at the end of the third stage so no more sedation was given. Post delivery blood pressure was 140/95 mm of mercury.

POSTPARTUM CARE AND PROGRESS

1. The infant weighed 2.85 kilogrammes. It was transferred to the neonatal intensive care unit.

2. Intensive observations in the mother were continued continued. Her blood pressure six hours after delivery was 120/80 mm of mercury and remained normal. She was afebrile during the pereperium.

3. Sedation with valium was continued for 2 hours after delivery and wass stopped, since her blood pressure was normal. She was maintained on phenobartritone 60 mgs three times a day orally during the following 24 hours.

4. Fluid intake was maintained with 5% Dextrose solution, at a rate of 1.5 litres in 24 hours. 50 mls of 50% dextrose were injected into the tubing every six hours, to ensure adequate caloric intake.

5. Episiotomy wound was cleaned three times daily with warm savlon in water solution.

6. On the 3rd post delivery day, her blood pressure had remained 120/80 mm of mercury, her pulse was 80 per minute regular and normal volume; and her lung fields were clear. No more fits occured. She was transferred to the postnatal ward for further observations and the following investigations were done:

i) Her haemoglobin was 10.8 gms per decilitre

ii) Midstream urine for analysis and bacterial culture

was done. There were no casts or cells; and culture revealed no pathogens. The specific gravity of the urine was 1020. Urine was tested for protein four hourly.

iii) Her blood urea was 13 gms per 100 mls of blood; and serum creatinine was 0.8 mgs per 100 mls of blood. Serum electrolytes were normal.

Ampicillin 250 mgs orally every six hours was continued up to seven days post delivery. Her blood pressure remained normal and proteinuria had cleared completely on the 5th postpartum day. Her temperature was normal and lactation was well established. She showed no signs of residual brain damage such as hemiplegia.

On the tenth postdelivery day, she was discharged home. Her episiotomy wound had healed well, and she was given an appointment to come to our postnatal clinic six weeks later.

POSTNATAL FOLLOWUP

She was seen at our postnatal clinic six weeks later. Her general condition was good. She was not pale, her blood pressure was 120/80 mm of mercury. Her heart size and heart sounds were normal, and there were no murmurs. The vulva

and vagina were normal. The cervix was normal, and there were no more lochia discharge. The uterus was fully involuted, and there were no adnexal masses.

Hder Her haemoglobin was 11.5 gms per decilitre and urine was negative for protein and glucose. The infant was in good condition. She was breastfeeding him and its weight gain was satisfactory. She was advised on family planning methods, and she was educated on what her problem had been and was advised to book early for antenatal care in her next pregnancy.

COMMENTARY

Eclampsia is a serious obstetric emergency demanding energetic and skilled management. It is a very common problem in Dar es Salaam. In Muhimbili Medical Centre, severe EPH gestosis and Eclampsia was the most important single cause of maternal deaths in the year 1974-77 (6) and it is the second highest case of or associated factor in foetal losses (3).

The management essentially consists of first aid measures, that is maintenance of a clear airway control of fits and blood pressure and delivery of the patient as soon as this had been achieved, by the safest method.

Control of fits is usually achieved by anticonvulsants and sedatives, the commonest being Magnesium sulphate, barbiturates, lytic cocktail, herminevrin and diazepam . In cases of severe uncontrollable fits, thipentone and muscle relaxants have been used, and intermittent positive pressure ventilation carried out.

On should choose one agent for control of fits and not several, this will lessen the risk of foetal and newborn depression as most of these agents cross the placenta. Magnesium sulphate when administered to the mother for the treatment of eclampsia it does not cause toxic effect to the foetus or the newborn, and it is preferred in many centres notably the United States. Prichard (1975) has reported on its successful use in the management of 156 consequtive cases of Eclampsia without any maternal death. It is easily administered, it is a very effective central depressant and reducess neuromuscular irritability. Careful control of dosage is essential if severe respiratory depression in the mother is to be avoided.

Diazepam was used in this patient because it is the drug that is readily available. It is an effective anticonvulsant with a safe margin. However, large doses of diazepam, especially if given to the mother over a long

period, have been shown to affect the newborn adversely, causing the 'floppy baby' syndrome which is characterized by hypotonia, hypothermia, and difficulties in suckling. The administration of valium in the acute situation does not appear to carry the cumulative consequences of long-term therapy (5), and this is our experience here as we rarely see significant hypotonia in the infants delivered from mothers treated with diazepam, despite the high doses, that most of our patients require for effective control of fits. Lyetic cocktail is another drug commonly used in our centre, because it is readily available. It has run out of favour in other places because it causes respiratory depression in the newborn; the phenothiazine component may cause further damage to the already damaged liver, and the control of fits is inadequate.

When hypertension is severe, such as a diastolic blood pressure of 110 or above, we prefer to use hydrallazine to control the blood pressure. It was not used in this patient because the blood pressure was not life threatening. Hydrallazine reduces the blood pressure without affecting the uteroplacental blood flow.

It is important to keep the patient heavily sedated, before procedures such as catheterisation pelvic examination

or delivery. Sedation and antihypertensive therapy should be repeated as frequently as is necessary to avoid recurrent fits. Sedation is maintained for at least 24 hours and gradually tappered off thereafter.

Nursing care of eclamptics is of utmost importance, the patient should be nursed on her side, and the airway kept clear. Nursing eclamptic patients in a darkroom is traditional. But we have avoided this in our centre, because it makes it difficult to make accurate observations on the patient. We however ensure absolute quietness, and avoid any other source of unnecessary stinuli. For this reason, these patients are nursed in an intensive care unit.

As a matter of policy, delivery should take place within 6-8 hours of the first fit. This gives time for adequate sedation and resuscitative measures to be done. Where the cervix is unfavourable, abdominal delivery should be resorted to. This patient was in established labour, and vaginal delivery seemed possible within the next 4-5 hours. She had no other obstetric complications, so labour was allowed to progress, the progress of labour was charted on a partogram, so that any abnormality in the progress could easily be detected and necessary action taken. Sufficient sedation was maintained throughout labour and the second stage was assisted so as to avoid recurrence of fits.

A careful watch was kept during labour and puerperium for onset of complications such as acute renal failure, cardiac failure, and hyperpyrexia. Eclamptic fits could still occur during the first 48 hours, so careful observation was carried out over this period.

In most cases eclampsia is proceeded by premonitory signs of preeclampsia, although in some case, fulminating eclampsia occurs. If pre-eclampsia is detectede early, and appropriate treatment instituted, occurence of eclampsia can be prevented. For this reason pregnant mothers should be encouraged to book for antenatal care early in pregnancy. At the clinic blood pressure, weight and urine analysis should be checked regularly, and a rapid weight gain (signifying excessive oedema) are detected early and apropriate medical treatment is given to prevent progression of preeclampsia to eclampsia. The 'Roll-over' test and Angiotension 11 pressor response (Grant et al 1974) (2) are the two screening techniques that have been shown to enable identification of a future pre-eclamptic as early as three months before the appearance of preeclamptic signs. Such early identification of the gravida at risk would allow action to be taken earlier, that may delay the onset of the disease or modify its severity.

High risk screening of our patients is done at peripheral clinics by paramedical personnel, so it is not possible to employ these screening tests here; so for the time being we have to emphasize on the early detection of signs of preeclampsia.

The pathogenesis of preeclampsia is still not well known. Local studies here have indicated that the condition is common in the young primigravida and has an interesting geographical distribution; the incidence being significantly higher in the coastal belt, and decreasing as you go further interior. The explanation forthis is not clear. But dietary habits, climate, social economic, and genetical factors have been suggested as positive factors.

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CORD PROLAPSE DELIVERED BY LOWER SEGMENT CAESAREAN SECTION

NAME:	Z.T.
AGE:	27 Years
ADDRESS:	Mtoni, Dar es Salaam
DELIVERY NUMBER:	6038
DATE OF ADMISSION:	11th May, 1982
DATE OF DELIVERY:	11th May, 1982
DATE OF DISCHARGE:	18th May, 1982

SUMMARY

This patient was admitted in early labour. She had spontaneous rupture of membranes which was followed by prolapse of the umbilical cord. She was put in knee chest position, and quickly prepared for a caesarean section which was done within 25 minutes. A female baby with a one minute apgar score of 7 was delivered. The post operative period was uneventful and the mother and the baby were discharged home in good condition on the 8th postoperative day.

Present Obstetric History:

Her last normal menstrual period had started on 1st August, 1981. The expected date of delivery was 8th May, 1982. She had

booked for antenatal care at one of the peripheral clinic at a gestation of 28 weeks.

At booking her general condition was good. She was not pale, and she had no oedema. The rest of the systems were normal. Her blood pressure was 110/70 mm. of mercury. The following investigations were done:

1. Haemoglobin was 12 gms. per decilitre.
2. Her height was 160 cms. and her weight was 62 kilograms.
3. VARL was negative.
4. Her blood group was O rhesus D and positive.
5. Urine was negative for protein and glucose.

Past Obstetric History:

She was gravida 4 para 3. All her deliveries were full term and normal. The last delivery was in 1979.

Gynaecological History:

Her menarche was at 13 years of age, her cycles were regular, lasting 28 days with periods of 4 days, normal flow and had normal flow of 4 days every 28 days. She had been using barrier methods of contraception.

Family History:

There was no history of Hypertension, Diabetes mellitus or twin deliveries.

Social History:

She was a house wife. She had completed primary education. She neither drank alcohol nor smoked cigarettes.

Antenatal Progress:

She made six subsequent visits to the antenatal clinic. All the prenatal parameters remained normal. There were no episodes of vaginal bleeding or discharge. Her haemoglobin at 36 weeks was 11.5 gms. per decilitre.

History of Admission:

She was admitted on 11th May, 1982 at 9.00 a.m. with a history of labour pains which had lasted 5 hours. There was no history of vaginal bleeding or drainage of liquor. There was no history of fever or dysuria.

She had spontaneous rupture of mebranes as she was being admitted to the labour ward.

Physical Examination:

Her general condition was good. She was not pale and she had no peripheral oedema.

Cardiovascular System:

Her pulse rate was 72 per minute; regular and of normal volume. Her blood pressure was 120/80 mm. of mercury. The

heart was of normal size, and the heart sounds were normal. There was no murmurs.

