(Two books)

O B S T E T R I C A L C A S E - B O O K.

submitted for

entrance to the examination

for

MEMBERSHIP to the ROYAL COLLEGE of

OBSTETRICIANS and GYNAECOLOGISTS

by

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This is to certify that

Dr. J. T. Louw

was in charge of, and dealt with these cases on his own.

The investigations, manipulations and operations described were carried out by Dr. Louw.

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I N D E X.

I N T R O D U C T I O N.

In sorting out a series of cases for a case-book of this nature, difficulty was encountered in the choice of the cases.

However, an attempt was made to reach a distinct continuity, yet naturally, embodying some of the most interesting cases encountered.

For that reason an abnormal site of gestation, ectopic pregnancy, and one of it's complications e.g. lithopaedion were included.

They are followed by a series of abnormal presentations working up to disproportion and rupture of the uterus.

Two cases of multiple pregnancy - twins and triplets - are then given, followed by the haemorrhages.

In order to maintain the continuity pre-eclamptic toxaemia and eclampsia followed accidental haemorrhage.

Puerperal sepsis is most unpleasant but it was felt that no obstetrical case-book could be complete without it's inclusion.

The case presenting as hydramnios was of special interest.

These were then followed by a series of cases of both a rare and unpleasant obstetrical complication viz. constriction ring. Because of the rarity of the condition and because the main commentary is on constriction ring they were grouped last starting with the reversible ring and ending with a constriction ring in an angular pregnancy.

Most of these cases were admitted as emergencies, as good antenatal supervision practically eliminates conditions such as

for example eclampsia, neglected shoulder, ruptured uterus and brow presentation where craniotomy is required.

C A S E 1.

Ruptured Ectopic Pregnancy.

Summary.

A 21 year old nullip complained of sudden severe abdominal pain followed by collapse, after a 7 week period of amenorrhoea.

The pain radiated to the subcostal region and the shoulder tip.

On examination she showed signs of severe intra-abdominal haemorrhage.

At operation the right ruptured fallopian tube was removed.

She made an uneventful recovery.

NAME: THEUNISSEN, Rachel.

AGE: 21 years.

SINGLE.

RACE: Cape Coloured (Bushman type)

HOSPITAL: Groote Schuur.

ADMITTED: 20.7.1945.

Complaint: Sudden severe abdominal pain followed by collapse.

Duration: 6 hours.

Pregnancies: Nil

Abortions: Nil

Menstruation: Menarche ..... 15.

Cycle ..... 4/28 day type. Regular.

Flow ..... Moderate.

Pain ..... Severe lower abdominal, 2 days premenstrual.

L.M.P..... 15.5.1945.

Intermenstrual: Clear.

Micturition: No abnormalities.

Bowels: Regular.

Previous Illnesses: Nil of note.

Present condition: The patient states that her last period was on 15.5.1945.

She was quite fit until 1 p.m. on 20.7.1945 when she was seized by a sudden severe cramp in the right iliac fossa.

This was soon followed by a severe acute stablike pain in the same region. Soon after this acute pain she experienced pain in the right subcostal region and a excruciating pain at the right shoulder tip.

She felt faint, sweated and vomited twice with the onset of this pain.

There was no vaginal bleeding.

On Examination:

General condition: Shocked.

Temperature : 96°F.

Pulse : 150/min.

Sighing respirations.

Local: Abdomen: Tender over the whole slightly distended abdomen. Greatest tenderness in the right iliac fossa. Rigid.

C.V.S.: No abnormal cardiac sounds.

B/P. : 30/?

Respirations: No abnormality detected.

P.V.: Uterus slightly enlarged and tender. Very tender in both fornices ... especially on the right.

Urine: Clear.

Diagnosis: Ruptured Ectopic pregnancy, right tube.

2 pints of whole blood were given rapidly. Transfusion was continued throughout the operation and afterwards, another pint was given at a slow rate.

OPERATION:

Midline lower abdominal incision made.

As the peritoneum was approached a bluish sheen was noticed.

On opening the peritoneum the abdominal cavity was found to be filled with blood.

The ectopic was harboured in the right fallopian tube.

The rupture was situated at about the midpoint of the tube on its free border.

Clamps were applied and the ectopic pregnancy plus it's portion of tube removed. The divided ends were then transfixed. The raw areas were overstitched with peritoneum.

Blood was removed from the abdominal cavity.

The abdomen was closed by stitching consecutive layers.

22.7.1945: Patient comfortable. She had started bleeding vaginally.

27.7.1945: Very comfortable.

29.7.1945: Stitches removed. Wound well healed.

31.7.1945: Fit for discharge.

Commentary.

In this case the diagnosis or operation presented no difficulties.

Blood was at hand and was therefore transfused, pre-, during and post-operatively.

The absence of vaginal bleeding can be explained by the fact that the decidua had not been shed.

The decidua had not shed because, probably, the foetus was alive at the time of the tubal rupture, and she was admitted soon afterwards.

She bled, vaginally, two days after the operation.

CASE 2.

Lithopaedion.

Summary.

A 43 year old patient gave a history typical of a ruptured 4 month ectopic gestation 11 years previously.

She had menopausal phenomena and complained of pain in the left iliac fossa for 8 months.

Examination under general anaesthesia revealed a rock like lump posterior to the uterus.

X-Ray proved this mass to be a lithopaedion.

NAME: VAN DER LINDE, Sally.

AGE: 43, years.

RACE: Cape Coloured.

MARRIED.

HOSPITAL: Woodstock, Cape Town.

ADMITTED: 21.4.1947.

Complaints: 1. Irregular menstruation = 2 years.

2. Pain in the Left Iliac Fossa, 8 months.

Pregnancies: 2. They were born at term. 21 and 17 years ago. There were no pregnancy labour or puerperal complications.

Abortions: 3. These were, 3, 5 and 4 months foetuses - the last being 11 years ago.

Mensturation: Menarche: 12.
Cycle: Regular 2-3/28 day type until about June 1945. Ever since then she has been very irregular. Her periods stay away for 2, 3, and 4 months at a time.
Flow: This has always been moderate but has become scanty since the onset of the irregularity in June 1945.

Pain: Nil

L.M.P.: 19.12.1946.

Intermenstural: Very slight yellowish- white discharge for many years.

Micturition: Normal.

Bowels: Regular.

Past History: The patient states that in 1936 i.e. 11 years ago she had a 4 month period of amenorrhoea. This was followed by severe abdominal pain, fainting and vaginal bleeding.

She was seen by her Dr. who admitted her to hospital.

She stayed in hospital for 3 weeks and was then discharged.

She passed clots vaginally and thought and was told that she had aborted - although no foetus was passed.

Present condition: She states that she kept fit until June 1945. Ever since her periods have become more scanty and she has missed periods up to 2 to 3 to 4 months.

Her last period was on 19.12.1946.

She feels light-headed at times.

She has not vomited.

Her breasts have not become tender.

Since August 1946 she has been troubled with an occassional stitch and a more or less continuous dull ache in her left iliac fossa.

The pain does not radiate.

It is not aggravated or relieved by anything.

On Examination:

General: Her condition is good.

Local: Abdomen: She is fat.

Tender in the left iliac fossa.

Per Vagina: The cervix was normal.

The uterus could not be properly defined.

Per Rectum: No abnormality was detected. The uterus could not be palpated.

There was no tenderness in the fornices.

24.4.1947: Frog test - negative.

28.4.1947: Examined under Pentothal Anaesthesia.

The uterus was found to be anteverted, normal in size, and fixed.

The adnexa were clear.

High up posterior to the uterus there was a rock-like mass with sharp projections, to the left side.

Tentative diagnosis: Menopausal and

(a) Calcified ovarian tumour or

(b) Lithopaedion.

29.4.1947: Straight X-Ray of the abdomen revealed a lithopaedion (Vide fig. ...1.....).

2. 5.1947: OPERATION.

A lower midline abdominal incision was made.

Difficulty was experienced in opening the abdomen as small gut was adherent to the anterior abdominal wall.

The adhesions were gently freed.

The lithopaedion was exposed lying posterior to the uterus - which was slightly smaller than normal in size. Small gut was adherent to it posteriorly.

A line of cleavage was found and the lithopaedion was removed. (fig. ...2.....).

There was slight oozing but there were no difinite bleeding points.

A drainage tube was inserted into the pouch of Douglas.

The tubes and ovaries were not seen because of the generalised adhesions.

The abdomen was closed by stitching consecutive layers.

Her private Doctor (Dr. Resnekov) was contacted and came to see the operation.

He stated that he had gone through his notes and found her case history. At the time (1936) he saw her he was not sure whether she was a ruptured ectopic pregnancy or an abortion.

He admitted her to hospital, where her condition steadily improved. Her pain eased and the vaginal bleeding ceased. She was therefore discharged.

He said he was glad that his mistake had not inconvenienced her and that it had given me the chance of seeing and dealing with a really rare condition.

3.5.1947: Her condition is good.

As nothing had drained, the tube was shortened by ½ inch.

7.5.1947: The tube was shortened daily and was now removed.

12.5.1947: Stitches removed.
The wound has healed by primary intention.

16.5.1947: Discharged.

To return to the out-patient department in 2 months time.

14.7.1947: She has not had a recurrence of the pain in the left iliac fossa. She still has not seen her periods since December 1946.

Fig. 1 X-Ray showing the lithopaedion.

Fig. 2 Photograph of the specimen.

Commentary.

1. The interest of the case lies in the rarity of the condition. A diagnosis of a rare condition should rarely be made. However if the findings are unusual - as was this rock-like mass with its sharp points, the history and findings should be carefully considered and a diagnosis be made, and confirmed by special investigation e.g. X-Ray.
2. Her irregular scanty menstruation, attacks of lightheadedness, together with a uterus smaller than normal fits into the menopausal picture. This naturally has no bearing on the lithopaedion.
3. The pain in the left iliac fossa in all probability was caused by the lithopaedion mechanically. Why these symptoms only commenced 8 months previously is difficult to state.

   It can only be said with certainty that the lithopaedion was the cause of the pain if she is free of the pain 2 months post-operatively. As yet no definite comment can be made on this.

CASE 3.

Primary uterine Inertia.

P.O.P.

Correction and delivery by Forceps.

Summary.

A 32 year old second para at term was admitted after being in labour for 70 hours with the membranes ruptured for 51 hours.

The uterus was tonically contracted and palpation of the foetus impossible. Vaginal examination revealed a fully dilated os with the occiput posterior.

The foetal lie was corrected and the live 8 lb. baby was delivered by forceps.

The puerperium was uneventful.

9 9/0 Thus a case of Uterine inertia

NAME: SOLOMONS, Afie

AGE: 32 years.

RACE: Malay.

PARA: Second.

L.M.P.: 26.10.44. Therefore at term.

HOSPITAL: Somerset.

EMERGENCY: Admitted at 8 p.m. 3.8.1945.

Complaint: Long hard labour.

Duration: Since 31.7.1945.

History: Past: The patient states that she was in labour for 3 days with the previous confinement, 2 years ago, before forceps were applied and the baby delivered. She states that she had a perineal tear and that 2 stitches were inserted. The baby is normal and alive. The birth weight is unknown.

Present: She states that her labour started at 10 p.m. on 31.7.1945. The pains were regular and came at steadily decreasing intervals. The pains eased off during the morning of 1.8.1945.

After lunch the pains started once more. The waters broke at about 5 p.m. This was followed by an increase in the intensity of the pain until midnight. She had poor pains throughout 2.8.1945.

Since 5 a.m. 3.8.1945 she has been in really hard labour. Her pains came frequently and lasted a long time. She was worn-out by 11 a.m. 3.8.1945 and sent for her Doctor. He advised hospitalisation. She still tried hard to deliver herself of her baby but gave in eventually and was admitted to this institution as an Emergency at 8 p.m. 3.8.1945.

On Examination: General condition: The patient appeared distressed and fatigued. Pulse: 128/min. Temperature : 100°F. Respirations : 26/min.

Local: Abdomen: The Fundus was up to the Xiphisternum. It was in Tonic contraction. Lie could not be determined.

Foetal heart : 180/min.

The head was through the brim.

C.V.S. : N.A.D. Blood pressure : 110/75.

Resp.: N.A.D.

Urine: Clear.

Vaginally: Os fully dilated.

The occiput was posterior.

Marked caput showing at the vulva.

General anaesthetic administered. (Gas, oxygen and ether)

Bladder was emptied.

The foetal position was corrected and forceps applied. The child was delivered in the L.O.A. position. There was a slight perineal tear.

An 8 lb. live baby was delivered. It responded to treatment.

The tear was stitched.

The placenta was born in 20 minutes.

4.8.1945: Patient comfortable.

7.8.1945: Involution proceeding normally. No pyrexia, during puerperium.

11.8.1945: Perineal stitches removed. Wound has healed.

14.8.1945: Her puerperium was uneventful and both she and her baby were discharged from hospital.

Commentary.

Primary uterine inertia is not common in multipara.

This patient's pains were poor with few exacerbations - until 5 a.m. 3.8.1945.

The inference therefore is that she had a primary uterine inertia.

Coupled with this her membranes ruptured early and the presentation was a persistent occipito-posterior.

These three phenomina - primary uterine inertia, early rupture of the membranes and posterior position - have correctly been termed "The terrible triad."

Because of stubborness the patient was not admitted until her uterus was in tonic contraction. She was fortunate indeed to have a live baby - although distressed (foetal heart 180/min.).

The delay in the second stage no doubt was due to the posterior position as the extraction of the slightly above average sized baby (8 lbs.) was without difficulty.

An interesting feature in this case is that her first (3 day) labour was terminated by forceps.

Theoretically this might have been a factor precipitating another primary uterine inertia - although practically it is not common to find recurrent uterine inertia.

CASE 4.

"Military Position" of the head.

Failed forceps.

Internal version and extraction.

Summary.