Respiratory System: The lung field were clear

Abdomen:

The abdomen was uniformly enlarged. The liver and spleen were not palpable, and the renal angles were not tender. The fundal height was equivalent to a fullterm pregnancy. The lie was longitudinal, the presentation was cephalic. The foetal back was on the right side of the mother, and the decent was $\frac{5}{5}$. The foetus was medium size (3 kgms). Contractions were felt coming every 4 - 5 minutes and lasting 30 - 40 seconds. The foetal heart rate was irregular and ranged from 110 - 135 per minute.

Vaginal Examination:

Preparations were made as detailed in the introduction.

Findings:

The vulva was covered by liquor stained with fresh meconium. The vaginal walls were normal. Digital examination revealed an umbilical cord coiled in the vagina, and it was pulsating. The cervix was 4 cm. dilated. The hand was gently passed over the cord, and pushed up the presenting part to avoid pressure on the presenting part. The patient was put in

the knee chest position.

Plan of Management: Emergency caesarean section

Preparations for caesarean section were made quickly. Blood was taken for crossmatching and 1000 mls of group O rherus positive blood were requested. The patient was rushed to the theatre within 20 minutes. She was kept in knee chest position all the time, except during preparation for the operation when she was put in Trendelenburgs position and a hand was kept in the vagina to lift and maintain the presenting part away from the brim.

Operation: Lower Segment Caesareans Section Preparation

With the patient in Trendelenburg's position, the abdomen was prepared and draped as described for obstetric case No. 3 after the bladder had been asceptically catheterised.

Anaesthesia: was given as for obstetric case No. 3. The foetal heart rate was 105 per minute before the operation.

Procedure:

The abdomen was opened in layers via a subumbilical median incision. With the help of a Doyen's retractor, the lower uterine segment and the bladder were identified. Abdominal packs, soaked in warm saline solution were placed

on both sides of the uterus to prevent any spill of the amniotic fluid and blood, and the tails of the packs were held with artery forceps kept outside the abdomen.

The loose utero-vesical fold of peritoreun was picked up with dissecting forceps and incised transversely curving upwards. With finger dessection, the loose areola tissue and the bladder were gently separated from the anterior aspect of the uterus and pushed downwards, for a distance of 3 - 4 cm. The bladder was held away from the denuded area using a Doyen's retractor.

A transverse incision was made through the anterior uterine wall about 1 cm. below the peritorial incision and extended laterally superficially in a cresent shaped path. It was deepened in the midline carefully to avoid injuring the baby, till the membranes were reached. The index fingers were introduced into the incision, and it was extended laterally, curving upwards so as to avoid major branches of the uterine vessels. The membranes were ruptured. An assistant applied sunction to suck off the amniotic fluid, while the right hand was introduced through the incision, and passed between the head of the baby and the uterine wall of the lower segment. The foetal head was lifted out of the uterus with the help of gentle fundal pressure, the baby was delivered through the incision, occiput first. The face was cleaned with sterile swabs, and an assistant extracted mucus from its oral pharynx.

The rest of the baby's body was gently delivered. The cord was doubly clamped and divided, and the baby was handed to an assistant. Its apgar score at one minute was 7.

Ergometrine 0.25 mgs. intravenously was given after delivery of the baby. The placenta and mebranes were delivered manually.

The cut edges of the uterine wall and the corners were held with green - Aimitage clamps. Using chromised catgut No. 2, the first suture was applied beyond the edge on each corner of the incision, after tying the sutures were left long, to function as lifting sutures and facilitate exposure, these were cut after peritonisation was completed. The uterus was repaired in two layers using a continuous suture of chromic catgut No. 2. The first layer included the entire thickness of themyometrium except the endometrium. The second layer of continuous suture burried the first layer. The endometrium was cleaned of all clots and blood before completion of the first layer. Reperitonisation was done using continuous suture of chromic catgut No. 0, in such a manner as to invert the cut edges. The uterus was then gently massaged and squeezed to expel blood clots. It was firmly contracted.

The tubes and ovaries were inspected and found to be normal. The peritoreal cavity was mopped to remove all blood clots. The abdomen was closed in layers in the manner described in the introduction after ascertaining correct instrument and

swab count. The wound was covered with a piece of sterile gauze.

The patient was put in dorsal position and sterile gauze swabs held in sponge holding forceps were used to remove clots from the vagina, and the perineum was wiped dry. Total blood loss was approximately 500 mls. At the end of the operation her blood pressure was 110/70 mm. of mercury and her pulse was 90 per minute regular and of normal volume.

Post Operative Care and Progress:

1. Her pulse, blood pressure and respiratory rate were checked evry ½ hour for four hours. Then hourly for six hours, and 4 hourly there after. These parameters remained normal.
2. She was transfused with 500 mls of group O rhesus D positive blood, thereafter she continued with a drip of dextrose 5% at a rate of 2 litres in 24 hours.
3. Urine output was monitored and it was 900 mls in the first 24 hours and the urethral catherter was removed.
4. She was observed for vaginal bleeding and no undue bleeding occurred.
5. A four hourly temperature chart was kept, and her temperature remained normal throughout the puerperium.

She made a smooth recovery without any complications. 36 hours after the operation the intravenous drip was discontinued and she was ambulated. The abdominal wound was

frequently checked and it remained dry.

Her haemoglobin checked on the 4th postoperative day was 10.8gms per decilitre.

Infant:

It was a female baby weighing 3.15 kilogrammes. The apgar score at one minute was 7, and it was 10 at 5 minutes. It had no congenital anomalies. It started breast feeding 48 hours after delivery.

On the 8th day, the stitches were removed, the wound was clean and dry. She was discharged home in good condition and instructed to come to postnatal clinic after six weeks.

Followup six weeks later:

Her general condition was good. She was not pale. Her blood pressure was 110/70 mm. of mercury, and her haemoglobin was 11 gms. per decilitre. The abdominal wound was clean and dry; vaginal examination revealed, normal vulva, and vaginal walls, and a healthy cervix with no discharge. The uterus was normal size, and there were no adnexal masses. Her infant was healthy, and had gained weight satisfactorily.

She was advised to attend the family planning clinic, and was explained on the importance of early antenatal care, and hospital delivery in view of the scar on her uterus.

Commentary:

A case of cord prolapse in labour has been presented. This obstetric emergency occurs approximately one in 200 - 400 deliveries (1,2). The diagnosis is made when membranes rupture and the cord can be seen or felt in the vagina or outside the vulva. Before the membranes rupture of forelying cord, can be felt as a pulsating structure through the intact membranes. This is not always easy as it can be confused with pulsating arteries in the fornices or velementees umbilical vessels. Where the cord lies alongside the presenting part, but cannot be felt on vaginal palpation, the situation is referred to as occult prolapse. Where continuous electronic foetal monitoring in labour is used, occult proplapse or cord prolapse should be suspected when the foetal heart tones become irregular, with variable decceleration patterns.

In a normal cephalic presentation, the presenting part is well applied to the lower segment, and there is no room for the cord to slip down. Any factor that causes maladaptation of the presenting part to the lower uterine segment, or prevents engagement of the head will favour prolapse. Factors favour prolapse include, cephalopelvic disproportion or a distorting tumour, malposition and malpresentations, multiple pregnancy, polyhydramnios and excessively long cord.

Once a diagnosis is made, and the cord is still pulsating, immediate measures should be instituted to relieve compression

on the cord, followed by prompt delivery. This can be achieved by placing the patient in the Tendelenburg's position and a hand placed in the vagina to manually displace the head from the pelvis while preparation are being made for delivery as was done in this patient.

The mode of delivery depends on the degree of cervical dilatation. Immediate vaginal delivery should be accomplished by forceps or ventouse, when the cervix is fully dilated, the presentation is dephalic and there is no disproportion. When the cervix is unfavourable, emergency caesarean section should be done. While the preparations are being made, the above measures to alieve compression on the cord are observed as it was done in this patient until the operation is begun. Before the operation is commenced, the foetal heart is asculated to ascertain that the foetal is still alive.

The time interval between cord prolapse and delivery is crucial for survival of the foetus. The methods used to reduce pressure on the cord are insufficient as the uterine contractions continue to push the head against the cord. For this reason some authors recommend methods to inhibit uterine contractions together with the above measures. Vago et al. (6) utilized bladder distension. As soon as cord prolapse was diagnosed, the bladder of the patient is filled with 500 - 700 mls of saline solution via a catheter. A full bladder reflexely inhibiting uterine contractions. Recently Katz et al (4)

utilized Vago's method and use of a tocolytic agent to stop uterine contractions and prevent pressure on the cord. They had no foetal deaths among 12 cases thus treated, and the apgar score were between 7 and 10. The advantage sited for the combined bladder filling and tocolysis is that the foetal survival is no longer compromised by the diagnosis delivery interval as long as the cord remains within the vagina. the preparations for delivery are then made without much haste. It is especially useful, where the patient has to be transferred to a different building or hospital for delivery.

Savage et al (5) reported a case fatality rate in cord prolapse of 26%. In our centre cord accident contributes highly to the perinatal mortality. The case fatality rate for cord prolapse was 74% in the year 1979 - 80 (3). Foetal salvage can be improved by earlier detection of the accident by frequent vaginal examination, especially in the high risk situation. The patients should also be educated to report rupture of membranes promptly.

When cord presentation is detected, the foetus is in danger even though the membranes are still intact (1,2), so delivery should be accomplished by emergency caesarean section.

In cases of preterm foetus, consideration should be made regarding its chances of extrauterine survival, before subjecting the mother to operative delivery. If the foetus is dead at the time of diagnosis, labour should be followed to continue and delivery accomplished vaginally.

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RUPTURED UTERUS:

REPAIR AND TUBAL STERILISATION :

Name: Mrs. A. S.

Age: 29 Years

Address: Mlandizi

Delivery Number: 7008

Date of Admission: 18th June, 1982.

Date of Operation: 18th June, 1982

Date of Discharge: 2nd July, 1982.

SUMMARY:

Mrs. A. S. was a 29 years old gravida 6 para 5, who was referred from Kibaha Health Centre a suspected uterine rupture in labour. At Muhimbili the same diagnosis was entertained and the diagnosis confirmed. Repair of the uterine tear, and bilateral tubal ligation was done. The post operative period was complicated by wound sepsis. She was discharged home on the 14th postoperative day in good condition.

Present Obstetric History:

She had booked for antenatal care at Mlandizi maternal and Childhealth clinic, at the gestation of 24 weeks. Her last menstrual period had started around early September, 1981, so her expected date of delivery was around mid June, 1982.

She had felt foetal movements three weeks prior to booking. She has had no vaginal bleeding since conception.

Past Obstetric History:

She was gravida 6 para 5. All her deliveries were full-term and normal. The first two deliveries were at home; while the last three took place at Kibaha health centre. She had no antepartum nor intrapartum complications. She did not remember the weight of her babies. The last hild was born in 1979. She had never used contraceptives.

Gynaecological History:

Menarche was at 14 years, and she has had normal menstrual cycles with 3 - 4 days of flow every 28 days. She had no history of operations; and she has had no diagnostic curettage.

Past Medical History: - was not significant.

Family and Social history:

She was a housewife; She has had no formal education. Her husband was unemployed. She did not smoke cigarattes nor drink alcohol.

Examination at booking:

Her general condition was good. She was not pale, and she had no pedal oedema. Her blood pressure was 110/70mm of mercury, and her haemoglobin was 10.8gms per decilitre. Her height was 148cms. and her weight was 58.5 kilogrammes.

The liver and spleen were not palpably enlarged, and the renal angles were not tender. The fundal height was 24 weeks and it corresponded to the dates. The rest of the systems were normal.
The following investigations were done:

1) Urine was negative for protein and glucose
2) VDRL was negative
3) Her blood group was B rhesus D positive
4) Her haemoglobin was 10.8gms per decilitre.

Antenatal progress:

She made six subsequent visits to the antenatal clinic. All penatal parameters were normal. The last visit was on the 14th June, 1982 and she was booked for delivery at Kibaha Health Centre.

History on admission to the labour ward.

The following history was obtained on admission to the labour ward on 18th June, 1982 at 11.00am.

Labour pains had started at home on 17th June 1982 at about 6.00p.m. She had spontaneous rupture of membranes three hours later. Preparations were made to send her to Kibaha Health Centre which was 25 kilometres away but there was no transport available until the following morning. By then labour pains had ceased but she was experiencing constant abdominal pains and vaginal bleeding, foetal movements were not felt.

She arrived at the Health Centre at 9.00am. on the 18th June, 1982, when after initial examination, she was referred to Muhimbili hospital. She denied any history of abdominal or vaginal manipulations by the traditional birth attendants at home, or at the Health Centre. She also denied history of ingestion of local herbal medicines. There was no history of haematuria.

Examination and Findings:

She was very pale, restless and moderately dehydrated. She was not jaundiced, she had no pedal oedema, and she was afebrile. Her pulse was 110 per minute regular and of reduced volume. Her blood pressure was $90/_{60}$ mm of mercury. The heart size and heart sounds were normal, and there were no murmurs. Her respiration was normal and her lung fields were clear.

Abdominal examination:

The abdomen was inoformly distended, it was tense, and there was generalized tenderness which was more marked suprapubically. The foetal parts were not easily palpable because of the tenderness.

No contractions were palpated and the foetal heart was not heard.

Vaginal Examination:- was done as described in the introduction. The vulva and vagina were normal, there was moderate vaginal bleeding the cervix was oedematous and it was 7cm dilated. The presenting part was cephalic. It was very high above the pelvic brim, and it was difficult to reach it with the examining finger. No mambranes were felt.

Impression: was ruptured uterus.

The plan for management was:-

1) Resuscitation
2) Emergency laparatomy.

Preoperative preparations and investigations:

1) She had an intravenous drip of normal saline running at admission, this was made to run fast, and was followed by two litre of 5% Dextrose solution.
2) Blood was taken for cross matching, and two litres of group B rhesus D positive blood were urgently requested.
3) Serum Electrolytes were requested, Sodium was 131mg per decilitre, chloride was 103mg. per decilitre, and potasium was 3.5mg per decilitre.
4) Urine had acetone +.

5) Crystalline penicillin 2 mega units was given intravenously to be continued 6 hourly postoperatively, and chloramphenical one gramme stat, intravenously to be followed by 500mg. intravenously 6 hourly post operatively.

6) A rules tube was passed, and gastric aspiration was done. There was no fluid aspirated.

7) The abdomen, and perineal hair was shaved, and the abdomen was painted with an antiseptic solution.

8) Consent was obtained for the operation.

Before operation, the general condition of the patient was fair, the blood pressure was 100/60 mm of mercury and the pulse was 100 per minute regular. Blood was not immediately available, it was available later during the operation.

Operation:

Laparatomy: Repair of the Uterus and tubal ligation.

Anaesthesia: As detailed under obstetric case No. 3

Procedure and findings:

The surgeon and assistants were scrubbed, and wore sterile gowns and gloves. The bladder was aseptically catheterized, and the catheter was left in situ during the operation.

The abdomen was cleared with savlon 1:20 solution, then painted with flavin in water. It was draped with sterile towels, exposing only the site of the incision.

The abdomen was opened via subumbilical median incision. The procedure is as detailed in the introduction. There was massive haemoperitoneum. The foetus which was partially in the peritoneum cavity was delivered, followed by the placenta and membranes. A complete uterine rupture was found at the junction of the upper and lower segment anteriorly, and it extended upwards up to the level of the round ligament on the right lateral aspect.

The intestines were packed away using 'tailed' abdominal packs held by a small artery forceps for identification. The uterus was eventrated. The posterior aspect of the uterus was inspected; there was no tear. A swab was taken from the uterine cavity for bacterial culture and sensitivity. The bladder was not involved so it was retracted downwards, after separation of the reflecting peritoneum from the torn lower segment. There was no broad ligament haematoma. The necrotic edges of the tear were trimmed off, and repair was done in two layers using a continuous suture of chromic catgut No. 2.

Adequate haemostasis was achieved, and the pelvis was peritonized. The ovaries and fallopian tubes on each side were inspected and they were normal. The fallopian tubes on both sides were ligated and resected by Pomeroy's method. The abdominal cavity was cleaned of blood clots and meconium and the packs were removed. The peritoneal cavity was washed with warm normal saline, which was then sucked off and the peritoneal cavity, was dried with abdominal mops. The abdomen was closed in layers after the swabs and instrument count were pronounced correct.

During the operation, she was transfused with one litre of group B rhesus D positive blood. At the end of the procedure, her pulse was 100 per minute regular, and her blood pressure was 110/70 mm of mercury.

Post operative Care:

1) The pulse and blood pressure were recorded hourly for the first 12 hours, then four hourly there after, these remained normal.
2) She was transfused with one more litre of group B positive blood while in the ward.
3) She was put on Dextrose in saline 2.5 litres in 24 hours.

4) Strict input and output recording was done. During the first 24 hours, the urine output was 1000cc. She had continuous catheter drainage for 10 days.

5) She continued with crystalline penicilline and chloramphenical as prescribed preoperatively. It was changed to Procaine Penicillin Fortified (P.P.F.), 1.2 megaunits intramuscularly daily for seven days, and chloramphenical was given orally for the same duration.

6) She was observed for vaginal bleeding and no abnormal bleeding occured.

7) The temperature was recorded every four hours. It remained normal.

8) Morphia 15mg. intramuscularly was given every six hours to alleviate pain in the first 24 hours.

Post operative Progress:

Herv vital signs remained normal. She had adequate urine output. After 48 hours she was started on oral fluids and ambulated. The wound was checked on the 4th day postoperative; It had serous discharge mixed with pus. A swab was taken for bacterial culture and sensitivity revealed no pathogens. Two stich

Two stitches on the lower part of the wound were removed to enhance drainage of the wound. The wound was cleaned twice daily and dressed with eusol solution.

Her haemoglobin checked on the 5th postoperative day was 8.7grms per decilitre, and she was put on oral iron and folic acid tablets. She was afebrile throughout the puerperium, and her lochia discharge was normal. Stitches were removed on the 8th postoperative day, and wound dressing twice daily was continued.

On the 14th day, the wound was dry, and her general condition was good. She was discharged home and was given an appointment to attend postnatal clinic six weeks postdelivery.

Infant:

A female baby, weighing 3.4 kilograms was stillborn. It had no congenital malfomartions. There was a small caput at the vertex.

Postnatal followup: six weeks after delivery:

Her general condition was good, she was not pale, Her blood pressure was $120/_{80}$mm of mercury. Her haemoglobin was 10.9gms. per decilitre.

Abdominal Examination:

The scar had healed well, there were no tender areas, the liver and spleen were not palpable, and there was no renal angle tenderness.

Vaginal examination:

The vulva and vagina were nromal, the cervix was healthy, there was no discharge. The uterus was fully involuted and here were no adnexal masses.

She was informed of what had been done, and that she would not conceive again but would continue to get menstruation. She was understanding.

COMMENTARY:

Rupture of the gravid uterus is a serious obstetric complication. It is a major cause of maternal morbidity and mortality. The incidence in developed countries has fallen, mainly because of improvement in obstetric services, when it occurs, the main predisposing factor is a previous caesarean section scar (3). The major factors in the aectiology of rupture of the uterus in Africa and other developing countries is obstructed labour (1, 4). Studies done in this centre, (Bashumika 1978(2) and at Kilimanjaro Christian Medical Centre (Armon 1978) (1) showed that the major cause of uterine rupture was obstructed labour due to cephaloplevic disproportion and malpresentation.

Increasing birth weight over the years, and as parity increases is thought to be a major contributing factor to increased incidence of cephalopelvic disproportion leading to obstructed labour (5).

Other known predisposing factors to spontaneous rupture are increasing age and high parity (6). The reason for this is thought to be the increase in fibrous tissue, and scarring of the uterus with each subsequent labour and delivery. The high parity patients also tend to be over cinfident, and assume that what they have easily accomplished before, they can do again. They thus neglect to seek medical help and opt to deliver at home unsupervised, risking rupture of the uterus.