A 21 year old primipara, at term, was admitted in labour. On abdominal examination the head was found to be grossly deflexed.

A primary uterine inertia did not improve flexion.

Vaginal examination under general anaesthesia revealed a normally sized pelvis.

When there were signs of foetal distress forceps were applied. Because of the extension the head could not be budged.

Forceps were removed, internal version was done and the foetus extracted.

The live baby weighed 7½ lbs.

Her puerperium was morbid.

She and her baby were discharged fit.

NAME: JACOBS, Annie.

AGE: 21 years.

RACE: Cape Coloured.

PARA: 1.

L.M.P.: 15.7.1946. Therefore at term.

HOSPITAL: Somerset.

ADMITTED: 8.15 p.m. 5.4.1947.

EMERGENCY:

Present History: She has never been seriously ill.

Present condition: The patient states that she was quite fit throughout pregnancy.

Labour pains commenced at 3 a.m. (5.4.1947) and became both more forceful and increasingly frequent throughout the day.
Since about 5 p.m. (5.4.1947) the pains have been wearing off.

On Examination:

General condition: Good. Feminine type. She was tired.

Local: Abdomen: Fundus 3 fingers below ensiform.
Contractions are poor and infrequent.

R.O.P.

Head mobile and in "Military" position.

Foetal heart 140/min., and regular.

Per Rectum: Membranes intact. Os, neither applied nor well effaced, admits 2 fingers.

Morphine : $\frac{1}{4}$ gr. given.

6.4.1947: The patient had a good sleep.

6.20 a.m.: She had a few poor contractions. The membranes ruptured spontaneously.

The head now had engaged but not by it's largest diameter.

Still R.O.P. but flexion had improved.

The pains remained poor and infrequent up to 3 p.m. Now they lasted 45 - 60 seconds and came at 5 - 6 minute intervals.

6.30 p.m.: There was further slight descent of the head, and improvement in flexion.

Vaginal examination under general anaesthesia done to estimate the size of the pelvis clinically.

The os was 4½ fingers dilated, well applied to the head but thick anteriorly.

There was neither a marked caput nor moulding.

The lowest point of the head was above the ischial spines.

The anterior fontanelle could be felt - it was anterior and to the left i.e. R.O.P. (and extension).

The pelvis was roomy.

Diagonal conjugate measured 12 cms.

The Ileo pectineal lines had normal slopes. The sacrosciatic notch was normal.

The bisischial diameter and subpubic angle were normal.

The baby did not appear to be abnormally large.

Clinically, therefore, it was decided that the baby could pass through the pelvis.

As soon as the patient regained consciousness she was given 30 grs. chloral Hydrate - and 50 c.c.s. 50% Dextrose intravenously.

7.4.1947:

5.30 a.m.: Pains have been good and regular since 5.30 a.m.

Abdominally the head was practically through the inlet. It was still a posterior position.

The caput showed at the vulva.

The foetal heart now ranged between 110 and 120/min. and was irregular.

Forceps delivery therefore was decided upon.

Forceps were applied with the occiput posterior. ? Why should it.

A fair amount of traction failed to budge the head.

The forceps were removed and the occiput was rotated to the anterior position.

Difficulty was experienced in doing this manoeuvre. The result was that once it was completed it no longer meant a low forceps. It was not rotated

Mid-forceps were applied but failed to budge the head. The cause of the difficulty was a degree of extension of the head. This difficulty could not be overcome.

Internal version and extraction was done.

The arms were extended but presented no difficulty.

An episiotomy was done and Burns' method was employed in dealing with the head. There was no difficulty whatsoever in delivering the head.

The live male child weighed 7 lbs. 8 oz.

Because of the previous thorough vaginal examination now followed by internal manipulations the patient was given Penicillin immediately.

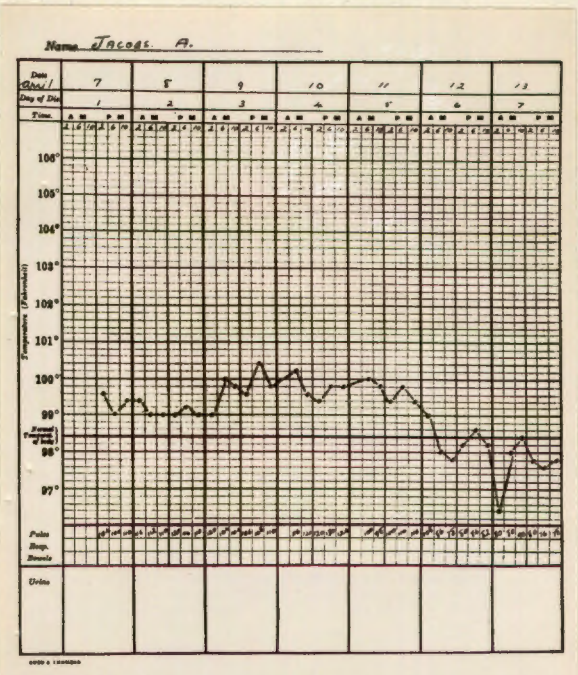
8.4.1947: The patient's general condition is good. She cannot pass water and has to be catheterised.

19.4.1947: The patient was morbid (vide chart).

She made a good recovery.

The episiotomy had healed well.

Both she and her baby left hospital and were both fit.



Commentary.

Because of a malpresentation and primary uterine inertia the baby's head failed to flex properly; and therefore to engage properly.

As she was an emergency admission, and a primipara with a mobile head, it was of utmost importance to know whether there was cephalo-pelvic disproportion.

The patient was therefore submitted to a vaginal examination under general anaesthesia.

It was found that the pelvis was normal and that the head would pass through this pelvis given good uterine action.

Foetal distress with a fully dilated os was the reason for interference.

When it was found that the foetus could not be delivered as a vertex both in the occipito-posterior and anterior positions, an internal version and extraction was done.

The ease with which the aftercoming head of the live baby was born proved that the clinical cephalo-pelvic assessment was justified.

but not that your treatment was Correct.

CASE 5.

Brow presentation:

Converted to vertex:

Spontaneous delivery.

Summary.

A 28 year old primipara-antenatal case - was admitted in labour.

Her pelvic measurements were normal.

The baby presented by the brow.

The membranes ruptured early.

The brow was corrected to a vertex through a two finger os. Willetts were applied to maintain the vertex presentation.

Spontaneous delivery followed.

NAME: STUBB, Wilhelmina.

AGE: 28 years.

RACE: Cape Coloured.

PARA: 1

L.M.P.: 3.5.1945 Therefore ± at term.

HOSPITAL: Peninsula Maternity.

ADMITTED: 31.1.1946 at 4 p.m.

Ante-natally.

General condition good. Cardio vascular and Respiratory systems were normal.

29.10.45: Urine: No alb.: B/P.: 110/65 : Fundus - 4 fingers down: L.O.A.: Foetal heart heard.

20.11.45: Urine: No alb.: B/P.: 120/65 : Fundus 3 fingers down: R.O.A.: Head mobile and slightly extended : Foetal heart heard. W.R. negative.

18.12.45: Urine: No alb.: B/P.: 100/60 : Fundus 1 finger down: R.O.A. : Head mobile -

Foetal heart heard.

25.1.46: Urine : No alb. : B/P. : 110/60 : Fundus 1 finger below the ensiform : R.O.P. : Head still extended, high and mobile.

Because of the high mobile foetal head a thorough examination was now made (i.e. at about the 38th week) to exclude disproportion.
She had an essentially feminine build and hair distribution.

External measurements:-

Interspinous : 24 cms.
Intercristal : 27 cms.
External conjugate : 20 cms.

Vaginally:

Diagonal conjugate: the examining finger could not reach the sacral promontory.

The ileo-pectineal lines swooped gradually and soon were out of reach.

The cavity of the pelvis was roomy.

The sacro-spinous ligaments were well over 1½ - 2 ins. long.

The spines of the ischia did not project.

The bisischial diameter accommodated a fist easily.

The subpubic angle admitted two knuckles with ease.

By Muller-Kerr's manoeuvre the head could just be made to enter the brim - with no overlapping, it did not descend as far as the ischial spines.

Clinically therefore it was decided that given good uterine action the head would easily go through this essentially normal pelvis.

X-Ray pelvimetry was arranged for (this has to be done at the Groote Schuur Hospital as the P.M.H. has no radiological facilities.) The patient however came into labour before being X-Rayed.

The patient came into labour at 8 a.m. 31.1.46.

She states that the pains steadily increased both in frequency and intensity since the onset of labour.

Her membranes had not ruptured.

On Examination:

General: The patient looked well. She was in fairly strong labour.

Pulse : 85/min.
Temperature: 98.8°F.
Respirations: 20/min.

Cardiovascular system: No abnormality was detected.

Blood Pressure : 120/80.

Respiratory system: No abnormality was detected.

Urine: Clear. No albumen.

Abdominal: No abnormality was detected on inspection. The fundus was 2 fingers below the ensiform cartilage. The uterus was slightly dextroverted. The back of the foetus was to the right and posterior. The head was high and mobile and very

deflexed - the occiput and sinciput being on the same level, and both very prominent.

Uterine contractions last 45 - 60 seconds and came at 5 - 10 minute intervals.

The foetal heart was heard far out in the right flank.

Rectal: The bag of waters bulged low down. The os admitted 1 finger. The presenting part could not be felt. The membranes ruptured spontaneously.

8.30 p.m.: Vaginal examination revealed a two finger well effaced os. The cervix was not well applied to the presenting part- the head.

High up, anteriorly and to the left were the supra-orbital ridges and the root of the nose.

Diagnosis: Brow presentation.

10 p.m.: The patient has had regular good contractions.

Under general anaesthesia the diagnosis, and the normal pelvic measurements were confirmed.

The head was dislodged and flexed digitally whilst the chest was pushed in with the abdominal hand. The baby was rotated into the occipito-anterior position.

Willett's scalp forceps was applied to the vertex and attached to a $1\frac{1}{2}$ lb. weight over a pully.

A tight abdominal binder was applied.

12 Midnight: The patient began having strong pains at regular intervals.

The head was engaged.

Willett's forceps was removed.

50 c.c.s. 50% glucose given intravenously.

1.2.46:

7.45 a.m.: She began bearing down.

9.15 a.m.: A live, lusty 8 lbs. 5oz. male baby was born.

Two areas of caput were noticeable:- one over the brow and the other over the vertex.

9.40 a.m.: Placenta and membranes were expelled normally.

10.1.46: The puerperium was uneventful.

Both Mother and baby were fit and were discharged from hospital.

Commentary.

Because of a high mobile head after the 38th week in a primipara, this patient was submitted to a vaginal examination in the antenatal department. A normal pelvis was assessed.

She came into labour and a brow presentation was diagnosed. The membranes ruptured spontaneously. This was followed by a vaginal examination:-

1. To exclude prolapse of the cord (as the head was not completely fixed).
2. To verify the diagnosis.

Under general anaesthesia the brow was corrected to a vertex presentation, with satisfactory results.

The criticism of the treatment could be that it was meddlesome midwifery and that had the patient been left, in all likelihood, a face presentation would have resulted - and therefore the general anaesthetic could have been obviated.

This criticism is just provided the patient was (as she should be in any case) under constant supervision and that all was in readiness for interference were there any signs pointing towards impaction of the brow.

CASE 6.

Impacted Brow Presentation.

Summary.

A 36 year old seventh para was admitted in strong labour, as an emergency.

Examination revealed an impacted brow presentation - the foetus being dead.

The head was extended and rotated - chin anteriorly.

Forceps failed to budge the head.

Craniotomy was done.

NAME: SLABBERT, Ada Alice.

AGE: 36 years

RACE: European

PARA: 7 Eldest: 12 yrs. youngest: 18 months.

L.M.P.: Beginning of March 1945 : Therefore / at term.

HOSPITAL: Peninsula Maternity, Cape Town.

ADMITTED: 18. 12. 1945 at 4 p.m.

EMERGENCY:

Previous History:

General: She has never been seriously ill.

Obstetrical: Her previous 6 babies were all delivered spontaneously and within 8 - 9 hours. They are all alive. No history suggestive of Toxaemia.

Present: The patient states that she was completely fit throughout this pregnancy. She is at term.

On 18.12.45 at 8 a.m. her membranes ruptured.

At 9 a.m. strong labour pains commenced.

At about 10.30 a.m. bearing down efforts began. By 1 p.m. there was no advance. She could not budge the baby.

The midwife in attendance by 2 p.m. had made 3 vaginal examinations.

She then sent for a Doctor who did a rectal examination, - told her it was a face presentation and sent her into hospital.

On Examination.

General condition: The patient was showing signs of exhaustion. Pulse : 116/min. Temperature: 98°F. Respirations: 26/min.

Abdominal Palpation: The fundus was 1 finger below the ensiform cartilage. The baby's back was to the right and anterior. The foetal head was engaged but markedly extended. There was a grove between the occiput and the back. Contractions were good. Good relaxation inbetween contractions.

Auscultation: The foetal heart was not heard.

Vaginal examination: Os fully dilated. Brow presentation. Chin posterior.

50 c.c.s. 50% Dextrose given intravenously. Continuous intravenous saline commenced. 30,000 units Penicillin given intramuscularly.

The patient was given a general anaesthetic - Chloroform followed by open ether.

Brow presentation was verified.

Extension was increased and the chin was rotated into the anterior position. Forceps were applied. Traction failed to budge the head.

As the foetus was dead and the uterus was tightly contracted, the skull was perforated, brain washed out and a craniotomy done.

The male foetus weighed 8 lbs. 14¼ ozs.

The birth was followed by a rapid and severe post-partum haemorrhage.

The uterus was rubbed up. Crede's method failed to expel the placenta. The haemorrhage persisted. The placenta was removed manually.

Ergometrine ½ c.c. was given intramuscularly.

Bleeding stopped.

The intravenous saline was replaced by 2 pints of whole blood.

Penicillin therapy was continued for 3 days.