This patient was of high pavity. Her baby was 3.4 kilograms, which is above our mean birth weight of 3.2kilogrammes. With a g height of 148cms., cephalopelvic disproportion is the most likely cause of obstruction and rupture in this patient.

Other factors causing weakening of the uterus are previous caesarean section scars, previous curettage or perforation of the uterus, and manual removal of a morbidly adherent placenta.

This patient had none of these. Use of local herbs have been associated with uterine rupture. These are thought to behave like ergot alkaloids, and when taken orally or given as vaginal suppositories any precipitate uterine rupture. This patient denied history of ingestion of local herbs. When labour occurs at home, vaginal manipulations and aggressive fundal pressure exercised by traditional birth attendants are other contributing factors.

Once a diagnosis is made, correction of shock with intravenous fluids and blood transfusion, and immediate laparatomy are the mainstay of treatment. Persistent of shock however, should not be a contraindication for surgery, as this may persist until haemostasis is achieved. The procedure to be followed at laparatomy should be individualized, and as stated by Lawson (4)"the procedure of choice is that which is shortest, and produces least shock, thus getting the patient off the operating table in the best condition" This patient to become pregnant following repair carries a great danger of rupture in subsequent prognancy.

She was thus sterilized.

Good obstetric care should largely eliminate this accident, this calls for improvement of health care at all levels. In our community the major problems are:-

1) Delay in reaching medical care, which may be due to lack of transport, or inability to pay for it. Ignorance and faith on traditional birth attendants also plays a part.
2) Lack of medical facilities, especially delivery units in the rural areas, lack of hospital facilities and lack of trained medical and nursing peronnel. This patient, for example had to travel for more than 60 kilometers and no definitive treatment could be offered at Kibaha.

Health education is essential, to encourage mothers to attend for antenatal care. The midwives, and maternal and Child health staff should be trained on the importance of at risk selection. This include high parity, previous cassarean section, suspected dispropertion, and previous history of difficult labour for hospital delivery.

The problem of poor communication in the rural areas can be overcome by provision of a maternity hostel near a reference hospital, where patients are admitted before term, and are within reach of medical care when they go into labour.

There should be adequate number of well trained staff for intrapartum care, geared at early detection of abnormal labour before a stage of obstruction and rupture is reached. Use of partogram as described by Phillipot, ensure early dectection of abnormal labour; failure of progress in labour require careful assessment for it cause, and appropriate action to deliver the patient is taken before an accident of rupture occurs.

Provision of family planning advice, and sterilisation will lead to limitation in family size and high parity and thus diminish the problem ruptured uterus.

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BREECH PRESENTATION ATTERM: ASSISTED BREECH DELIVERY

Name: Mrs. R.J.

Age: 28 years

Address: Ilala Dar es Salaam

Delivery number: 7004

Date of admission: 10th May, 1982

Date of Delivery: 10th May, 1982

Date of discharge: 12th May, 1982

SUMMARY

She was a 28 years old gravida 4 para 2 + 1 who was referred from a peripheral clinic to Muhimbili because of breech presentation at 38 weeks of gestation. Her pelvix was assessed and found to be adequate for the baby; and she was planned for vaginal breech delivery. She had an assisted breech delivery, and she delivered a female baby weighing 3.2 kilogrammes with an apgar score of 8 at one minute. The mother and baby were discharged home on the second post delivery day in good condition.

Present Obstetric history

Her last normal menstrual period had started on 5th August 1981 so her expected date of delivery was 12th May,1982 She had booked for antenatal care at 30 weeks of gestation, at Ilala Maternal and Child Health clinic. At booking, her

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general condition was good, she was not pale, and she had no oedema. Her blood pressure was 120/70 mm of mercury. The fundal height was 30 weeks and it corresponded to the dates. There was no obscious uterine abnormatities. The rest of the septems were normal. She had had no vaginal bleeding since conception.

PAST OBSTETRIC HISTORY

She was gravida 4 para 2 + 1. Her first pregnancy had ended as an abortion at 8 weeks of gestation; and evacuation of the uterus was done. Her two deliveries were full term and normal. The weights of her babies were 3 and 3.1 kgs. respectively. There was no history of antepartum or intra-partum complications in her previous pregnancies. Her last delivery was in 1978.

GYNAECOLOGICAL HISTORY

Menarche was at 14 years, her cycles were regular with 4-5 days period of normal flow every 30 days. She was fitted with an intrauterine contraceptive device, 8 weeks after her last delivery, which was removed two months before her last menstrual period.

PAST MEDICAL HISTORY - was not contributory.

FAMILY HISTORY There was no history of hypertension or

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diabetes mellitus; there was no history of twin pregnancies.

SOCIAL HISTORY

She was a house wife and she had completed primary education; her husband was a primary school teacher.

INVESTIGATIONS AT BOOKING

1. Her height was 159 cms and her weight was 60 kilogrammes.
2. Her haemoglobin was 11.5 gms per decilitre
3. Her blood group was A rhesus D positive
4. Urine was negative for glucose and protein
5. VDRL was negative.

ANTENATAL PROGRESS

She made three subsequent visits to Ilala clinic and nothing abnormal was detected. At her fourth visit at 38 weeks the foetus was found to present as a breech, so she was referred to Muhimbili antenatal clinic for specialist care.

PHYSICAL EXAMINATION:

Her general condition was good, she was not pale, and she had no pedal oedema.

Cardiovascular System

Her pulse rate was 80 per minute; regular and of normal volume. Her blood pressure was 110/70 mm mercury. Her heart size and heart sounds were normal.

Respiratory system and Central Nervous systems were normal

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Abdomen:

The abdomen was uniformly enlarged, it was rather tense, but there were no tender areas. The liver and spleen were not palpable and there was no renal angle tenderness.

The fundal height was 36+ weeks. The lie was longitudinal. The foetal head was palpated at the fundus and the breech was presenting. The foetal back was on the left side of the mother's abdomen. The foetal heart was best heard above the umbilicus. The foetus was of medium size. There were no uterine abnormalities. The abdomen was tense and amniotic fluid was scantly, so version was not attempted.

Diagnosis:

Breech presentation at 38 weeks. Plain abdominal Xray was done, which confirmed a singleton foetal in breech presentation. It had no skeletal abnormalities. It was a frank breech with a flexed head.

Pelvic assessment: was done as described in obstetric case no.2. The bony pelvis was clinically adequate for the baby. She was planned to have an assisted breech delivery when she went into spontaneous labour.

She was instructed to attend our at "risk" clinic weekly, and to come to Muhimbili labour ward when she went into labour. She was seen at the antenatal clinic one week later, and the breech presentation had persisted.

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LABOUR AND OUTCOME

She was admitted to the labour ward on 10th May, 1982 at 10.00 a.m. with history of labour pains which started at home at 6.00 a.m.. There was no history of vaginal bleeding or draining of liquor.

EXAMINATION

She was not pale, she had no oedema, and she was afebrile. Her blood pressure was 110/80 mm of mercury. Her pulse was 84 per minute regular and of normal volume. The rest of the systems were normal.

Abdomen

The fundus was 36+ weeks. The foetus was in longitudinal lie, in breech presentation. Contractions were palpated coming every 4-5 minuts and lasting 30-40 seconds. The foetal heart was 140 per minute and regular.

Vaginal Examinations

Preparation and procedure is detailed in the introduction.

Findings The vulva and vaginal walls were normal. The cervix was soft, 50% effaced, and it was 4 cm dilated. The membranes were left intact. The breech was above the level of the ischial spines. The pelvis was reassessed and the previous findings confirmed.

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Management in Labour

The patient was transferred to a high bed. Standard observations in labour were carried out as for obstetric case no.1. She was nursed on her side. Vaginal examinations to assess the progress of labour were done 4 hourly.

Progress:

Contractions became progressively stronger and more frequent. They were coming every 3 minutes and lasted 40-50 seconds. At 1.00 p.m. she had spontaneous supture of membranes, the liguor was clear. A sterile vaginal examination was done immediately and cord prolapse excluded. The cervix had dilated to 6-7 cm. the breech was at the level of the ischial spines, and it was in the left sacral anterior position. The foetal heart rate was normal and regular. Pethicofan 100 mgs. intramuscularly was given for analgesia and sedation.

The second stage:

Three and a half hours later, the patient started bearing down, vaginal examination was done and full cervical dilation was confirmed.

MANAGEMENT OF SECOND STAGE

Preparation for delivery:

A delivery tray was prepared; the attendant scubbed, and wore sterile gown and rubber gloves. The patient was put in lithotomy position, with her buttocks near the edge of the

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obstetric cough. The vulva and perineum were cleaned with an antiseptic solution, and draped with sterile towels. The bladder was aseptically catheterised.

Assisted Breech delivery:

The perineum was infiltrated with 10 mls. of 1% lignocaine ready for an episiotomy. The patient was encouraged to bear down with each uterine contraction. When the perineum started to distend, a generous J shaped posterolateral episiotomy was made using curved scissors. The breech was left to be delivered spontaneously, till the umbilicus was visible. The right hand was introduced into the vagina, to disengage the baby's legs one by one by pressing and flexing the popliteal fossa. A loop of cord was gently pulled down. The descent of the baby was allowed to occur spontaneously, and the back of the baby was encouraged to face upwards all the time.

When the angle ofthe scapula of the anterior shoulder appeared below the pubis, the baby was held by its pelvis, with both thumbs over its sacrum; gentle traction was applied downwards and the baby rotated a little anticlockwise, to bring the anterior shoulder under the pubic symphysis and the right index finger was gently introduced to dislodge the left arm which was flexed on the alterior chest wall. The baby was rotated clockwise to bring the posterior shoulder under

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the symphysis, and the right arm and shoulder were delivered easily.

The baby was then allowed to hand by its weight for a few minutes. This allowed the foetal head to engage and descend into the pelvis. When the hairline on the baby's neck was visible, the babyIs legas were grasped by the lefthand, gentle traction was applied and the trunk was extended towards the mothers abdomen. The right hand guarded the perineum and prevented the foetal head from coming out too quickly. As soon as the nose and mouth of the baby were visible, an assistant wiped its mouth with a sterile gauze swab and sucked mucus from the nostrils and ornalpharynx. The mother was discouraged from pushing, and the baby was delivered slowly. The cord was doubly clamped and divided, and the baby was draped with a sterile towel and taken to the resuscitations table. It started to cry soon after delivery, and its apgar score at one minute was 8, and at 5 minutes it was 10. Ergometrive 0.25 mg intravenously was given after delivery of the baby, and the placenta and membranes were delivered completely by the Brandt-Andrew's method. It weighed 510 grammes. The uterus was gently rubbed and squeezed to expel clots. The perineum and vagina were inspected and there were no tears. The episiotomy was repaired immediately as described for

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obstetric case No. 2. The total blood loss was 250 c.c.

The infant:

A female baby, weighing 3.2 kilogrammes. It had no congenital malformations. The baby was active, and had no signs of cerebral irritation; and had sustained no bony injuries during delivery. It was given BCG vaccination while in the ward.

Puerperium

Her post delivery blood pressure was 110/70 mm of mercury. She was observed in our postnatal ward for 24 hours, she developed no complications. She was discharged home on the second postdelivery day; and she was instructed to clean the episiotomy wound twice daily with warm svlon in water solution. She was told to have her episiotomy checked for healing at the nearest dispensary after one week. She was given an appointment for postnatal checkup after six weeks, but she did not keep the appointment.

COMMENTARY

Breech presentation is the commonest malpresentation, accounting for 3% of all pregnancies at term. The cause of breech presentation is not known, but factors that favour this presentation include prematurity, and this is the most important. 25% of foetuses below 30 weeks present as breech; but the majority of these undergo spontaneous version by the 34th week. Other factors that favour this presentation are multiple

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pregnancy, polyhydramnios, placenta praevia and foetal malformations, such as hydrocephalus. Cephalopelvic disproportion is thought by some to be a predisposing factor, but opinions differ on this.

The perinatal mortality and morbidity in Breech presentation is about 3-4 times greater, than when the vertex presents (3,5). In Muhimbili Medical Centre, in the year 1978 - 1979, breech delivery accounted for 2% of all deliveries. The concoriected perinatal mortality rate was 151 per thousand, as compared to the overall perinatal mortality rate of 42.1 per thousand in the same year (6). The increased mortality and morbidity rates is principally due to birth trauma as a result of:-

1- Intracranial haemorrhage, occuring as the head is made to traverse the birth canal rapidly without sufficient time for moulding.

2- Asphyxia: as a result of cord prolaps or cord compression following delay in the delivery of the aftercoming head.

3- Mechanical injuries: including nerve palsies, fractured limbs, and ruptured abdominal viscera and extravasation of blood into the muscles. These are accounted for by rough handling during delivery, and undue traction on the foetus.

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Our perinatal mortality rate in breech presentation, is very high. The high mortality and morbidity are most likely due to trauma and asphyxia associated with undiagnoised cephalopelvic disproportion, and unnecessary haste in accomplishing delivery of the foetus. This occurs because of improper selection of patients for vaginal delivery; and poor intrapartum management. At times, because of congestion and shortage of experienced personel, breech deliveries are conducted by inexperienced nurses and junior doctors.

Morbidity to the mother is also increased mainly due to the increased need for vaginal manipulations; lacerations and perineal tears, and due to higher rates of caesarean section.

Foetal mortality and morbidity in breech delivery is related to birth weight and mode of delivery. Preterm babies in breech, and those weighing more than 3.5 kilogrammes are at increased risk when delivered vaginally. The perinatal mortality rate is significantly lower when delivered by caesarean section, and for this reason, some centres notably in the United States do elective caesarean section for breeches at term(2,7). Caesarean section however is a major operative procedure with hazards to the mother. Where sepsis is rampant, stored blood difficult to get, and maternal anaemia is common, we adopt a more selective approach.

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Scar rupture in subsiquent labour should also be considered.

Attempts to revert breech to cephalic by applying external cephalic cersion, have been advocated so as to avoid breech delivery with its attendant risks. This is usually done at 34 weeks. The value of this procedure is controversial. In places where version is routinely done, the incidence of breech presentation in labour is not reduced, signifying that perhaps version is only successful where version would have occured spontaneously. Morever it is associated with foetal risks such as premature labour, abruptio placenta, premature rupture of membranes and cord entanglement. Others however believe that, version is a valuable procedure, and it is associated with minimal foetal risks when performed gently and without anaesthesia (5). Although we share that view, it was not attempted in this patient because the abdomen was rather tense and the liquor was scanty. It would have been attempted if she had been seen earlier; although the chances of a successful version are reduced in extended breech.

Decision on the mode of delivery should be done during the antenatal period. Other complicating factors that would demand abdominal delivery should be noted and excluded. Before vaginal breech delivery is allowed, cephalopelvic disproportion should be excluded. In this patient, a careful

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clinical pelvimetry was done, and the bony pelvis was found to be adequate for the baby, estimated to weigh 3 kilogrammes. Because of the previous history of delivery of normal sized babies no difficulties were anticipated. A plain abdominal Xray was done to ascertain the type of breech and the attitude of the foetal head. A deflexed foetal head is unfavourable for vaginal breech delivery (4).

For the patients selected for vaginal delivery, the delivery should be conducted in a hospital which is equipped with staff, and facilities for caesarean section and for close monitoring of labour. There is increased risk of cord prolapse during labour, and this should always be excluded by a vaginal examinationa as soon as the membranes rupture. This patient had a frank breech, which fits smugly to the Cervix, and the risk of Cord prolapse was not high. The progress of labour should be carefully monitored, and prolonged labour avoided, as this may be the indicator that the

the head will get stuck. Slow dilation of the Cervix may occur, because the breech (especially the complete and foothing breech) forms a poor dilating wedge for the cervix. Studies have also shown that, this could be due to abnormalities in the electrical conduction system of the uterus associated

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with minor uterine anomalies, such as acuate or septate uterus; and that such a dysfunctional labour responds poorly to oxytocin stimulation (2). It is considered by many as an indication for caesarean section.

The management of the second stage of labour is of utmost importance if the hazards of breech delivery are to be minimized. It has to be ensured that the cervix is fully dilated before bearing down efforts by the mother are allowed. Delivery through an incompletely dilated cervix gives rise to complications such as nuchae displacements of the arms, and arrest of the aftercoming head. A timely generous episiotomy is mandatory in all cases, to minimize pressure on the aftercoming head and to ease manipulations on the foetus such as application of the obstetric forceps as may be indicated.

The problem of premature breech is unsolved, although vaginal delivery carries an appealing prognosis (1,4), before the mother is subjected to caesarean section, one must question whether the baby will survive, and this depends on the standard of neonatal care. In our unit, babies weighing 2 kgms have a very low chance of surving, so we do not advocate the policy of caesarean section for premature breech.

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RECURRENT ABORTIONS DUE TO INCOMPETENT CERVIX CERVICAL CERCLAGE AND SUCCESSFUL TERM PREGNANCY

Name: H.A.

Age: 24 years

Address: Kinondoni Dar es Salaam

Registration No. 286764

Date of Admission: 1st November, 1981

Date of operation: 4th November, 1981

Date of removal of stitch and delivery: 11th March, 1982

S U M M A R Y

This patient was referred from one of the peripheral clinics to the Muhimbili at risk clinic because she had a history of recurrent midtrimester abortions. Cervical incompetence was diagnosed and Macdonald's suture was applied at a gestation of 20 weeks. The pregnancy was carried to term and she had a spontaneous vaginal delivery. Her puerperium was uneventful.

PRESENT OBSTERIC HISTORY:

She booked for antenatal care at Mwananyamala Maternal and child-health clinic at a 20 weeks of gestation, and she was referred to our at risk clinic in view of her previous bad past obsteric history. Her last normal menstrual period had started on 17th June, 1981, so her expected date of delivery was on 24th March, 1982. She had felt foetal movements one week prior to booking. There was no history of vaginal bleeding or discharge and there

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was no history of abdominal pain or dysuria. There was no history of drainage of liquor.

PAST OBSTERIC HISTORY:

She was gravida 6 para 1 + 4. Her first pregnancy was in 1977, it was a fullterm normal delivery at home. The labour was normal and lasted for 8 hours. She had no postpartum haemorrhage, and the puerpurium was normal. In 1978 she had an abortion at 4 months gestation; this was preceeded by abdominal pain, bleeding and expulsion of a dead foetus at home. There was no history of trauma, or fever prior tothe abortion. Evacuation of the uterus was not done. She then had three other consecutive abortions in 1979, 1980, and 1980 at 5, 6, 5 months of gestation respectively. All these abortions were preceeded by leakage of liquor, followed by low abdominal pain and short duration and expulsion of a live foetus. There was no history of fever prior to the abortions. These abortions occured in hospital; the foetuses did not show any gross abnormalities, they were of normal colour. All the abortions were complete, and bleeding was minimal. She had no investigations done in between pregnancies.

GYNAECOLOGICAL HISTORY:

Her menarchewas at 13 years. Her periods were of 3-4 days duration with normal regular cycles of 28-30 days. She had had no operations on the cervix, and she had never used any

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contraceptives.

Past Medical History:

There was nothing significant.

Family and social History:

She had two sisters, none of them had a similar problem. There was no history of diabetes mellitus, or hypertension in the family. There was no family history of twin pregnancies. She was a housewife, and she did not smoke cigarettes. She drank alcohol occasionally.

PHYSICAL EXAMINATION:

Her general condition was good, she was not pale. Her breasts were normal, active without any lumps. She had no pedal oedema or lymphadenopathy. Her height was 158 cm. and her weight was 56 kilogrammes.

CARDIOVASCULAR SYSTEM:

Her pulse rate was 80 per minute; regular and of normal volume; Her blood pressure was 120/80 mm of mercury. Her heart size and heart sounds were normal; there were no murmurs.

THE RESPIRATORY SYSTEM AND CENTRAL NERVOUS SYSTEM: were normal.

ABDOMINAL EXAMINATION:

There were no [illegible], and no tender areas. The liver and spleen were not palpably enlarged. There was no renal angle tenderness. The fundal height was equivalent to 20 weeks of

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gestation, and it corresponded to the dates.

Vaginal Examination:

The vulva and vaginal walls were normal.