The patient made a rapid uninterrupted recovery, being sent to the convalescent home on 28.12.1945.

This patient was seen on 11.2.47 when she was 24 weeks pregnant.

5.5.1947: Admitted in labour. She has attended the antenatal clinic regularly. No abnormality was ever detected.

Labour began at 11.15 p.m. 4.5.1947.

Live male 8 lbs. 14½ oz. baby born at 1.15 a.m. 5.5.1947.

3rd Stage : 25 minutes.

Commentary.

The important feature demonstrated by this case is the fact that an abnormal presentation can complicate labour in a woman who had given birth to six babies with reasonable ease.

Because of numerous vaginal examinations before admission Penicillin was administered prophylactically.

As the foetus was dead craniotomy, following a reasonable attempt at forceps delivery (after correction of the presentation) was the reasonable and easiest method of delivery.

The exhausting labour followed by general anaesthesia and manipulations can be blamed for causing the post-partum haemorrhage.

Crede's method was tried but failed. Manual removal of the placenta was therefore done.

Her puerperium was uneventful.

That she made a complete recovery is borne out by the fact that she gave birth to a normal 8 lbs. 14½ oz. male infant on 5.5.1947.

CASE 7.

Face presentation.

Summary.

A 33 year old 3rd para at term was admitted after 54 hours apparent labour (most likely 49 hours false labour and $5\frac{1}{2}$ hours true labour.)

A mento-posterior presentation was diagnosed - the os being fully dilated.

Whilst preparation for correction was made she had three good strong pains. The chin was now anterior and under the symphysis pubis.

Delivery was spontaneous.

NAME: SEALY, Mrs.

AGE: 33 years.

PARA: 3rd.

RACE: European.

HOSPITAL: Peninsula Maternity.

L.M.P.: 24.6.1945. Therefore at term.

ADMITTED: 6.10.1946 at 7.30 p.m.

EMERGENCY:

Previous:

General: The patient states that she has never been ill.

Obstetrical: Both her previous pregnancies, confinements and puerperia were normal.

Her younger baby was born 2 years ago (i.e. in 1944)

Both babies weighed 6½ lbs.

Present: The patient states that she was quite well throughout pregnancy.

At 1.30 p.m. 4.10.46 pains commenced. These pains were poor and infrequent.

She was up and about and slept well throughout the nights 4 - 5 and 5 - 6/10/46.

Since about 2 p.m. 6.10.46 she has had strong pains at frequent and regular intervals.

At about 5 p.m. the pains came about every 3 to 5 minutes. They were very strong.

The midwife in attendance did a vaginal examination and sent for a doctor.

The Doctor arrived - did a vaginal examination - and sent her into hospital.

On Examination:

General: Her condition was good.

Pulse : 86/min.
Temperature : 98°F.
Respirations : 20/min.

Cardiovascular: No abnormality was detected.

Blood Pressure : 120/70.

Respiratory: No abnormality was detected.

Abdominal: On inspection no abnormality was detected - excepting dextroversion.

The fundus was 1 finger down.

The uterus contracted strongly (40 - 60 seconds) every 5 - 7 minutes.

The baby's back was to the left.

A portion of the head could be palpated on the left.

The foetal heart could best be heard on the right.

Rectally: Rectal examination revealed a fully dilated os.

The face was presenting with the chin posterior.

The chin was below the level of the ischial spines.

Preparations were now made for correction of the position and extraction of the foetus.

Whilst scrubbing up and the anaesthetist was busy at his trolley the patient had three good pains in rapid succession.

The patient was closely watched throughout this time and the chin appeared under the symphysis pubis i.e. it had rotated with these good pains.

The 6 lbs. 14 oz. live female baby was delivered almost immediately without incident.

The third stage was normal - lasting 30 minutes.

The puerperium was normal.

Commentary.

This patient was in a poor type of labour for 49 hours before good contractions occurred.

She was admitted because of an abnormal presentation.

The face presented with the chin posterior.

The spontaneous anterior rotation of the chin was due to really good uterine action. These few good contractions no doubt promoted full extension and thus rotation.

Given really good uterine action and a normal pelvis (with a reasonable presentation) labour as a rule terminates normally.

CASE 8.

Breech.

Antepartum Haemorrhage.

Summary.

A 29 year old multipara was attended to in the antenatal department with her baby presenting as a breech with extended legs. Repeated attempts at external cephalic version failed.

She had a slight accidental type of haemorrhage just prior to labour.

The breech was delivered without incident.

The baby weighed 8 lbs.

4d.

NAME: CHANDLEY, Miriam.

AGE: 29 years.

PARA: 8

RACE: Cape Coloured.

HOSPITAL: Somerset.

L.M.P.: 10 May 1945. Therefore at term.

ADMITTED: 18.2.46 at 6.30 a.m.

ANTENATAL CASE.

Previous History:

General: She has never been seriously ill.

Obstetrical: The second, third and fourth gestations terminated as abortions when about 4 months pregnant in each case.

Her pregnancies, labours and puerperia were all normal.

The first baby died of convulsions when 11 months old.

The other (three) babies are alive and well, the youngest being two years and seven months.

Present:

18.11.45: She visited the antenatal clinic for the first time on 18.11.45. She stated that she had been completely fit throughout this pregnancy.

On Examination:

General: Her condition is good. She is well covered.

Alimentary: Her bowels act daily. Teeth, tonsils are normal.

Cardiovascular: No abnormality was detected.

Blood pressure : 120/75.

Respiratory: No abnormality was detected.

Abdomen: Fundus 3 fingers down. Breech presenting.
Foetal heart heard.

Urine: Clear.
No albumen or sugar.

29.11.45: Urine : No alb. : B/P.: 125/80 : Fundus 3 fingers down :
Breech : Foetal heart heard.

13.12.45: Urine : No alb. : B/P.: 120/80 : Fundus 2 fingers down :
L.S.A. : Foetal heart heard.
Extended legs.
External cephalic version was attempted but failed.

31.1.46: Urine : No alb. : B/P.: 120/80 : Fundus 1 finger down :
L.S.A. : Legs extended : Foetal heart heard.
Attempted External cephalic version again failed.

14.2.46: Urine : No alb.: B/P.: 120/80 : Fundus 3 fingers down:
L.S.A. : Legs extended : Foetal heart heard.
As the breech was fixed in the pelvis and could not be lifted out, external cephalic version was not attempted.

18.2.46: Admitted at 6.30 a.m.

The patient states that during most of the 15th and 16th of February she has suffered from pains in the back at infrequent, irregular intervals.

At 3 a.m. 17.2.46 she awoke with quite severe pains in the back but at irregular intervals.

She then had a mucous discharge.

At 5 a.m. she had a painless vaginal haemorrhage - loosing, about 2 teacupfuls of blood. The blood was dark red in colour and contained a few biggish clots.

Since 6 a.m. she has had labour pains at regular intervals.

Her membranes had not ruptured.

On Examination:

General: Her condition is good.

Pulse : 90/min.
Temperature : 98.2°F.
Respiration : 20/min.
Blood pressure : 110/60.

Urine (catheter): Albumen +
No oedema.

Abdominal: Fundus 1 finger below the Xiphisternum.

The uterus is soft - contracting at 5 - 10 minute intervals. Pains lasting ± 40 secs.

Foetal parts are easily palpable.

Breech presenting -

Breech in Pelvis.

Foetal heart 144/min.

As she was in good labour and as the breech was fixed in the pelvis it was thought that a central placenta praevia could be excluded.

The most likely diagnosis therefore was a minor degree of accidental haemorrhage.

Interference was therefore thought to be unnecessary.

8.30 a.m.: Membranes ruptured.

Vaginal Examination:

The os was well effaced and well applied to the breech.

It was 3 fingers dilated.

11.30 a.m.: The patient has been having good pains. The breech appeared at the vulva. On bearing down the body and the extended legs appeared. The cord was pulsating and a loop was brought down.

With the next pain the legs and arms were lifted out of the vagina.

The head was delivered by Burns' method.

This all happened so quickly that general anaesthesia was not given and an episiotomy was not done.

The live female baby weighed 8 lbs. The perineum was intact.

The placenta was expelled in 15 minutes. There was no retroplacental clot. The membranes ruptured about 3 inches from the margin of the placenta.

28.2.46: At no time did the patient's blood pressure rise above 120/80.

Albumen did not appear in any catheter specimen after delivery.

She and her baby left hospital - both fit.

Commentary.

It has been proved that extension of the legs is one of the causes of breech presentation persisting. In all probability it was the cause of failure of external cephalic version.

As she really was a fifth para (3 abortions) it was known that her pelvic measurements were normal.

The delivery presented no difficulties.

As regards her statement of loosing two teacupfuls of blood, with the passage of clots, - this might have been due to a high marginal placenta praevia or an accidental haemorrhage. No extrinsic cause was found.

The points in favour of a high marginal placenta praevia are the facts that:-

1. The bleeding was unaccompanied by pains other than labour pains.
2. The rupture in the membranes was found about 3 inches from the placental margin a doubtful distance for the diagnosis of placenta praevia.

In favour of accidental haemorrhage is the fact that a trace of albumen was found in a catheter specimen of the patient's urine. However a trace of albumen in the urine during labour is normal.

Against accidental haemorrhage are:-

1. No uterine tenderness.
2. Foetal parts were easily felt.
3. No retroplacental clot.

The bleeding was more profuse than found in a 'good' show. Because of exclusion the unsatisfactory diagnosis of a minor degree of accidental haemorrhage due to an unknown cause is made.

? attempt at Version.

CASE 9.

Neglected shoulder Presentation.

Summary.

A 33 year old fifth para was admitted, having been in labour for 27 hours, membranes ruptured for 11 hours and prolapse of the baby's arm for 3 hours.

Abdominal examination revealed the head in the right iliac fossa, the uterus not contracting, and normal foetal heart.

As the os was fully dilated internal version and extraction of a live 9 lbs. 7½ oz. baby was done.

The puerperium was uneventful.

NAME: JEPTHA, Lelia.

AGE: 33 years.

RACE: Cape Coloured.

PARA: 5

L.M.P.: May 1946. Therefore at term.

ADMITTED: 13.3.1947 at 3.50 a.m.

HOSPITAL: Somerset, Cape Town.

EMERGENCY.

Previous History:

General: Nil of note.

Obstetrical: The patient states that her 4 previous deliveries were all normal in every respect. They had all taken place at home. An untrained midwife attended her with each confinement.

Her babies were all rather big; the average birth weight being about 10 lbs. (not positive evidence as the babies were not weighed.)

The last baby was born 20 months ago.

Present condition:

She states that she was quite fit throughout this pregnancy. She did not attend any antenatal clinic.

Labour started at 1 a.m. 12.3.1947.

She had strong pains at regular intervals during the day but with no apparent advance.

At 5 p.m. (12.3.1947) the membranes ruptured.

The pains now increased in intensity.

From midnight onwards the pains started wearing off.

At 1 a.m. (13.3.1947) the baby's arm prolapsed.

The pains ceased very soon afterwards and have not since returned.

On Examination:

General condition: Good.

Mucous membranes well coloured.
Temperature : 99°F.
Pulse : 90/min.
Respirations: 20/min.

Local: Abdomen: The breadth of the uterus appeared to be greater than its length.

Fundus 4 fingers below ensiform.

Uterus soft and not contracting.

The head was palpated in the right iliac fossa. The baby's back was across the pelvis. i.e. R.A.P.

Foetal heart : 140/min. Steady.

Vaginal: Right arm and hand prolapsed. The arm was bluish and oedematous.

C.V.S. : No abnormality was detected. B/P.: 130/80.

Respiratory: No abnormality was detected.

Urine: No albumen.

50 c.c.s. 50% Dextrose given intravenously followed by drip saline and glucose.

Penicillin 50 thousand units given intramuscularly.

5 a.m.: General anaesthetic given.

The prolapsed arm and vulva were thoroughly washed.

Dettol cream was poured over the vulva and prolapsed arm.

Vaginal examination revealed a fully dilated cervix.

The arm was replaced.

The foetal head was pushed in an anti-clockwise direction.

A foot was grasped and brought down. The other leg was also brought down.

The cord was pulsating. The rhythm was irregular.

The baby's arms were extended.

As it was a big baby an episiotomy was done. The posterior arm was brought down.

The foetus had to be turned so as to make the anterior arm posterior.
This arm was now brought down.

The head was helped into the pelvis by suprapubic pressure.

The cord was no longer pulsating.

As the head could not be made to crown by Mauriceau-Smellie-Veit, Burns or Prague methods, Forceps were were applied to the after-coming head.

A very distressed female baby was born.

It made a rapid uninterrupted recovery, the weight being 9 lbs. $7\frac{1}{2}$ oz.

The episiotomy was stitched.

The uterus contracted down well. There was no post-partum haemorrhage.

The placenta was expelled spontaneously 45 minutes after delivery.

14.3.1947: The baby was on the breast. Both Mother and baby were well.

20.3.1947: Perineal stitches removed. Wound well healed.

Temperature and Pulse have been normal since delivery.

23.3.1947: Because of the acute bed shortage and as the patient had a good home to go to she and her baby (weight now 9 lbs. 7¼ oz.) were discharged from hospital.

Commentary.

As in case No. 6, a complicated presentation can occur in any woman in labour, especially those who have not had antenatal supervision.

This patient was lucky in that she developed a secondary uterine inertia.

Because of a soft, non contracting uterus, internal manipulations were easy and without danger.

Having done the internal version, the breech was extracted. The inevitable happened viz. extension of the arms. An episiotomy was done and the shoulders were delivered with difficulty. The foetus had to be rotated so that each shoulder in turn became posterior.

Once this difficulty was overcome, the cord no longer pulsated. Adding to this difficulty was an inability to deal with the aftercoming head by the known non instrumental-methods.

Forceps were applied and the head was delivered.

The baby was born alive and remained alive. This fact can be attributed to the hardiness of the baby, and to a lesser extent - gentleness in manipulation.