Speculum examination: The cervix was patulous and partially effaced. The cervical canal was open, and it was about 2 cm. dilated. There was no abovious cervical tear or any other abnormality. Membrances were not bulding. Bimanual examination was not done for fear of rupturing the delicate membranes. There were no adrexal masses.

DIAGNOSIS: In view of the history and physical findings, a diagnosis of pregnancy in a patient with Cervical incompetence was entertained.

Plan of management:

It was decided to do a cervical cerclage. She was admitted to the antenatal ward for complete bed rest, and the following investigations were done.

1. Her haemoglobin was 10.9 gms per decilitre.
2. Fasting blood sugar was 70 mgs per 100 mls of blood
3. Blood urea was 14 mgs per 100 mls of blood and serum creatinine was 0.9 mgs per 100 mls of blood
4. Midstream urine was negative for albumin and glucose, and culture revealed no pathogens.
5. VDRL was negative
6. Her blood group was B rhesus D positive.

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Preoperative preparations;

1. The patient was examined and found to be fit for operation, as described above.
2. Consent was obtained for the operation
3. The vulva and perineal hair was shaved and cleaned with savlon in water solution on the evening before operation.

OPERATION: CERVICAL CERCLAGE:

METHOD: MACDONALD'S METHOD

ANAESTHESIA:

Atropine 0.6 mg was given intravenously. Anaesthesia was induced by thiopentone sodium 250 mgs intravenously, and maintained by a mixture of oxygen/Ether by mask.

Procedure:

The surgeon was scrubbed and put on sterile gown and gloves. The patient was put in lithotomy position, and the perineum, vulva and vagina were cleaned with savlon 1:20 solution, followed by flavin and water solution. The legs, thighs and lower abdomen were draped with sterile towels. The bladder was aseptically catheterized as described in the introduction.

Vaginal Examination

The vulva and vagina were normal. The cervix was exposed using a Sims Speculum and previous findings were confirmed. The head of the table was tilled to slight Trendelen berg's position,

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to keep the membranes away from the OS.

The Cervix was gently drawn down with two sponge holding forceps, applied to the anterior and posterior lips of the cervix. A round bodied needle threaded with no.2 nylon suture was used to insert a purse string suture round the cervix, taking four bites (at 12, 3, 6, 9 O'clock) at the cervical vaginal junction. A Hegars dilator no. 6 was gently introduced into the internal OS and the ligature tightened over it, then the dilator was removed. The knot was tied posteriorly. This procedure ensured that the cervix was not so tight as to endanger cervical blood supply. The ligature ends were trimmed to about 2 cm length for easy identification at removal.

POST OPERATIVE MANAGEMENT:

1. In order to prevent premature uterine contractions as a result of Cervical manipulations she was given Bupherin hydrochloride (Dilatal) 40 mgs in 500 mls of 5% dextrose to run at 40 drops per minute; followed by 5 mgs tabs orally every six hours for 48 hours.
2. She was to be on Complete bed rest. Her pulse and blood pressure were checked hourly while on Dilatol drip.
3. Phenobarbitone 60 mgs orally thrice daily for 5 days.

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POST OPERATIVE PROGRESS:

Her postoperative period was uneventful. She experienced no abnominal pain, or vaginal discharge. She was discharged home on the tenth post operative day and advised.

i) to have bedrest at home.

ii) to avoid coitus

iii) to report immediately to hospital if she developed low abdominal pain, or noticed any vaginal bleeding or discharge.

iv) to attend our 'at risk' antenatal clinic.

Antenatal progress:

She was seen at the antenatal clinic two weeks after discharge. Her general condition was good, she had no oedema and her blood pressure was normal. The fundal height was 26 weeks and the foetal heart was heard.

Speculum examination:

The cervix was normal, there was no discharge, and the suture was in place.

A midstream urine specimen was sent for bacterialogical culture, and it was negative. She was given prophylactic iron, folic acid and weakly antimalarials.

She was seen two weekly up to 36 weeks, thereafter she was seen weekly. Her blood pressure was normal, and the fundal growth and weight gain were satisfactory. At each visit, a

speculum was done to visualize the cervix and the suture. There was no cervical dilatation and the suture remained in place. Her haemoglobin at 36 weeks was 11 mg per decilitre. She was readmitted at 38 completed weeks for removal of suture.

Examination on admission on 11th March, 1982

She was in good general condition, and she was not pale. Her pulse was 78 per minute regular and normal volume. Her blood pressure was 120/80 mm of mercury.

The fundal height was 36^{+} weeks, longitudinal lie, cephalic presentation. The foetus was of medium size and was estimated to weigh 3 kilogrammes.

Removal of Stitch and Delivery:

The patient was put in lithotomy position with legs supported on stirrups. The perineum, vulva and vagina were cleaned with savlon in water solution and draped with sterile towels. A Cusios bivalve speculum was inserted into the vagina to expose the cervix. The ends of the stitch were easily viewed, and held with a dissecting forcepts. The knot was cut, and the stitch, was pulled out. There was no undue bleeding. The membranes were intact, the cervix was 3 cm. dilated, and the bony pelvis was adequate for the baby. She was kept in the antenatal ward, where she ruptured her mebranes and went into spontaneous labour 12 hours after removal of the suture; and was readmitted to the labour ward.

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A vaginal examinationaseptically as described in the introduction. Clear liquor was draining, and there was no cord prolapse. The cervix was soft, more than 50% effaced and it was 4 cm. dilated. The vertex was presenting and it was just above the level of the ischial spines. The position was left occiput anterior.

Labour was monitored as described obstetric case no.1 She had spontaneous vaginal delivery 5 hours later, of a baby girl apgar score 9 at one minute weighing 2.910 kilogrammes The thirdstage was managed actively, and she was given ergometrine 0.25 mgs at delivery of the anterior shoulder. The placenta was delivered by Brandt - Andrew's method. There was no perineal lacerations and the blood loss was estimated to be 150 mls. Her post delivery blood pressure was 110/80 mm of mercury.

Puerperium:

There were no puerperal complications. She started breast feeding on the first postpartumday.

Infant.

The infant which weighed 2.910 kgms was in good condition, and had no congenital malformations. It was given BCG vaccination while in the postnatal ward.

The patient was informed that a Cerclage operation was necessary in all her subsequent pregnancies; and she was educated on the importance of booking early for antenatal care. She was discharged on the 2nd postpartum day in good condition, and

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She was instructed to attend postnatal clinic six weeks after delivery.

Postnatal followup.

She was seen at the postnatal clinic six weeks later. Her general condition was good. She was not pale. Her pulse was 80 per minute regular and normal volume. Her blood pressure 110/80 mm of mercury.

Vaginal examination:

The vulva and vaginal walls were normal. The uterus was fully involuted and there were no adnexal masses. The Cervix was healthy, and there was no discharge.

She was advised to attend family planning clinic at the nearest maternal and Child Health clinic. The necessity to come to hospital soon after she conceived again was reemphasized.

COMMENTARY:

Habitual abortion, which can be defined as three or more consecutive abortions is an important problem in clinical obstetric and gynaecological practice. It causes great distress to the patient and the family as a whole. If a couple presents with recurrent abortion, it is highly likely that the same causative factor is involved (1). Thus it requires adequate investigation, and the cause treated where it can be found. This calls for a properly

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taken history, examination and investigations.

From the history, one has to ensure that the patient was pregnant, and the duration of the aenorrhoea. Many patients will have periods of amenorrhoea, and consider themselves pregnant. It is important to confirm that the patient or preferrably a medical attendant has seen the products of conception. The sequence of events leading to the abortion is elecidated. In cervical incompetence there is initial rupture of membranes followed by a relatively painless expulsion of alive foetus. Bleeding occurs only as a terminal event as the placenta separates.

In between pregnancy, passage of a Hegar's dilator No.8 through the internal OS, without resistance is suggestive of cervical incompetence. Hysterogram carried during the luteal phase of the cycle, would reveal a funnel shaped internal OS. This patient had no in between pregnancy investigations, despite the fact that all her abortions occured in hospital, she was never advised for this. This obviously reflects the level of our patient care. Something would have been done earlier to spare the patient from the repeated wastages. The diagnosis of Cervical incompetence was made in this patient from the history, of the midpregnancy timing of the abortions, preceded by rupture of membranes before expulsion of the foetus, and the finding of a dilated and partially effaced cervix in pregnancy.

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Cervical incompetence may be due to mechanical injury or to an anatomic defect or functional defect which allows premature effacement and dilation of the cervix. The contributing factors include congenital weakness, forceful dilation of the Cervix during dilatation and curettage, previous operations on the cervix, and deep cauterisation. The majority of cases in Africa however, are said to be due to the prestence of a cervical tear, which may follow a difficult vaginal delivery and is often accompaned by postpartum haemorrhage and or sepsis(1). There was no such a history in this patient. Her first delivery however, occured at home, and the possibility of excevine stretching of the cervix due to premature bearing down before the cervix is fully dilated cannot be ruled out.

Cervical incompetence associated with a cervical tear, can best be treated by local excision and repair. This operation should be avoided during pregnancy as excessive bleeding may occur, and abortion may be precipitated. In the absence of a mechanical injury, Cervical incompetence is treated by Cervical cerclage by either Shirodkar, or its modification described above, the Macdonald suture. It is quicker, easier to perform and causes minimal blood loss and cervical trauma (2,3,6). In between pregnancy cerclage is not recommended

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because the desired closure of the cervix cannot be gauged until pregnancy is well established. Healing is also said to be unpredictable in the nonpregnant cervix.

The optimum time for cerclage is at 14-16 weeks; this avoids the possibility of holding in the uterus and abnormal foetus in which case abortion usually occurs before 12 weeks. If one waits longer than this, it may be too late and the cervix may start dilating. This patient had cerclage done at 20 weeks because she reported to us rather later This operation is contraindicated if the membranes are already ruptured, patient is threatening to abort or in the presence of infection.

Post operatively the patient should be kept on strict bed rest. In this patient sedation was prescribed to alleviate the anxiety and enhance bed rest. The possibility of stimulating labour by manipulations on the cervix was considered and she was put on Buphevin hydrochloride (Dilatol) as described. Buphenin hydrochloride is a betaminetic adrenegic agent. It has only relative specificity for the beta receptors (b_2) of the uterus as opposed to the beta receptors (b_1) of the cardiovascular system (7); so besides relaxation of non vascular smooth muscles, it also causes vasodilatation and

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tachycardia, hence its major side effects of hypotension and tachcycardia. The patient was nursed on her side, and her blood pressure and pulse were strictly monitored to detect these side effects. Tocolysis is not universally agreed on following cerclage; it was given to this patient because it is our departmental policy. Prophylactic antibiotics were not considered necessary in this patient.

The patient was discharged one week after the operation, after she was made to understand therisks involved. She was to continue with bed rest at home, to avoid streneous exercises, and coitus, and she was to report immediately in the event of rupture of membrances, bleeding or if she experienced labour pains. If any of these occured, the stitch should be removed immediately or else severe infection, cervical lacerations and ruptured uterus may occur as complications. Otherwise, the suture is electively removed at 38 weeks as it was done in this patient.

Close supervision during the antenatal period is essential. Vaginal speculum examination is recommended at each visit to ensure that the stitch is in place, and that the cervix is closed. If the Cervix is dilating, it will be necessary to admit the patient for bed rest, and it may occasionally become necessary to remove and replace the suture.(1)

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Other causes of recurrent midtrimester abortions include müllerian anomalies, uterine distortions by fibroids, infections such as syphillis, blood group incompatibilities, chronic renal diseases, diabetes, or any febrile illness such as malaria. Investigations to exclude these causes should be done, prefarably before conception (2), but most of our patients report when already pregnant. Appropriate laboratory investigations as described were performed, and there was no abnormality detected. This patient is to have cervical cerclage in all her subsequent pregnancies.

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SEVERE ANAEMIA OF PREGNANCY TREATED BY BLOOD TRANSFUSION AND TOTAL DOSE IMFERON

Name: R.M.

Age: 26 years

Antenatal number: 1586/81

Date of admission: 10th December, 1981

Date of discharge: 21st December, 1981

S U M M A R Y

This was a 26 year old, gravida 4 para 3 who was referred from Manzese antenatal clinic because of severe anaemia at 30 weeks of gestation. She was admitted to our antenatal ward and investigations revealed that she had iron deficiency anaemia. She was treated with blood transfusion, and total dose imferon. She was discharged home for follow up at the specialist antenatal clinic. The anaemia responded to treatment, and she was later discharged back to the peripheral clinic. She was advised to deliver at Ocean Road Hospital.

HISTORY ON ADMISSION

On admission to the antenatal ward she had the following complaints:

1. Dizziness
2. Palpitations
3. General body weakness

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These problems had started two weeks prior to admission. She felt generally weak, and she could not cope with her routine house chores. Palpitations were felt on exertion. She had no cough or breathlessness. She denied any history of fever during the current pregnancy. She had experienced vomiting and loss of appetite during the first three months of pregnancy. There was no history of vaginal bleeding since conception. There was no history of jaundice, haematuria or melaena.

Present obstetric history:

Her last normal menstrual period had started on 11th May, 1981, so her expected date of delivery was 18th February 1982. She was by dates 30 weeks. She had booked for antenatal care at Manzeze antenatal clinic, and she was referred to Muhimbili on the same day, in view of her low haemoglobin of 5.2 gm per decilitre.

Past obstetric history:

She was para 3. All her deliveries were fullterm and normal. During her last pregnancy which was in 1980, she received blood transfusion during the antenatal period because of anaemia.

Gynaecological history:

Menarche was at 15 years, her cycles were regular, with periods of 4-5 days of normal flow in every 30 days. There

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was no history of menorrhagia. She had never used any contraceptives.

Past Medical History:

There was no history of renal disease, and there was no history of allergic disease, or attacks of bonepain or yellow eyes ~~fever~~.

Family and Social History

There was no family history of hypertension or diabetes mellitus. There was no history of twin pregnancies. She was a housewife, she had not completed primary education. Her husband was a labourer at a textile factory. She was a non-smoker and did not drink alcohol.

Dietary History: Her diet consisted of the staple maize and rice meals, and beans. Occasionally she ate meat, spinach and fruits.

PHYSICAL EXAMINATION

She was very pale, not dyspnoeic, and not jaundiced; not wasted. She was afebrile, had pedal oedema +, but no facial puffiness. She had no lymphadenopathy, and no koilonychia. (Nails) was normal Tongue

Cardiovascular System.

Her pulse rate was 88 per minute; regular and of normal volume. Her blood pressure was 130/80 mm. of mercury. The

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jugular venous pressure was not raised. Her heartsix and heart sounds were normal. There were no murmurs.

Respiratory System:

Air entry was normal, and the Breath sounds vesicular. There were no basal crepitations.

Abdomen

It was uniformly enlarged. There were no scars, or tender areas. The liver and spleen were not palpable, and the renal angles were not tender. The fundal height was 30 weeks, and it corresponded to the dates. The foetal heart was heard.

Diagnosis:

Severe anaemia at 30 weeks of pregnancy. The plan was to investigate the patient and establish the cause of anaemia, and institute appropriate treatment.

Investigations and results:

1. Haemoglobin was 5.5. gms.per decilitre. Total redcell count was 2.69 x 10^6 per cu.mm. Mean Corpuscular volume (MCV) was 65 μm^3, Haematocvit was 17.5 per cent. The mean corpuscular haemoglobin concentration (MCHC) was 24 percent. The blood film showed microcytosis, hypochromasia, and anisocytosis. The reculocyte count was 0.2 percent.

2. White blood cell count was 5.6 x 10^3 per Cu m. The differential count was normal.

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3. Urine was negative for protein and glucose, and mid-stream urine for bacterial culture revealed no pathogens.

4. Stool was positive for hookworm ova.

5. Blood for grouping and crossmatching was taken. Her blood group was A rhesus D positive and 1000 cc. were requested.

6. VDRL was negative

TREATMENT AND PROGRESS:

The aim of treatment was to improve the deficit in the circulating haemoglobin mass, and to replenish her iron stores, before delivery. This was achieved by blood transfusion followed by parentral iron therapy and deworming.

Blood Transfusion:

The patient was transferred to Obstetric intensive care ward. She was propped up in Cardial position. Frusemide 40 mgs. intravenously was given half anhour before the blood transfusion was started. The rate of transfusion was 15 drops per minute. Her pulse and blood pressure were checked every half hour, and the patient was observed for transfusion reactions. Her lung fields were frequently asultated for presence of basal crepitations to detect circulatory overload. She received 1000 cc. of blood. Her haemoglobin checked two days after blood transfusion was 7 mg. per decilitre.

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Total dose imferon: (TDI)

The dose of imferon was calculated according to the manufacturers recomendation. With her haemoglobin, and a body weight of 58 kilogrammes, she required 35 mls of imferon.

35 mls of imferon were added to 1000 cc of 5% Dextrose, for infusion. Promethazine 50 mgs orally was given to the patient half an hour before the infusion was started. The drip was started at 10 drops per minute and increased to 20 drops per minute after half an hour. There were no reactions.

While in the ward, she was given folic acid 5 mgs. daily. Bephenium hydrochloride (Alcopar) 5 mgs was given daily for three consecutive days. She was discharged eleven days after admission on folic acid 5 mgs daily, and weekly chloroquine. She was educated on the importance of taking these drugs regularly, and was advised to attend our specialist antenatal clinic for followup.

Antenatal followup:

Patient was seen at the antenatal clinic three weeks later. Her general conditimn was good, she was not pale and had no pedal oedema. Her blood pressure was 110/80 mm. of mercury. The fundal height was 34 weeks. The foetus was in longitudinal lie, and cephalic presentation. The foetal

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heart was heard. Her haemoglobin was 10.5 gms. per decilitre.

She was discharged back to the peripheral clinic and was told to deliver at Ocean Road hospital.

C O M M E N T A R Y

Anaemia in pregnancy is more common and more severe in the tropics than else where (1). At Muhimbili Medical Centre it accounts for abot 50% of antenatal admissions, and it is the third commonest cause of maternal deaths in the centre(3). In Uganda, Mmiro (1979) (2) found the incidence of anaemia in pregnancy to be 26%.

The actiology of anaemia is often multifactorial. In Dar es Salaam iron deficiency anaemia accounts for 83% of all anaemias. Others are megaloblastic haemolytic, and dimorphic anaemia. Similar findings have been reported from Zambia by O'Dowd et al 1978 (6).

During pregnancy, there is increased demand for most nutrients, including iron and folic acid. There are several factors that could lead to deficiencies in these nutrients thus causing anaemia.

1. Diet: When dietery intake of iron and folic acid is poor, the increased demands of pregnancy are not met. Reduced intake can occur if the diet is unavailable (poverty), ignorance about balanced diet, food taboes in pregnancy, or

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reduced intake contributed to by anorexia in early pregnancy.

2. Hookworm: infestation is a major cause of chronic blood loss, the severity depending on the hookworm load. When this is combined with poor dietary intake of iron, it enhances the development of anaemia.

3. High parity: multiple deliveries in rapid succession deplete maternal iron stores because there is insufficient time to replenish iron stores in between pregnancies. Maternal iron stores can also be depleted by a preceeding menorrhagia.

The acquired immunity to malaria is reduced in pregnancy starting about the 14th-16th week of gestation, the effect being more pronounced during the first pregnancy. In Malaria there is excessive red cell destruction, while at the same time there is defective production of red cells by the bone marrow. The reticulo endothelial system, tends to eliminate both the parasitized and non parasitized red cells. These processes lead to a rapid development of anaemia. Haemolysiss forms sickle cell disease produces a similar picture.

Because of the delay in seeking medical care, the anaemia is often severe by the time the patient presents for treatment, The delay is contributed to by the fact that anaemia is usually asymptomatic until it is severe, so it has

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to be looked for as early in pregnancy as possible. This patient presented with severe anaemia at 30 weeks of gestation. The most dangerous complication is congestive cardiac failure. The critical haemoglobin level below which this is likely to occur is arround 4 mgs per decilire (Lawson)(1). Cardiac failure is more likely to occur during the first 12 hours after delivery, because the sudden closure of the retroplacental shunt places a greater strain to the already anoxic cardiac muscle.

Other effects of anaemia on the mother are:

1. increased susceptibility to infection especially during the puepevium.