All precautionary methods for dealing with a post partum haemorrhage, were in readiness - all but the hot douche. It was thought that with a long labour followed by secondary uterine inertia, internal manipulations might easily produce a minor rupture of the uterus. Any intra uterine douche

Why uterus is flaccid in Sec. Inertia

would then certainly spill into the abdominal cavity.

The patient expelled her placenta without any trouble. "pains" could not have been absent.!!

CASE 10.

Disproportion.

Summary.

A 24 year old 2nd para had a still birth seven years previously after a two day labour followed by instrumental delivery.

She was admitted in labour - at term. Examination revealed signs of obstructed labour due to cephalo-pelvic disproportion.

A lower segment Caesarean section was done. A diminished transverse diameter of the inlet was found.

The baby weighed 7 lbs. 15 oz.

NAME: APRIL, Muriel.

AGE: 24 years.

RACE: Native.

PARA: 2nd.

L.M.P.: Beginning of July 1946. Therefore at term.

HOSPITAL: Somerset

EMERGENCY:

ADMITTED: 8 p.m. 9.4.1947 as Obstructed labour.

Previous history:

General: She has never been seriously ill.

Obstetrical: Her first baby was still-born in 1940 at Grahamstown.
After two days of strong labour a Doctor was called. She was taken to hospital, given an anaesthetic and the baby was removed with instruments.
She does not know what the weight of the baby was or which instruments were used.

Present condidtion:

The patient states that she was perfectly fit throughout pregnancy.

She came into labour at 11.30 a.m. on 8.4.1947. She was in strong labour throughout the day. She slept just off and on throughout the night 8.4.1947.

She had good pains throughout 9.4.1947.

The membranes ruptured spontaneously at 2.30 p.m.

A Doctor was called in at 4.15 p.m. and after doing a vaginal examination sent her into hospital.

On Examination: (i.e. in labour 31 hours, membranes ruptured $5\frac{1}{2}$ hours.)

General condition: The patient was restless and sweating, on the

upper lip and in the butterfly area especially.

She looked tired.

Pulse: 135/min.
Temperature: 100°F.
Respirations: 34/min.
Blood Pressure: 115/75.

Therefore she showed signs of gross maternal distress.

Abdominal: The fundus was right up to the ensiform cartilage.

The round ligaments were tense.

Contractions were poor and at irregular intervals.

There was poor relaxation in between contractions.

Bandl's ring was at the umbilicus.

The lower uterine segment was tender.

The back of the foetus was to the right and anterior.

The head was well flexed and fixed but not by it's largest diameter.

There was at least $2\frac{1}{2}$ inches of head above the brim.

The foetal heart rate was 130/min.

Per vaginal: The os was fully dilated. There was a marked caput succadaneum and overlapping of the skull bones.

The subpubic angle was normal i.e. it allowed two knuckles. The bisischial diameter measured 8 cms.

Caesarean section was decided upon.

1. Because the patient had lost her first baby - having required instrumentation.

2. There was no advance of the head despite good pains, good position, full dilatation of the os.

3. There were marked signs of obstructed labour. (Impending rupture.)

viz.

(a) the patient's general condition,

(b) high fundus,

(c) poor contractions with poor relaxation,

(d) tender lower segment,

(e) Bandl's ring at the level of the umbilicus.

A lower segment Caesarean section was done under gas, oxygen and ether anaesthesia. Bandl's ring was at the umbilical region. The lower segment was very thin. There were two subperitoneal haematomata.

A live male 7 lbs. 15 oz. baby was delivered.

After the uterus had been stitched internal pelvimetry was done.

The true conjugate measured 9.5 cms.

The transverse of the inlet was found to be 10.5 cms.

The abdomen was closed by stitching consecutive layers.

12.4.1947: The patient has had no difficulty in voiding urine post-operatively. She is passing flatus. Her condition now is good.

13.4.1947: Bowels have acted. She feels and looks well.

19.4.1947: Stitches removed. Wound well healed.

28.4.1947: The patient and her baby (8 lbs. 1 oz.) were discharged from hospital,

after X-Ray pelvimetry was done.

X-Ray measurements of the pelvis:

True conjugate : 9.4 cms.
Transverse of inlet: 10.5 c.m.s.
Left oblique : 9.3 cms.
Right oblique : 10 cms.
Outlet : Transverse : 8 cms.
Subpubic angle: 85°

X-Ray pelvimetry was done as a check.

Commentary.

Although this patient was a second para the previous delivery was one complicated by instrumentation - in all probability a craniotomy. (The latter statement is made because she stated she was taken to hospital for instrumental delivery. In the outlying areas forceps delivery is done at home as their small hospitals are continually overcrowded.)

Examination revealed signs of threatened rupture of the uterus. The position of the baby (R.O.A.) was favourable. The head was well flexed but not through the brim.

A normal pelvic outlet was found. The trouble therefore lay with the inlet. This was proved at operation. The X-Ray pelvimetry was done post-operatively - in collaboration with the Radiologist - to check the measurements at the time of operation with X-Ray measurements.

C A S E 11.

Ruptured Uterus.

Summary.

A 40 year old 9th para had normal spontaneous deliveries - usually within 3 or 4 hours - with her eight previous babies.

She was in this labour for 9 hours when a Doctor was called in.

He diagnosed a face presentation - os fully dilated - and sent her into hospital.

Immediately after admission her uterus ruptured.

An immediate hysterectomy was done, preceded and followed by blood transfusion, intravenous saline and glucose and penicillin.

She made an uninterrupted recovery.

NAME: PRINSLOO, Spasie,

AGE: ± 40 years.

RACE: Cape Coloured.

PARA: 9.

L.M.P.: July 1946. Therefore at term.

HOSPITAL: Somerset.

ADMITTED: 13.4.1947 at 1.30 p.m.

Previous History:

General: She has never been really sick.

Obstetrical: Her confinements were all normal and took place at home each lasting about 3 to 4 hours. The babies were never weighed. They seemed bigger than the average.

At no time did she stay in bed for longer than 10 days for the puerperium.

Her children were all breast fed and are all alive. The youngest child is two years old.

Present condition:

The patient states that labour started at 4 a.m. 13.4.1947. The membranes ruptured spontaneously about ½ hour after the onset of labour.

The pains were strong.

She started bearing down at about 7 a.m.

Inspite of good pains and geat efforts at bearing down there was no advance.

The midwife (untrained) sent for the Dr. who arrived at about 1 p.m.

The Dr. examined her, gave her an injection and sent her into hospital.

(The Dr. stated that on vaginal examination he diagnosed a face presentation, the os being fully dilated.)

The pains passed off after the injection.

On examination:

General condition: Good. Pulse: 90/min.

Temperature: 98°F.

Respirations: 18/min.

Blood Pressure: 115/90.

Abdominally: The uterus was tense. The fundus was at the Xiphisternum. The bladder was very full- hence the patient was catheterised before she was palpated abdominally.

Whilst being catheterised the patient had a contraction. The contour of the abdomen changed. The patient sweated. Her pulse rate now was 100/min. Foetal parts could easily be palpated. There was no further contraction.

The head was engaged - left mento-posterior.

Foetal heart was not heard.

Blood Pressure: 100/80.

Diagnosis: Ruptured uterus - for immediate operation.

Blood: Group IV. ?

Intravenous saline started whilst waiting for blood and preparation of theatre, 100,000 units of Penicillin given intramuscularly, 1 pint of blood given whilst patient in theatre.

OPERATION.

Lower midline incision made.

The body of the baby was found lying in the abdominal cavity, with it's neck through a rent along the left lateral aspect of the uterus.

The head was within the uterus fixed in the superior strait by the presenting face, chin posteriorly.

The tear was along the line of attachment of the left broad ligament and extended from the attachment of the left round ligament's insertion down to the vagina.

The uterus was separated from the entire left broad ligament - the only connecting structure being the round ligament. The infundibulo-pelvic ligament was ruptured and the ovary attached to the uterus. (vide figs. 1,2).

The left uterine artery entered the uterus posterior to the tear.

The placenta was lying within the abdominal cavity.

The haemorrhage - although formidable - was not as large as was expected. The amount of blood within the abdominal cavity certainly was less than found in the average ruptured ectopic gestation.

The foetus together with it's placenta and membranes was extracted.

The uterine vessels on both sides were clamped. Artery forceps were applied to the medial aspect of the broad ligament on the right side - incorporating the ovarian ligament. The right round ligament was tied.

The left round ligament was tied. The bleeding ovarian vessels were caught and tied. The veins oozed. The artery was constricted and not bleeding.

This eased the bleeding in all areas but the lower end of the rupture i.e. in the vagina.

This area was carefully stitched, and the bleeding was controlled.

The stump was peritonealised.

The abdomen was closed leaving a drainage tube to the pouch of Douglas.

Weight of the baby: 9 lbs. $4\frac{1}{4}$ oz.

The patient's condition on leaving the operating table was fair.

Pulse rate 130/min. with fair tension.

5.30 p.m.: Another pint of blood was given, followed by 2 pints glucose-saline.

¼ gr. Morphine was administered as she recovered from the anaesthesia.

Penicillin 40,000 units 3 hourly.

14.4.1947:

9 a.m.: Temperature: 99°F.
Pulse Rate 110/min.

The patient's general condition is good.

She had oozed through her dressing. Dressing repacked.

1 pint of blood given.

15.4.1947: Slight serous discharge through the drainage tube. The tube was shortened by 1 inch.

16.4.1947: The patient's condition is remarkably good.

Tube removed.

18.4.1947: Penicillin 20,000 units 3 hourly.

20.4.1947: The patient looks and feels well.

28.4.1947: Up for a few minutes.

5.5.1947: Discharged from hospital.

Fig. 1 Left lateral view of the specimen showing the rupture into the broad ligament.

A. Ovary.
B. Tube.
C. Round ligament.

Fig. 2 Cross-section showing that the lower segment only was involved in the tear.

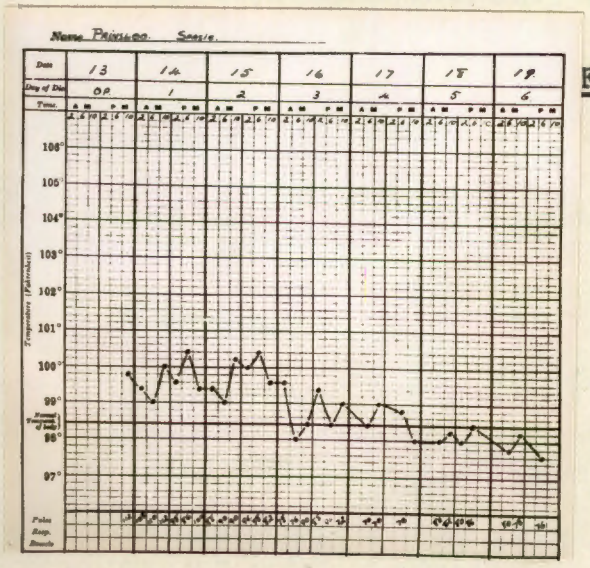


Fig. 3

Temperature and pulse chart.

Commentary.

This patient - as cases 6 and 9 - again demonstrates that labour in a multipara can so easily be complicated by an abnormal presentation - with dreadful results.

The mento-posterior position - and a large baby (9 lbs. 4¼ oz.) - can be blamed for the course of events.

Correction of the presentation and forceps delivery once there was delay in the second stage in all probability would have sufficed.

The operation was done soon after the rupture - thus giving the patient a better prognosis. She was also fortunate in that blood was at hand, and the transfusion given practically immediately.

The rupture was longitudinal, in the lower uterine segment, on the left side - i.e. in the most common direction and situation.

Ruptured uterus is one of the most lethal obstetrical complications and is one that can be prevented by good conduct of labour.

C A S E 12.

Twins.

Pre-eclamptic Toxaemia.

Summary.

A 36 weeks pregnant, 33 year old 4th para was admitted as a pre-eclamptic toxaemia - having hypertension, albuminuria and oedema. On abdominal palpation twins were diagnosed.

She did not respond to a five days hospital treatment.

Labour was therefore induced medicinally. She responded well to the induction. A breech and vertex presentation resulted.

Blood pressure readings throughout the puerperium with disappearance of the oedema and albuminuria coupled with a normal blood pressure postnatally confirmed the diagnosis of pre-eclamptic toxaemia.

NAME: PHILLIPS, Louisa.

AGE: 33 years.

PARA: 4

RACE: Cape Coloured.

HOSPITAL: Somerset.

ADMITTED: 27.11.1945.

L.M.P.: 21. 3.1945. Therefore 36 weeks pregnant.

EMERGENCY ADMISSION.

Past History.

General: She has never been really sick.

Obstetrical: Her three normal pregnancies terminated normally in 1937, 1939 and 1942 respectively. The labours lasted about 6 - 8 hours. The puerperia were uneventful.
She had her babies at home and does not know what they weighed.

Present condition:

The patient states that she was quite fit throughout this pregnancy. At no time did she suffer from headaches.

For the past month however she has noticed that her ankles and feet have been swollen. She has difficulty in getting her shoes on both in the morning and in the evening. She has not been breathless.

She saw a Doctor because the midwife she engaged for the delivery advised her to do so. The Doctor examined her and sent her into hospital.

On Examination:

General: Her condition is good.

Temperature : 98.2°F.
Pulse : 80/ min.

She has oedema of the legs. Her fingers appear to be swollen as her ring fits very tightly.

Abdomen: Inspection revealed a markedly distended abdomen. Two heads could be felt - one in the fundus and the other high and mobile - towards the right.

Foetal heart sounds were heard distinctly to the left and above the umbilicus - and to the right and below the umbilicus.

Respiratory system: No abnormality was detected.

Cardiovascular system: No cardiac abnormality was detected.

Blood Pressure : 160/100.

Urine: Albumen ++.
No microscopic abnormalities were found.

Fundi: Normal.