2. because of the diminished redcell mass, quite small losses of blood at delivery may be fatal, and shock of traumatic delivery even without blood loss is poorly tolarated.

Apart from the dangers in the mother, anaemia adversely affects the foetal outlook. Abortions and premature labour are common, as well as intrauterine foetal death and lowbirthweight. Intrapartum asphyxia may be responsible for stillbirths and neonatal deaths, due to the effect of labour on the placental exchange of an already hypoxie foetus.

It is important to define a level of haemoglobin, which is of clinical significance, related to the health and wellbeing of both the foetus and the mother. WHO defines anaemia in pregnancy, as a level of haemoglobin below 11 gms. per cent. At our centre we admit patients with a haemoglobin

of 9 gms percent and below for investigations and treatment. This lowerlevel is taken because anaemia is very prevalent here. The basic investigations done in our centre to identify the cause of anaemia are as described for this patient. Bone marrow biopsy and estimation of serum iron and total iron binding capacity are not routinely done because of lack of facilities.

This patient was found to have severe iron deficiency anaemia. This was most likely due to poor dietary intake aggrevated by the presence of hookworm. Hookworm is often an important contributing factor, whenthe parasite load is heavy, and iron intake is low. Previous studies here have shown that approximately 50% of pregnant women with anaemia have significant hookwormload.

She was given blood transfusion. In such a severely anaemic patient, there is a danger of precipitating cardiac failure by overloading the circulation, so precautions were taken to avoid this. She was propped up in bed, frusemide was given half an hour before starting the transfusion, and only packed cells were transfused very slowly.

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Etharcryinic acid

Etharcryinic acid which is a more potent diuretic is not available in our centre. Its advantage is that it can be mixed with the blood and the transfusion given slowly. It produces intense diuresis of salt and water which reduces the plasma volume (1). The patient was kept under observation at our intensive care unit. Her pulse rate and respiratory rate were checked frequently and her lung fields were ascultated for early evidence of cardiac failure. Another method of giving blood transfussion without overloading the circulation is by exchange transfusion. This has been found to be life saving in women with overt cardiac failure due to anaemia especially in labour.(1)

This patient was given parentral iron because it gives a quicker and more certain response, while the response tooral iron therapy is gradual, because at most only 20% of the iron given by mouth is absorbed (5); it also requires high patient motivation. Few patients in our clinics have a high enough motivation to take ferrous sulphate tablets; so we routinely give parentral iron therapy as total dose infusion in amounts calculated as described, to those severely anaemic patients requiring admission.

Anaemia in pregnancy is a preventable condition. Prevention can be achieved through health education on

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the importance of early attendance to the antenatal clinic, where anaemia is detected early, and treated, as well as prophylactic medication given to prevent its occurence. At the clinic advice is given on the importance of a balanced diet in pregnancy, and on how to prevent hookworms by observing proper hygiene. Prophylactic iron, folic acid and chloroquine should be given to all pregnant women, and they should be educated on the importance of taking these drugs regularly. The importance of child spacing should be emphasized and sterilisation advised to those of high parity.

Before discharge, this patient was advised and warned of the dangers of recurrence in subsequent pregnancies. She was advised to book early next pregnancy in order to get appropriate prophylactic treatment. She was also advised on family planning methods.

As she had no other obstetric complications she was discharged back to the peripheral clinic and advised to deliver at Oceanroad hospital.

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MATERNAL MORTALITY AT MUHIMBILI MEDICAL CENTRE

DAR ES SALAAM, 1981 - 1982

SUMMARY

A study of maternal deaths that occured between January 1981 and October 1982 is presented. During this time there were 47,165 live births and 130 maternal deaths. The maternal mortality rate was 2.7 per 1000 live births. The commonest causes of deaths were haemorrhage, pueperal sepsis, eclampsia, anaemia and abortions. More than 75% of the maternal deaths had some antenatal care. Ways of reducing the high mortality rates are discussed.

INTRODUCTION

The WHO definition of maternal death is one which occurs during pregnancy, during labour, or as a consequence of pregnancy within 42 days of delivery or abortion.

The aetiological factors underlying maternal deaths, differ in different societies and countries, and are influenced by socioeconomic environmental cultural and traditional factors (6). Maternal mortality rates serve as an index of the standard of obstetric care, and highlights areas where improvements can be made. With advent of modern obstetric care, maternal mortality have been markedly minimized in the developed world. In countries of Western Europe and America continuous national surveillance of maternal deaths is carried out and periodic reports issued, with

a view of improving the prognosis of childbirth for the individual mother.

In England and Wales, the maternal mortality rate in 1950, had already declined to 0.7/1000, and had reached the lowest level of 0.12 per 1000 in 1972 (11). Maternal mortality rate in Tanzania like many other developing countries is high. The national figure is hard to get, because of poor collection of statistics and under-reporting because not all maternal deaths occur in hospitals. Institutional figures from the major consultant hospitals shows that the maternal mortality rates are high. In Muhimbili Medical Centre for example, in the year 1974 - 1977, the hospital maternal mortality figure was 2.1 per 1000 (9). This high rate compares favourably with others from developing countries in Africa. In a similar institution in Kenya, the maternal mortality rate was 1.96 per 1000 (6), in Malawi and Nigeria, Bullough (2) and Wabeene (13) reported maternal mortality rates of 2.63 per 1000 and 4.3 per 1000 respectively. These rates are more than ten times higher when compared to the rates in developed countries such as England and Wales, and the United States of America which are 0.12 and 0.18 per 1000 respectively (11, 12). The four Scandinavia countries, Sweden, Norway, Denmark and Finland, have the lowest reported regional maternal mortality in the world, 4.3/100,000, while Afghanistan, India and Bangladesh have the highest rates (600 - 700) per 100,000 live births (12).

Studies of maternal mortality rates are invaluable in rising the standards of obstetric care in a particular country, especially

if attention is focussed on the discovery and correction of avoidable factors contributing to the maternal deaths. The objective of this study is to review the causes of maternal deaths which occured during the study period, and suggest possible methods of prevention.

PATIENTS AND METHODS

Muhimbili Medical Centre serves the whole of Dar es Salaam region, Coastal region, and receives referred cases from other nearby regions.

The case notes of all patients who died in the centre as a result of pregnancy, labour and pueperium between January 1981 and October 1982 were reviewed. The causes of deaths in most cases had been thoroughly reviewed in the weekly maternal mortality meeting of the department of Obstetric and Gynaecology. Although there could be more than one causative factor, one major cause of death was assigned after thorough discussion. Postmortem confirmation of the diagnosis was done where consent from the relatives could be obtained. There is however a general reluctance towards this investigation, and thus most of the causes of death were clinical judgements.

A patient was considered booked if she had attended any antenatal clinic once or more during pregnancy.

RESULTS

One hundred and thirty maternal deaths occured at the centre between January, 1981 and October, 1982. During the same time there were 48,521 deliveries and 47,165 live births. Thus the maternal mortality rate was 2.7 per 1000 live births.

TABLE 1. Age distribution among maternal deaths. (n = 130)

Age Group in Years	Number of Women
14 - 19	35 (26.9%)
20 - 24	27 (20.8%)
25 - 29	19 (14.6%)
30 - 34	15 (11.5%)
35 +	4 (3.1%)
Unrecorded	30 (23.1%)
Total	130 (100%)

Majority of the deaths occured in young women. Sixty two deaths (47.7%) occured in mothers below 25 years. Previous studies in this centre have shown that 70% of mothers aged

below 20 years were primiparas (1). Most of our women tend to have their babies at a younger age, and multiparity is common in relatively young women, as a result we have smaller number of women aged 35 years and above coming for delivery. Furthermore the younger women, especially primiparas are at higher risk of pre-eclampsia and eclampsia related deaths as well as deaths following criminal abortions both of which were important causes of death in this study. The maximum age recorded was 40 years (1 patient). In 30 cases, the ages were no recorded, these were recorded either as adult or nothing at all was recorded.

TABLE 2: Parity distribution among the women who died:

n = 130

Parity	Number of Women
0	37 (28.5%)
1	14 (10.8%)
2	13 (10.0%)
3	16 (12.3%)
4.	14 (10.8%)
5	9 (6.8%)
6	4 (3.1%)
7 +	15 (11.5%)
Urecorded	8 (6.2%)

Thirty seven death (28.5%) occured in mothers of parity 0 i.e. primegravids. This can again be explained by their increased risk for the major causes of maternal deaths namely eclampsia and pre-eclampsia, anaemia and deaths following abortions; also by the fact that women of parity 0 accounts for 24% of deliveries as compared to women of para 7 and above who accounts for only 7% (7), of deliveries in the centre.

Antenatal Care: All the women who died following abortion were unbooked. The booking status of the rest of the maternal death is shown in the table below.

TABLE 3: Booking status of the maternal deaths.
(excluding deaths due to abortion) n = 118

Booking Status	Number of Women
Booked	91 (77.1%)
Unbooked	27 (22.9%)
Total	118 (100%)

More than 75% had had some antenatal care.

Causes of death:

These are shown in table 4. The leading cause of death was obstetric haemorrhage which accounted for 19.2% of all deaths. 16 of them died of antepartum haemorrhage, and 9 had post partum haemorrhage. Out of these deaths due to haemorrhage, 11 were admitted moribund and in the rest, haemorrhage had occured in hospital. None availability of banked blood was the reason for these deaths.

Puerperal sepsis and eclampsia occupied the second position. Of the 23 deaths from puerperal sepsis 8 had delivered by caesarean section after prolonged labour, and 15 had vaginal deliveries. 7 had delivered in hospitals within the city, and in 8 deliveries occured at home.

Of the 23 mothers who died of eclampsia, 10 had no antenatal care. Fits had occured at home in the majority of them. 9 had their first fit in hospital. The most common complications causing death were renal failure and cerebral vascular accident.

Anaemia was responsible for 17 deaths these were admitted with severe anaemia in cardiac failure. 10 died undelivered and six after delivery before blood way available for transfusion. Anaemia was also an associated cause of death in some cases of sepsis and haemorrhage where small losses in borderline anaemic patients proved fatal.

The deaths associated with abortions followed illegal interference, and the actual cause of deaths were sepsis and renal failure in 11 cases. Only one death was due to post abortal