Diagnosis:
1. Twins.
2. Pre-eclamptic toxaemia.

Treatment:

1. Rest in bed.
2. Low salt intake (Food cooked without salt- a lemon was literally squeezed over the food so as to add taste (and vitamin C)).
3. Diminished fluid intact.
4. Normal protein in diet.
5. Vit. B. complex.

28.11.45: Her condition was unchanged.

Blood Pressure : 155/95.
Urine : Albumen ++.
Oedema marked but not increased.

29.11.45: Blood Pressure : 160/100.
Urine : Albumen ++.
Oedema unchanged.

30.11.45: Blood Pressure : 155/90.
Urine : Albumen ++.
Oedema unchanged.

1.12.45: Condition unchanged.
Blood Pressure : 160/95.
Urine : Albumen ++.

4 p.m. Hot bath.
6 p.m. 2 oz. of Castor Oil.
8 p.m. Soap and water enema.

2.12.45: 4 a.m. the patient complained of backache.

The pains came on at regular intervals and radiated over the abdomen i.e. she was in labour.

8 a.m. Membranes ruptured spontaneously.
She was now in good labour.

Blood Pressure : 165/100.

9.40 a.m.:

A live female 5 lbs. $\frac{1}{4}$ oz. baby was delivered as a Breech (Footling).

There was no trouble with this delivery. Burns method was employed for the aftercoming head.

No anaesthetic or episiotomy were required.

The placental end of the cord was left clamped.
Abdominal palpation : R.O.A.

10.10 a.m.:

Uterine contractions re-commenced.

10.15 a.m.:

The membranes of the second sac were ruptured artificially.

She had poor pains.

11.35 a.m.:

The second baby was delivered as a normal vertex (R.O.A.). It was a live male child weighing 5 lbs. $14\frac{3}{4}$ oz.

Five minims of pituitrin were injected intramuscularly when the head of the second twin was born. This was done in order to possibly avoid a post-partum haemorrhage. The latter was thought probable as the uterus contracted so poorly throughout the labour of the second twin.

11.55 a.m.:

Both placente were expelled spontaneously.

3.12.45: The mother and her babies were well.

Blood Pressure : 160/100.

4.12.45: Blood Pressure : 145/95.

5.12.45: Blood Pressure : 145/95.
Oedema markedly diminished.

6.12.45: Blood Pressure : 140/90.
She has no oedema.
Urine (catheter) : No albumen.

13.12.45: The patient's blood pressure decreased steadily.

Blood Pressure : 135/85.
Urine (catheter): No albumen.

She and her babies were discharged from hospital to a convalescent home.

12.2.45: She visited the post-natal clinic. She states that she has been well since leaving hospital. Her babies are thriving.

General: She obviously enjoys good health.

Blood Pressure : 120/70.
Urine : No albumen.

Vaginally: The vulva and vagina were normal.
The cervix was normal.
The uterus was anteverted mobile normal in size.
Adnexae were clear.

Commentary.

Pre-eclamptic toxaemia is commonly found in multiple pregnancies.

Labour was induced in this patient as there was no response to conservative treatment. She responded well to the induction.

The breech was delivered without difficulty.

Once the first baby was delivered her abdomen was palpated in order to ascertain the lie of the other baby.

The membranes of the second sac were ruptured 35 minutes after delivery of the first baby. Why but uterus contracted poorly

The second baby was born normally.

The signs of pre-eclamptic tonaemia cleared rapidly after delivery.

CASE 13.

Triplets.

Summary.

A 30 year old second gravida primipara was admitted as an emergency because of accidental haemorrhage.

On abdominal palpition twins were diagnosed.

She had slight hypertension and albuminuria.

Labour was complicated by primary uterine inertia.

Twins were born, and whilst waiting for the placenta abdominal palpation revealed a third baby.

The mother and her three babies left hospital to another institution, on the 13th post partum day, to receive adequate training and nutrition.

NAME: CLAYPOLE, Augusta Pauline.

AGE: 30 years.

PARA: 1 Gravida 2.

RACE: European.

L.M.P.: 6.5.1946. Therefore ± 38½ weeks pregnant.

HOSPITAL: Peninsula Maternity.

ADMITTED: 1.2.1947 at 10.45 a.m.

EMERGENCY:

Complaint: Pain in left hypochondrium followed by a loss of a small amount of blood per vagina.

Duration: Since 4 a.m. 1.2.1947.

Previous History:

The patient states that she has never really been ill. In October 1944 she aborted a 3 months foetus. There were no complications.

Present:

She states that she was quite well throughout this pregnancy and attended her Dr. regularly.

On 13.1.1947 twins were diagnosed.

At About 4 a.m. 1.2.1947 she awoke because of a continuous sharp stabbing pain in her left hypochondrium.

Two hours after the onset of the pain she passed about three table spoonfuls of dark blood.

She telephoned her Dr. who saw her and sent her into hospital.

On Examination:

General condition: Good.
Pulse : 80/min.
Respirations: 26/min.
Temperature: 98.4°F.
She was not in obvious pain.

Local: Abdomen: Much larger than is usual for even a pregnancy at term.

Uterus is irritable. There are no regular contractions.

Fundus up to ensiform. One Foetal head felt engaged in pelvis. Another head felt in the right hypochondrium.

She was tender over the uterus, in circular area with a diameter of ± 4 ins., in the left hypochondrium.

Only one foetal heart could be heard; to the right and below the umbilicus.

C.V.S.: No murmurs. B/P : 130/80.

Respiratory: No abnormality was detected.

Rectal: Os admits 1½ fingers. Membranes bulging. Vertex presenting - Not well applied to cervix.

Urine: Slight trace of albumen.

2.2.1947: Condition unchanged. Few poor pains throughout the day.

3.2.1947: Condition unchanged. She had a peaceful night.

4.2.1947: 3.30 a.m. membranes ruptured, spontaneously.
No pains.
Maternal condition good. Foetal heart unchanged.

Rectal: Head well down in pelvis.
Os 2 fingers dilated, thick and not well applied.

B/P: 130/95.

Urine: Slight trace of albumen.
(Catheter specimen)

5.2.1947: Few very poor pains. Maternal and foetal conditions - unchanged. Head well down.

6.2.1947: Slept well. Few poor pains started at 7 a.m.

Foetal heart 130/min.
Maternal pulse 75/min.
Blood pressure: 140/90.
Urine: Trace of albumen.

The patient continued having poor pains at irregular intervals throughout the day.

11 p.m. The patient is tired.

Morphine $\frac{1}{4}$ gr. prescribed.

7.2.1947: 9 a.m. She slept well.
General condition is good.
B/P.: 140/100.
Urine: Albumen + i.e. more than a trace.
1000 c.c.s. glucose and saline given intravenously.

As the membranes had now been ruptured for more than 100 hours Penicillin 20,000 units were given 3 hourly.

Stilboestrol - 10 mgm. hourly for 10 hours.

8.30 p.m.: Pains are now becoming strong and regular.
The head can no longer be palpated abdominally.

Midnight: Pains are strong and regular.

Rectal: Os admits 4 fingers. It is well effaced.
The cervix is well applied to the vertex.

8.2.1947: 2.30 a.m.: Pains are getting poorer and less frequent.
The patient is very tired. Her general condition is good. Pulse : 82/min. Temperature: 98°F.
Respirations: 25/min. Foetal heart 130/min.

Vaginally: Rim of cervix with a thick anterior lip was felt closely applied to the head. There was a minor degree of caput, and slight moulding. The anterior fontanelle was easily felt. The head was in the posterior position engaged in the left oblique pelvic diameter.

20 grs. chloral given.

The patient soon fell asleep.

7 a.m.: Pains had restarted.

8 a.m.: Vaginal examination revealed a fully dilated os.

The position of the foetal head was unchanged.

Under general anaesthesia the baby's head was flexed and the occiput was rotated anteriorly.
Forceps were applied and a live female child (4 lbs. 14oz.) (Marion) was extracted without difficulty. There was no foetal distress.

8.30 a.m.: The membranes of the second sac were ruptured.
Breech with extended legs presented.
The breech was extracted with the extended legs.
The arms presented no difficulty. The head was delivered by Burns' method.
The live boy (5 lbs. $0\frac{1}{4}$ oz.) was not distressed. (Walter)

8.35 a.m.: Abdominal palpation revealed that the uterus was larger than is usual for the 3rd stage. Yet is was contracting and no blood escaped per vagina.
No foetal parts could be felt.
Vaginal examination revealed bulging membranes.
These were ruptured and another live baby (boy - 3 lbs. 12 oz.) (Edward) was extracted as a breech in exactly the same way as his elder brother.

9.05 a.m.: The uterus contracted well. Clinically the placentae were found to be separated (i.e. The cords lengthened and they prolapsed when slight suprapubic pressure was applied.
Gentle pressure produced expulsion of the attached placentae of the girl and the first boy. This was followed by the expulsion of the much infarcted placenta of the second boy.

Ergometrine - 1 c.c. given immediately after the birth of the 3rd placenta.

There was no post partum haemorrhage.

The Mother made an uneventful recovery.

The babies weathered their respective storms and were sent together with their Mother, to the Lady Buxton Home for further care on 20.2.1947.

BABIES WEIGHTS.

Name	Birth Weight	4th Day	6th Day	8th Day	10th Day	13th Day.
Marion	4lbs.14½oz.	4 - 10¼	4 - 6½	4 - 11¾	4 - 14	4 - 15½
Walter	5 lbs0¼oz.	4 - 10¾	4 - 6¼	4 - 10	4 - 10¾	4 - 11½
Edward	3lbs.12oz.	-	-	3lbs.9oz.	3 - 10½	3 - 13¾

FEEDING.

1. Up to 2nd day - glucose water.
2. On 3rd day - 1 breast with 2 glucose water.
3. On 4th day - ½ breast with ½ glucose water.
4. On 5th day - 2 breasts with 1 glucose water.
5. On 6th day - full strength.
6. On 11th day - Marion and Walter went to the breast for 1 feed.
7. On 12th day - Marion and Walter to breast four hourly.

Edward was fed with a pipette for the 1st four days. After that he took to the bottle.

Commentary.

As was stated in the previous case, pre-eclamptic toxaemia is a common complication in multiple pregnancy.

This patient had a hypertension and albuminuria.

She then suffered from one of the complications of pre-eclamptic toxaemia viz. accidental haemorrhage - minor degree.

She was in poor labour when admitted.

The pains remained poor throughout labour.

She was given glucose water, eggflips and jellies throughout labour.

50 c.c.s. 50% glucose was given when she would not take glucose in her water.

After four days of poor labour - with good rests and good fluid balance - she showed signs of tiring. Morphine ¼ gr. was administered.

On the fifth day Stilboestrol 10 mgm. hourly was given for ten hours.

Pains improved soon after the completion of this drug.

Whether the improvement in the pains was due to the Stilboestrol or whether it would have occurred anyhow, is difficult to state.

A persistent occipito-posterior and poor pains resulted in delay in the second stage.

The positon was corrected and forceps applied.

The births of the next two breeches presented no difficulties. The birth of the third baby came as a surprise.

The placenta of the third baby showed signs of gross infarction. Its uterine attachment was in all likelihood the tender area the mother complained about - and therefore the cause of the accidental haemorrhage.

The signs of toxaemia of pregnancy rapidly cleared.

The mother was sent to an institution to receive adequate training for the care of her babies.

CASE 14.

Anterior Pituitary Necrosis.

Summary.

A 29 year old third para, at term, was admitted, in labour.

She gave birth to a 6 lb. 15 oz. baby spontaneously.

Thirty-five minutes after delivery she had a brisk postpartum haemorrhage.

Crede's method failed to express the placenta.

The patient became acutely shocked.

She did not respond to blood, warmth and morphine. As there was a continuous trickle of blood, the placenta was removed manually.

Nine days later she passed into a coma and died.

Post mortem revealed massive necrosis of the anterior lobe of the Pituitary.

NAME: PETERSEN, Angelina.

AGE: 29 years.

RACE: Cape Coloured.

PARA: 3.

L.M.P.: 1/2/1946. Therefore at term.

HOSPITAL: Somerset.

ADMITTED: 12.11.1946 at 12.45 p.m.

ANTENATAL CASE.

Previous history:

General: She has never been seriously ill.

Obstetrical: Her first pregnancy was in 1943. She was delivered at home by forceps after a 3 day labour. The baby was still-born (weight unknown).

In 1944 she gave birth - again with instrumental aid at home to a live 8 lb.(?) baby.

Both puerperia were normal.

Present: Ante-natally the patient was seen on 2 occassions.

4.11.1946: Urine:No alb. : B/P. 125/80 : Fundus 2 fingers below ensiform : No sugar

R.O.A. : Head mobile F.H.H.

12.11.1946: Urine: No alb.: B/P. 130/85 : Fundus 2 fingers below ensiform :

R.O.A. Head mobile but well flexed.

The head could easily be pushed into the brim.

The patient was admitted directly from the antenatal department as she was in labour.

She states that labour started at 10 a.m. (12.11.1946)

The pains were poor and infrequent.

2.40 p.m.: The membranes ruptured spontaneously. The pains were still poor and infrequent.

On Examination:

General condition: Good.

Pulse : 80/min.
Temperature: 98.2°F.
Respirations: 18/min.

Abdomen: R.O.A. Head fixed. Foetal heart 130/min.

6.15. p.m.: 2 fl. oz. Castor Oil given.

8 p.m.: Enema.

The pains improved and were now strong and regular.

9.10 p.m.: Spontaneous delivery of a 6 lbs. 15 oz. female baby.

9.45 p.m.: She had a brisk vaginal bleed.

Crede's method of expressing the placenta was tried - but failed. The bleeding ceased.

10 p.m.: Patient now suddenly collapsed. The uterus was firm. There was no vaginal loss of blood.

Blood pressure : 50/35.

Foot of bed raised.

Hot water bottles next to patient.

Morphine gr. $\frac{1}{4}$ given. Intravenous drip saline started in preparation for blood transfusion.

10.50 p.m.: Compatible blood transfusion started.

11 p.m.: In spite of warmth, morphine, blood transfusion, a contracting uterus and no vaginal bleeding the patient's condition deteriorated. The blood pressure was not recordable.

11.30 p.m.: Her condition improved slightly.

The pulse was better.

B/P. : 55/?

She started bleeding vaginally, not rapidly but a constant slow trickle.

11.55 p.m.: The trickle persisted. Pure ether anaesthesia given. The placenta was removed manually.

The placenta came away easily. No uterine or placental abnormality was noticed.

Midnight: Bleeding had now ceased. Round from anaesthetic.

13.11.1946:

12.5 a.m.: Loosing slightly.
Ergometrine 1 c.c. given. Bleeding ceased.

12.20 a.m.: The patient was very restless.
Morphine 1/6 gr. given.

1.20 a.m.: 3rd pint of blood transfusion started.
Pulse just perceptible.

Penicillin 30,000 units 3 hourly.

9 a.m.: Her general condition was improved.

Temperature : 101°F.
Pulse : 120/min.
B./P. : 95/70.

10.15 a.m.: 5th pint of blood started.

2 p.m.: General condition much improved.

Pulse : 120/min.
B./P. : 110/65

4 p.m.: B./P. : 115/70.
Sulfadiazine tabs. 4 stat. 2 tabs. 4 hourly.

14.11.1946: General condition is good.

Temperature : 99°F.
Pulse : 112/min. Good volume.

87.

15.11.1946: Pasty appearance. She states that she feels nauseous and weak.

17.11.1946: Feels nauseous and weak. She is drowsy.
Stop sulfadiazine : She has had 15G. Reduce Penicillin to 20,000 units hourly.

White blood count : 12,500.
Haemoglobin : 55%.

19.11.1946: Still nauseous weak and drowsy.
Penicillin stopped. (Total 920,000 units).

20.11.1946: Still feels weak and nauseous.
Has no appetite.
She had a bout of vomiting and diarrhoea during the evening.

21.11.1946: Nauseous, weak and drowsy during the day.

7.30 p.m.: She suddenly developed twitching of the hands and face.
This passed off after a few minutes.
She was extremely drowsy after this.
There were occassional twitchings of the hands.

9.30 p.m.: Twitching of the face and hands returned.
The patient breathed heavily and seemed to be going into a coma.

On Examination:
Temperature : 90°F.
Pulse : 110/min.
B/P. : 115/70.

Local:
C.V.S. :
Respirations :
C.N.S. :
Abdomen :
Urine :
No abnormality detected.

Carpo-pedal spasm of hands. Toes turned inwards.
Chvostek's sign negative.
Trousseau's sign - positive.

100 c.c. 10% Ca. Gluconate given intravenously.

She vomited undigested food after this injection.

10.30 p.m.: Breathing easier. Slight twitching still present.
450 c.c.s. 5% saline given.
5 c.c.s. Adrocortin 1/17.

Midnight: The patient was more alert. Her general condition however was unchanged.

22.11.1946:

1 a.m.: 100 c.c. 10% Ca. gluconate repeated.

2.a.m.: General condition deteriorating.

She gradually passed into coma. Twitchings had ceased.

Breathing: -stertorously.

3.55a.m.: Died.

PORT MORTEM.

6 p.m.

Cardiovascular, respiratory and alimentary and genital systems were normal.

Genito-urinary:

The kidneys were extremely large, weighing 490 grams. The capsules stripped easily and revealed smooth renal surfaces.

Both kidneys were extremely pale, the cortex was grossly enlarged being well demarcated from the medulla.

Brain:

There was a blood clot on the tentorium cerebelli on the left and blood below the tentorium. The dura also contained blood.

This haemorrage was entirely extracerebral. (? derived from venous sinuses)

Throughout the brain there were numerous pin-point petechial haemorrages. The largest haemorrhages were pin head sized - in the corpus callosum (Three seen.)

Histology:

The anterior pituitary showed massive infarction. There were numerous petechial haemorrages in the brain.

The kidneys showed marked degenerative changes.

Fig. 1 X 32

Gross necrosis of the anterior Pituitary.
A. and B. show the only "live" areas.

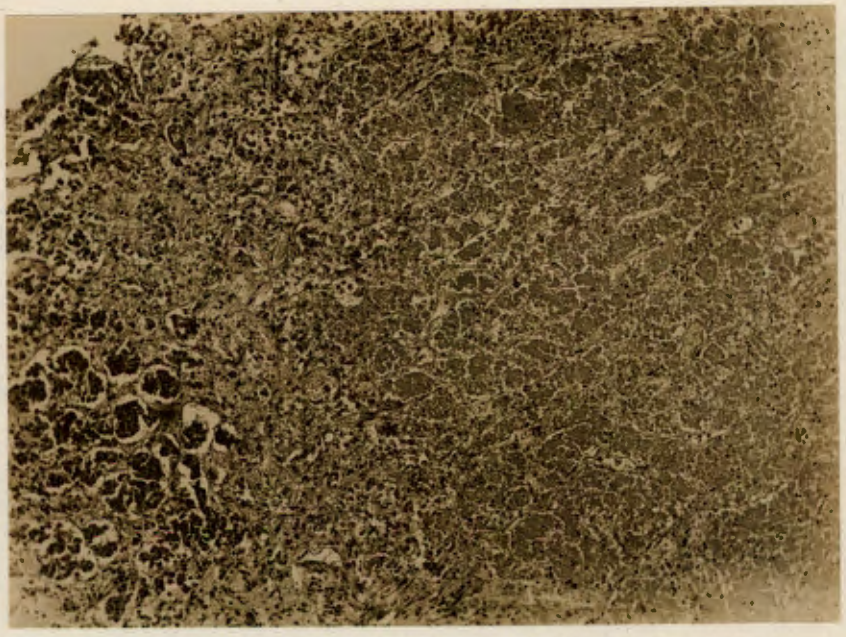


Fig. 2 X 125

Top right corner shows necrosed area
Bottom left shows "live" area. Even
there the cells are swollen, vacu-
olated and therefore damaged.

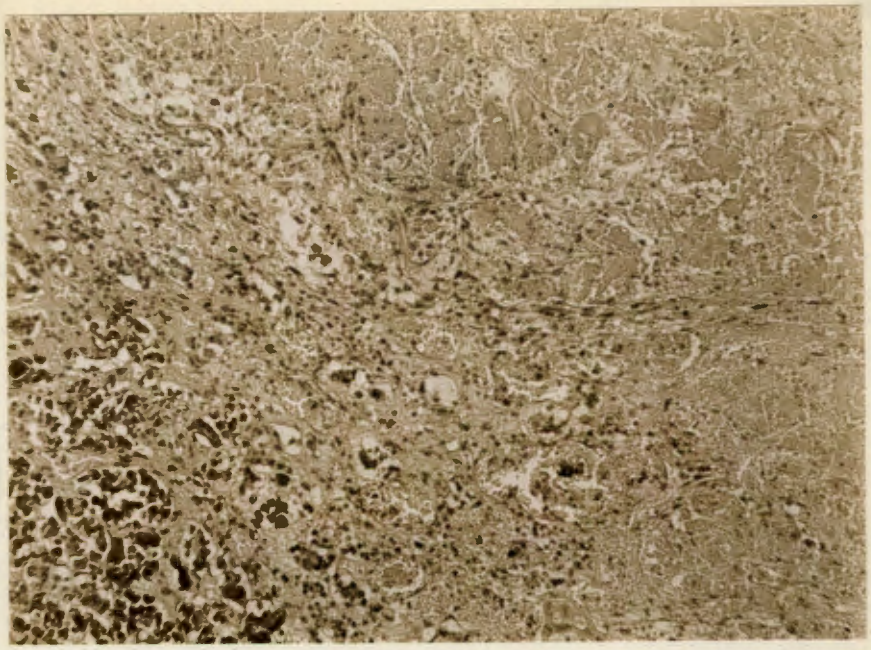


Fig. 3 X 175. Fig. 2 emphasised.

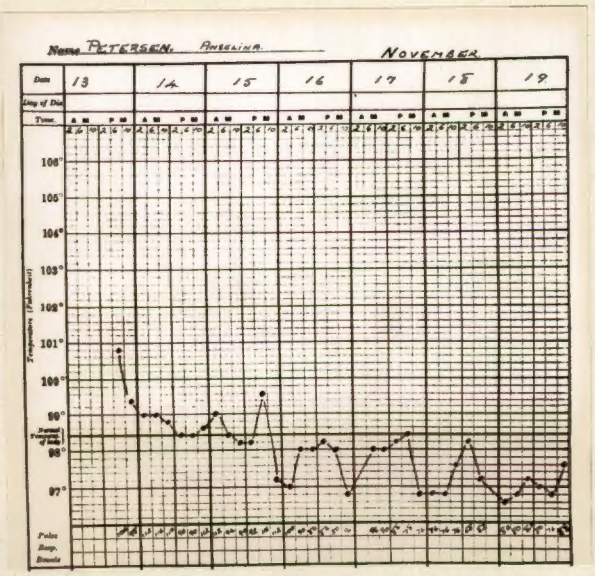


Fig. 4 Temperature chart showing accelerated pulse rate for three days. Following this there were both normal temperature and pulse rates.

Commentary.

H.L. Sheehan was the first to draw adequate attention to the association between postpartum collapse and varying degrees of anterior Pituitary necrosis.

This patient went into severe shock after a brisk postpartum haemorrhage (the quantity of blood lost was not measured) and an attempt at Crede's method of expressing the placenta. Why she went into such a major degree of shock is not known.

Crede's method of expression lends itself to shock if the operation is at all rough. This can therefore be ruled out.

She recovered from her shock and loss of blood after the manual removal of the placenta.

One feature remained constant throughout the puerperium viz. she felt nauseous and weak.

The last few days she vomited, had diarrhoea and carpo-pedal spasms. The latter may be due to the vomiting yet the latter was not excessive.

(Cushing's hypophysectomised dogs often had fits and carpo-pedal spasms terminally.)

The point illustrated by this patient is that once a postpartum haemorrhage has been apparently satisfactorily treated irreparable damage might have been done. This damage might kill the patient soon or maim her health (and fertility) for life.

The mechanism of the pituitary necrosis is ill understood. It is thought to be due to a rapid reduction of blood in

the pituitary sinuses. Stasis leads to thrombosis. The blood supply being cut off necrosis follows.

For massive pituitary damage the only line of treatment is prevention.

When the patient recovers and is left with only a portion of her pituitary functioning the important feature is to try to get her pregnant as pregnancy is the only known way of procuring pituitary hperplasia.

CASE 15.

1. Incomplete Placenta Praevia.

2. Pulmonary Tuberculosis.

Summary.

A 36 week pregnant 25 year old second para with known bilateral pulmonary tuberculosis had a slight painless vaginal haemorrhage.

Five days later a vaginal examination revealed an incomplete placenta praevia.

A week after admission she went into labour and bled. The membranes were ruptured - and the bleeding ceased.

She was given continuous oxygen throughout labour prophylactically. At no time was she distressed.

She delivered herself after 7 hours labour of a $5\frac{1}{2}$ lb. live baby.

NAME: JOSEPHS, Blanche.

AGE: 25 years.

PARA: 2

RACE: Cape Coloured.

HOSPITAL: Somerset.

ADMITTED: 15.3.47, at 10.45 p.m.

L.M.P.: 10.7.46. Therefore 36 weeks pregnant.

EMERGENCY ADMISSION.

Past History:

General: Prior to this pregnancy she has been well.

Obstetrical: She gave birth to a normal baby normally in October 1944.

The puerperium was uneventful.

Present condition: The patient states that she has never been really well throughout this pregnancy.

During October and November 1946 she lost weight although pregnant, had night sweats and bouts of coughing.

Her Doctor had her X-Rayed.

She was told she had pulmonary tuberculosis and was admitted to the City Hospital.

(Whilst in hospital her blood pressure was taken, and her urine examined, at weekly intervals. These findings were always normal.)

Whilst at the City Hospital she has put on weight and has felt much better although weak.

She was obstetrically speaking fit until 9 p.m. 15.3.47. Whilst in bed she felt a warm trickle between her legs, She looked and saw bright red blood in the bed. She does not think she lost more than about a teacupful of blood.

The ward Doctor was called and he sent her to the maternity institution.

On Examination:

General: She was in fair condition. Sallow in colouring. Breathing normally.

Temperature : 98°F.
Pulse rate : 90/min.
Haemoglobin : 80%.

Abdomen: The fundus was three fingers below the ensiform. Foetal parts were easily felt.
L.O.A.
Head mobile and could just be pushed into the brim.
The foetal heart rate was 135/min.

She was not in labour.

Cardiovascular: No abnormality was detected.

Blood Pressure : 120/75.

Respiratory system: X-Ray revealed bilateral apical tubercular infiltrative lesions with cavitation.

Urine: No albumen or sugar.

Treatment : 1/6 gr. Morphine.
Hourly pulse rate.

The patient had a good nights rest.

20.3.47: A speculum was inserted.
No vaginal or cervical pathology was seen.

Vaginal examination revealed a 1 finger os with the placenta felt lying just within the os postero-laterally towards the left side.

This examination was accompanied by very slight vaginal bleeding.

The examination was done in a theatre fully prepared for any immediate emergency.

The reason for waiting five days under constant supervision before doing a vaginal examination was to give any opened sinus a good chance to have clotted firmly and therefore minimise the chances of having a recurrence of the haemorrhage.

23.3.47: The patient went into labour spontaneously at about 6 a.m.

11.10 a.m.: She had a rapid brisk vaginal haemorrhage.

As it was known that the os admitted at least 1 finger before labour and that the placenta was not over the os a vaginal examination was made - with all precautionary measures at the ready.

The os was found to be $2\frac{1}{2}$ fingers dilated.

The placenta was posteriorly to the left.

The vertex was presenting.

The membranes were ruptured mechanically and the head descended on to the cervix. Bleeding ceased.

The patient remained in good labour.

She was given 50 c.c.s. of 50% glucose intravenously and oxygen continuously.

Her condition remained good.

1 p.m.: She delivered herself of a live 5 lbs. 7 oz. male baby relatively easily i.e. there was no delay in the second stage at all.

1.15 p.m.: The placenta and membranes were expelled spontaneously. There was no abnormal loss of blood.

The rent in the membranes was on the placental surface.

3 p.m.: 10 mgm. Stilboestrol.

To be repeated at 9 p.m.

The breasts were strapped tightly.

24.3.47: 5 mgm. Stilboestrol 6 hourly for 3 days. Teaspoonful of Mag. Sulp. b.d. for 3 days.

27.3.47: The patient had no breast troubles. No milk was secreted. She was transferred back to the City Hospital.

The baby was fed artificially and was sent to a suitable institution when 1 month old.

Commentary.

1. Placenta Praevia.

The diagnosis in this case presented no difficulties

The head could be pushed into the brim. This fact pointed against a central placenta praevia.

She stopped bleeding vaginally before admission.

Five days under constant supervision elapsed before vaginal examination was resorted to, the reason being - not to incite further haemorrhage by disturbing a fresh clot.

A speculum was first inserted to exclude vaginal or cervical pathology.

The vaginal examination revealed the placenta praevia - incomplete variety.

Once the patient came into labour, she had another slight bleed. The membranes were ruptured and she had no further bleeding.

2. Tuberculosis.

She was given oxygen, throughout labour. At no time did she show signs of exhaustion, labour therefore was allowed to progress normally - which it did satisfactorily.

The baby was taken away from the mother - and bottle-fed.

Lactation was prevented and the patient returned to the tubercular section of the Fever hospital.

CASE 16.

Accidental Haemorrhage.

Summary:

A 33 year old 34 week pregnant 14th para was admitted with a history of a sudden onset of both abdominal pain and vaginal bleeding. On Examination a tense tender abdomen, in which it was difficult to distinguish foetal parts, was found. The head was fixed in the pelvis. The blood pressure was 110/75. The urine was loaded with albumen.

A live 5 lbs. 1¼ oz. male baby was delivered followed by membranes, placenta and a large retroplacental clot.

The puerperium was uneventful.

NAME: EVERTHS, Susan.

AGE: 33 years.

RACE: Cape Coloured.

PARA: 14

HOSPITAL: Somerset.

L.M.P. ? 15.10.45. Therefore ± 34 weeks pregnant.

ADMITTED: 6.6.46 at 12.30 p.m.

EMERGENCY.

History.

Past: General: She has never been really ill.

Obstetrical: She has been pregnant thirteen times previously.

Eleven pregnancies progressed to term without incident.

The first and eleventh pregnancies terminated as 2 month abortions.

Her labours and puerperia were without incident.

Only four children are still alive. The other seven died at ages varying from 1½ to 2 years from "enteritis","meningitis", and "pneumonia".

Present: The patient states that she was quite fit until 7 a.m. this morning (6.6.46), when she experienced a sudden sharp stabbing hypogastric pain.

The pain was severe and gradually passed off.

At about 7.30 a.m. she had a profuse, brisk vaginal haemorrhage. The blood was bright.red in colour.

A Doctor was sent for and when he heard her story arranged for her admission.

She has not suffered from headaches, swelling of the feet or spots before the eyes.

She has not had any previous vaginal haemorrhages.

On Examination:

General: The patient is, pale, cold and sweating slightly.

Temperature : 96.8°F.
Pulse : 112/min.
Respirations : 24/min.

No oedema.

Abdominal: No abnormality was detected on inspection.

The fundus was 1 finger below the Xiphisternum.

The uterus was tense and tender. Foetal parts were difficult to palpate.

Contractions occurred at regular intervals.

She is in labour.

The head was in the pelvis and fixed.

Foetal heart : 140/min.

Cardiovascular system: No abnormality was detected.

Blood pressure : 110/75.

Respiratory system: No abnormality was detected.

Urine: (Catheter Specimen) Solid albumen.

As the head was well in the pelvis central placenta praevia could be ruled out.

The height of the fundus, tenseness and tenderness of the uterus, difficulty in feeling the foetal parts and albuminuria favoured the diagnosis of accidental haemorrhage.

Two pints of blood transfused. ¼ gr. Morphine given.

Vaginal Examination:

There was slight vaginal bleeding.

The os was 3 fingers dilated well effaced and well applied to the vertex.

The membranes were intact.

2 p.m.: She is getting 40 - 60 second strong contractions at 5 - 10 minute intervals.

3.25 p.m.: The membranes ruptured spontaneously and the live 5 lb. 1¼ oz. male baby was born immediately afterwards.

The placenta and membranes were expelled spontaneously, about 2 minutes following the delivery.

There was a huge clot adherent to the placenta.

The expulsion of the placenta and membranes was followed by the expulsion of many large clots.

The rupture in the membranes was practically directly opposite the placenta - thus ruling out placenta praevia.

The uterus contracted down well.

7.6.46: Her general condition was much improved.

Pulse : 86/min.
Blood Pressure : 130/90.

11.7.46: The patient's condition remained good. Her blood pressure remained practically a constant 120/75.
A catheter specimen revealed no albumen.

16.7.46: Involution was normal.
Blood Pressure : 115/75.
Urine : No albumen.
Haemoglobin : 85%.

She was discharged from hospital.

Commentary.

The diagnosis of accidental haemorrhage was made because of the sudden onset of abdominal pain and vaginal bleeding, tenseness and tenderness of the uterus (fortunately contracting), albumen in the urine and a blood pressure of 110/75 although she was shocked.

She shock was treated (warmth, blood and morphine).

Labour progressed normally, and she was fortunate to deliver herself of a live baby.

It is very unusual for accidental haemorrhage to require more than treatment for shock and replacement of blood lost.

CASE 17.

Essential Hypertension or Chronic Nephritis ?

complicated by

Pre-Eclamptic Toxaemia.

Summary:

A 39 week pregnant 26 year old 3rd para was admitted in labour with a history of

1. Eclampsia with her first baby in 1939.
2. Albuminuria with the 2nd pregnancy in 1943.
3. "Kidney trouble" in 1944.
4. Albuminuria and high blood pressure with this pregnancy.

Examination revealed oedema, granular and hyaline casts in the urine, and silver wiring of the fundal arteries.

She gave birth to a live 6 lbs. $7\frac{3}{4}$ oz. female baby spontaneously.

Following the delivery the oedema disappeared, the albumen in the urine diminished; but - although early - there was no sign of the blood pressure dropping.

NAME: CORNELIUS, Caroline.

AGE: 26 years.

RACE: Coloured.

HOME: Caledon (80 miles from Cape Town)

PARA: 3

HOSPITAL: Somerset.

ADMITTED: 3.9.45 at 12.30 p.m.

L.M.P.: 3.6.45. Therefore 39 - 40 weeks pregnant.

EMERGENCY ADMISSION.

Previous:

General: The patient states that she was hospitalised in November 1944 for 1 month. She had swelling of the face, hands, and feet. The Doctor told her she had "kidney trouble".

She has not suffered from a further attack since.

She has not had rheumatic or scarlet fever, or sore throats.

Obstetrical:

1. Her first baby was born in 1939. When about seven months pregnant her feet became swollen. As pregnancy progressed the swelling increased. It involved her hands and face. She does not remember having headaches or visual disturbances.

She visited a Doctor regularly and was put onto a salt free and meat, fish and egg free diet.

The pregnancy progressed to term.

She went into labour spontaneously. She had two fits before delivery. Her baby was born dead. The delivery was easy. She had no further fits and was discharged from hospital on the 10th day.

The oedema subsided rapidly after the delivery.

2. Her second pregnancy was in 1943. This pregnancy was apparently normal in every respect. She had no headaches or oedema and felt remarkably fit.

Five days before delivery however she was put to bed and she was told she had albumen in her urine.

The delivery was normal in every aspect. Her baby is alive. She had no fits.

Present condition:

Her last menstrual period was on 3.9.45 (i.e. she is about 39 to 40 weeks pregnant.)

She felt quite well throughout pregnancy. She had no headaches, visual disturbances or oedema.

She has been attending her Doctor regularly at weekly intervals for the past two months.

The Doctor examined her urine regularly.

On 31.5.45 he told her that she now had albumen in her urine and a raised blood pressure.

He arranged a bed for her in hospital.

She has had a few abdominal cramps on her journey in from Caledon (80 miles).

On Examination:

General: She appears to enjoy good health.

She is both fat and slightly puffy.

Oedema is present on the lower $\frac{1}{2}$ of the anterior abdominal wall and around the ankles.

Abdomen: The fundus was 4 fingers below the ensiform. The uterus is contracting (painfully) at irregular intervals.

L.O.A.

Head fixed and right in the pelvis.

Foetal heart : 140/min.

Respiratory system: No abnormality was encountered.

Cardiovascular: The apex beat was out to the left.

The heart was enlarged, but well compensated.

The sounds were closed.

Blood Pressure : 180/120.

Urine: (Catheter) Heavy cloud of albumen.

Microscopically: Few hyaline and many granular casts were seen.

Fundi: Silver wiring of the arteries.

11.30 p.m.: The membranes ruptured spontaneously.

Rectal examination revealed a 2 finger dilated, well applied, well effaced os.

The patient fell asleep soon after this.

4.6.46: She slept well until 4 a.m. when labour pains commenced again.

5 a.m.: She is in strong labour.

Blood pressure : 200/130.

6.20 a.m.: Live 6 lb.7 oz. female baby born spontaneously.

6.40 a.m.: The placenta was expelled naturally.

5.6.46: Blood pressure : 170/120.
Urine (Catheter) : Esbach .04.

18.6.46: Involution was normal. Her blood pressure - taken daily varied between $\frac{180 - 200}{120 - 140}$.

The albumen in the urine diminished gradually. There was still a trace of albumen present in a catheter specimen. Microscopically a few granular casts were present.

The fundi were unchanged.

She and her baby were discharged to her Doctor's care as pressure for beds could not allow her further sojourn in hospital.

Commentary.

This case presents a few interesting problems, viz.:

1. Is this just a pre-eclamptic toxaemia ?

2. Is she a pre-eclamptic toxaemia superimposed on an essential hypertension ?

3. Is the eclampsia of her first pregnancy responsible for either of these conditions i.e.

   (a) permenant renal damage ?

   (b) permenant cardiovascular changes ?

The interesting feature about her eclampsia is that she was a young primipara (20) when she had her symptoms of pre-eclamptic toxaemia (oedema and diet) followed by intra-partum eclampsia.

Pre-eclamptic toxaemia is most commonly found in young primipara.

She then had a long period of rest before falling pregnant again (4 years).

With the next pregnancy there were signs of pre-eclamptic toxaemia again. (She cannot state whether her blood-pressure was raised but knows she was put to bed for albuminuria.)

The other interesting feature in her history is that she had "kidney trouble" for which she was hospitalised for one month in 1944.

That she was pre-eclamptic during her 1945 pregnancy are the following facts:-

1. Disappearance of oedema following delivery.

2. Marked diminution of albumen in the urine during the puerperium.

The points in favour of this patient suffering from pre-eclamptic toxaemia superimposed on renal changes are:-

(a) She gives a definite history of being hospitalised for renal pathology.

(b) The urine showed evidence of renal damage viz. hyaline and granular casts.

In favour of essential hypertension being the basic condition are:-

(a) Enlargement of the heart.

(b) The silver wiring of the fundal arteries.

However, more definite conclusions could have been derived at had this patient been seen at regular intervals when the following information could have been obtained.

1. Blood pressure readings before and about three months after her pregnancies.

2. Urinary examinations after each pregnancy.

3. Blood pressure readings and urinary examinations 3 - 6 - 12 months following the last delivery.

CASE 18.

Eclampsia.

Summary.

A 35 week pregnant 20 year old primipara was admitted to hospital having had two fits outside and promptly had one just after admission.

She had hypertension, albuminuria, and oedema.

Warmth, quiet, Morphine, intramuscular magnesium sulphate, rupture of the membranes, glucose and careful nursing resulted in a spontaneous delivery seven days after admission.

Her puerperium was uneventful.

NAME: ESAU, Caroline.

AGE: 20 years.

RACE: Cape Coloured.

PARA: 1

L.M.P.: 17.8.1946. Therefore 35 week pregnant.

ADMITTED: 9.30 a.m. 15.4.1947.

HOSPITAL: Somerset, Cape Town.

ANTENATAL CASE.

Previous history: She has never suffered from any serious illness or fits.

Present condition: The patient visited the antenatal department on one occasion only - six days before admission.

9.4.1947: 139 lbs. : B/P. : 120/75 : L.O.A., Head mobile, F.H.H. No oedema.

No albumen or sugar in the urine.

To return in a weeks time.

The next time the patient was seen was when she was brought in by ambulance, unconscious.

Her mother states that the patient, without warning, had a fit at about 6.30 a.m. (15.4.1947). She regained consciousness, partially, A doctor was called and arranged for her to be sent into hospital.

She had another fit in the ambulance en route to hospital. She was admitted to a dark, warm, quiet room.

On Examination:

General: The patient was unconscious and restless. She was breathing stertorously.

9.40 a.m.: She had a typical eclamptic fit, lasting two minutes.
$\frac{1}{4}$ gr. Morphine was given as soon as regular breathing was established.
Her face, hands, legs and feet were very oedematous.

Local: Abdomen: Fundus three fingers above the umbilicus.

L.O.A.

Head mobile.

Blood Pressure: 170/140.

10 a.m.: 50 c.cs. 50% glucose given intravenously.

50 c.cs. 15% Mag. Sulph. given intravenously.

12 a.m.: The patient was drowsy up to now.

There were no signs of restlessness up till now.

She started rolling her eyes and throwing her head from side to side.

Light chloroform anaesthesia administered.

Whilst under the anaesthetic the following were done:-

1. Catheterised. 4 ozs. of urine were withdrawn. It was albumen solid.
2. The membranes were ruptured artificially.
3. 10 c.cs. of Calcium Gluconate given intravenously.
4. 100,000 units of Penicillin were given intramuscularly.
5. When she showed signs of regaining consciousness Morphine $\frac{1}{4}$ gr. was given.

2 p.m.: 40 c.cs. of 15% Mag. Sulph. given intramuscularly. The patient was drowsy.

16.4.1947:

1 p.m.: There were minor signs of restlessness. $7\frac{1}{2}$ gr. Luminal sodium given intramuscularly.

9 a.m.: Blood pressure 130/95.
Urine: 8 oz.: Albumen solid.

She took 2 fl. oz. glucose water.

She still is very drowsy.

The patient had a good restful day and passed 20 oz. of urine throughout the day.

17.4.1947:

9 a.m.: Blood pressure 150/110.

Urine - + + + albumen.

She had a good day. Total amount of urine voided = 20 oz.

She is taking fluids. Egg flip given.

18.4.1947:

9 a.m.: Blood pressure 170/115.

Urine - + + + albumen.

16 ozs. voided.

The patient became semiconscious. ¼ gr. Morphine was given at noon. 40 c.cs. 15% Mag. Sulph. 1/m at 4 p.m.

19.4.1947: Blood pressure 145/100.

Urine - Albumen + + +.

The patient was much better. She had a bowel action. Quantity of urine was not measured.

There was no sign of labour commencing.

Foetal heart : 130/minute.

20.4.1947: Blood pressure : 140/100.

Urine : Albumen + + +.

Her general condition showed marked improvement.

The oedema was subsiding.

21.4.1947: Blood pressure : 135/100.

Urine : Albumen + +.

Labour started at 11 p.m.

22.4.1947:

3 a.m.: 3 lb. 8¾ oz. live female baby delivered.
(Baby died 20 hours after delivery)

The third stage lasted 35 minutes and was uneventful.

Luminal sodium gr. 5 given intramuscularly.

Blood pressure: 145/115.

23.4.1947: Blood pressure: 130/90.

Very slight oedema present.

54 oz. of urine voided. Albumen + +.

24.4.1947: Blood pressure: 130/90.

Albumen: + +.

25.4.1947: Blood pressure: 150/90.

Albumen: +.

26.4.1947: Blood pressure: 135/95.

Albumen: +.

28.4.1947: Blood pressure: 135/95.

Albumen: +.

30.4.1947: Blood pressure: 135/80.

Albumen: Negative.

The blood pressure remained constant 130 - 135/80 until her discharge on 8.5.1947.

She has failed to report to the post-natal clinic.

Commentary.

Six days before admission this patient was seen in the antenatal department. She was then found to have a normal blood pressure and no albumen in her urine.

She was then told to return to the hospital in a weeks time.

She was admitted, within the week having had two fits, oedema, hypertension and albuminuria.

This point illustrates the fact that although good antenatal supervision does markedly influence the incidence of eclampsia it cannot obviate it altogether. Eclampsia may come on rapidly and without warning. The young primipara especially is attacked.

The treatment of her condition was based on the dictum "warmth, peace and quiet, and rupture of the membranes".

She was given Morphine, Magnesium sulphate, and glucose intravenously, whilst in the coma of her first fit (10 minutes after admission) - once respirations were re-established.

Two hours afterwards she showed signs of an impending fit, viz. restlessness, and rolling the eyes and head around. Light chloroform anaesthesia was administered. Whilst under the anaesthetic she was catheterised, the membranes were ruptured and any treatment that might cause stimulation was given. Penicillin - as eclamptic patients are prone to infection. Calcium gluconate - as some think that the fits

are due to calcium deficiency. Morphine - when she showed signs of coming out of the anaesthetic.

As this patient showed minor signs of restlessness 16 hours after admission 7½ grs. Luminal was given intramuscularly.

She then slept soundly.

Her urinary excretion remained satisfactory.

She was given eggflips and glucose water throughout.

She was kept quiet, warm and sedated and came into labour six days after admission - giving birth to her baby spontaneously and without anaesthesia on the 7th day.

Immediately after delivery she was given 5 gr. Luminal intramuscularly as a prophylactic against a possible fit.

The baby died soon after birth. This was not unexpected as the baby was very premature 3½ lbs.) and born of an eclamptic mother.

The patient made an uninterrupted recovery and was discharged from hospital eight days after delivery (as she was apparently normal - and, as usual, the hospital was hard pressed for beds).

CASE 19.

Puerperal Sepsis.

Summary.

A 23 year old primipara at term was admitted having been in labour for 36 hours.

She had three shivering attacks before admission.

Examination revealed her to be grossly septic. The os was fully dilated and the foetal position occipito-posterior.

The position was corrected and forceps applied.

The shoulders impacted. Both arms were brought down.

She was transferred to the infectious hospital as soon as she was fit enough to be moved. (The latter hospital is about $\frac{1}{4}$ mile away.)

NAME: LEANER, Mary.

AGE: 23 years.

PARA: 1

RACE: Cape Coloured.

L.M.P.: 10.10.1944. Therefore at term.

HOSPITAL: Somerset.

ADMITTED: 6 a.m. 14.7.1945.

History:

The patient states that labour commenced at 5.30 p.m. on 12/7/45.

A Doctor was called at 10 a.m. 13/7/45. He did a vaginal examination.

Labour progressed until 4 a.m. on 14/7/45 without much intermission in pain. She then had a severe shivering attack which was diagnosed as a fit. This 'fit' was soon followed by two similar attacks. (The Doctor then arranged for her admission to this hospital, as an Eclamptic)

On Examination:

General Condition: Confused and restless.

Temperature: 96.4°F.
Pulse: 130/min.
Respirations: 36/min.

Local : Abdomen: Markedly distended bladder.

R.O.P.

Head fixed. There was still about 1 inch of head above the symphysis pubis on the left side.

The foetal heart was not heard.

The uterus was contracting feebly at regular intervals.

A diagnosis of Persistent Occipito-posterior with a severe degree of sepsis was made.

Treatment:

A general anaesthetic was administered. (G.O.E.)

The bladder was emptied. 30 oz. of urine were withdrawn.

There was a trace of Albumen in urine.

The vaginal mucous membrane was black and sloughed when pressure was applied to it.

There was a marked caput and the diagnosis of the Posterior position was confirmed.

The position was corrected and forceps applied.

The delivery of the head was relatively easy. There was a slight perineal tear. Following the delivery of the head there was a gush of evil smelling gas and fluid.

Out of habit the cord was felt for around the neck.

It was found to be tightly wound round the neck. The portion towards the placenta was taut. The cord was severed.

The delivery of the shoulders now presented difficulty. Traction on the head and fundal pressure failed to budge the anterior shoulder. The posterior arm was delivered manually.

Traction again failed to deliver the anterior shoulder. The foetus was hence rotated so that the anterior

shoulder came to lie posteriorly. It was then delivered manually.

The still-born baby's abdomen was distended and bluish. Weight of baby 8lbs. 10¼ozs.

The Mother was given 50 c.cs. 50% glucose intravenously followed by a Glucose and saline infusion.

After 1¼ hours there still was no evidence of placental separation. As there now was a trickle of blood / the placenta was then removed manually.

During all these manipulations Dettol cream was used very liberally.

Penicillin was started immediately.

Two pints plasma followed by two pints of whole blood were given.

15/7/45: The patient is still confused.

Temperature: Subnormal.
Pulse: 120/min.
Lochia profuse and foul.

Penicillin continued. Sulfadiazine 4 tabs. stat.

2 tabs. 4 hourly.

16/7/45: The patient is conscious. Temperature still subnormal.

Pulse: 108/min.

Tongue furred.

Since the manipulation she has not been able to void urine. She has hence been catheterised 8 hourly.

17/7/45: The patient is feeling well. Her temperature is now 101°F. Pulse: 90/min.

Her tongue is clear. She has slept well and feels hungry.

The lochia is still profuse and offensive.

18/7/45: The patient eats and sleeps well.

She states that she feels very well indeed.

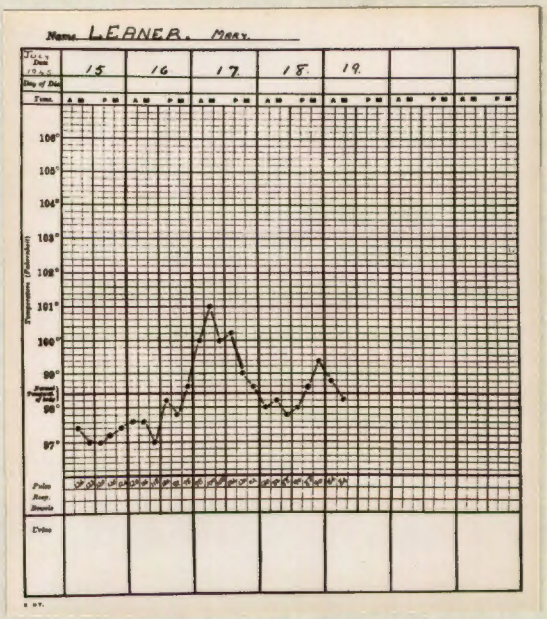
Temperature: 98.4°F.
Pulse: 95/min.

She has passed urine on her own.

She has had two bowel actions with good sphincteric control.

19/7/45: Transferred to the City Fever Hospital.

October,1945: It was learnt from the City Hospital that this patient was discharged in September. She made a prolonged but steady recovery.



Commentary.

This patient was grossly septic and therefore was admitted to the isolation block - where she was treated.

Her resistance, Penicillin, sulfa drugs, blood transfusion, and glucose and saline can be surmised to have cured her of her infection. No doubt Penicillin played the most important role.

Unfortunately blood and vaginal cultures were not done. These could have been of no more than academic interest as the full reports would not have returned until after the elapse of a few days.

In addition to her severe infection she required many obstetrical manipulations.

The foetal position was P.O.P. Once corrected forceps delivery was straight forward.

The next difficulty came with the birth of the shoulders. Traction on the head and fundal pressure were insufficient. The posterior arm was delivered. Traction on this failed to bring the anterior shoulder into reach. The anterior arm was turned - folded over the chest - to the posterior postion and then "fetched".

All was not yet over. The placenta did not separate. This in all probability was due to the secondary uterine inertia. As there was a constant trickle of blood Crede's method was tried but failed. It was removed manually.

These manipulations in a clear case is not without

risk of infection. The prognosis - already poor - was now thought to be extremely bad.

Further proof of the hopelessness of her condition was drowsiness, fast pulse and a subnormal temperature. These facts showed that the infection was severe and had the upper hand.

On the 2nd and 3rd postpartal days she started showing signs of mastering the infection. Her pulse rate improved and her temperature rose.

She now recovered rapidly and was actually hungry on the third day.

Although she was still draining lochia profusely on the fifth day, her general condition was good.

She was transferred to the Fever hospital because of the shortage of maternity beds.

It might be argued that giving Penicillin and Sulfadiazine without knowing which organism was being dealt with is unscientific. The line of treatment adopted gave the only favourable result however, viz. the patient her life.

CASE 20.

1. Acute Hydramnios.
2. Maternal Secondary Syphilis.
3. Retroperitoneal 'Gumma' found in the foetus.

Summary.

A 20 year old 36 week pregnant syphilitic primipara was admitted with acute abdominal distension occurring over 14 days preceded by gradual distension over 3 months.

Acute hydramnios was diagnosed and 140^{+} fl. oz. of liquor amnii drained.

This was soon followed by the expulsion of a still-born baby weighing 6 lbs. $1\frac{1}{4}$ oz.

A postmortem held on the baby(macroscopically and microscopically) showed a retroperitoneal area of necrosis simulating a gumma.

NAME: ROSS, Lenie.

AGE: 20 years.

PARA: 1

RACE: Cape Coloured.

HOSPITAL: Somerset.

L.M.P.: Beginning of December 1946. Therefore 36 weeks pregnant.

ADMITTED: 1.7.47 at 9 p.m.

EMERGENCY:

History.

Previous: She has never been seriously ill.

Present: The patient states that she was quite fit throughout her pregnancy until about the end of April.

Ever since her abdomen increased in size rapidly. The increase in size has been marked during the past 14 days (i.e. since about the middle of June.)

For the past 3 days (since June 28th) she has suffered from epigastric and subcostal pain. She has also experienced breathlessness.

On Examination:

General: The patient was in a fair state of health. Respirations were shallow, and rapid. The patient was obviously very uncomfortable.

Her mucous membranes were well coloured. There were no signs of oedema.

Local : Abdomen: The abdomen was grossly distended. The fundus was at the ensiform cartilage. Foetal parts were ballottable but the lie could not be determined as the uterus was

distended with fluid.
There was a well marked fluid thrill.

The foetal heart was not heard.

Vulva: There were numerous vulval condylomata.

Cardiovascular system: No abnormality was detected.

Pulse : 80/min.
Temperature : 120/80.

Respiratory system: No abnormality was detected.

Treatment: The os was found to be two fingers dilated. Membranes were bulging.

The right hand was inserted into the vagina and the membranes were ruptured with a volsellum.

Amniotic fluid gushed out and an attempt was made to control the flow with the fist of the right hand.

140 fl. ozs. of clear straw coloured fluid was collected.

No cord or limbs prolapsed. The foetus presented by it's vertex.

Foetal heart could not be heard.

2.7.47: 12.30 a.m. (i.e. $3\frac{1}{2}$ hours after admission).

She delivered herself of a 6 lb. 1 oz. still-born foetus without any trouble. There was no evidence of maceration.

The third stage was normal (20 minutes). The placenta showed no naked-eye pathology.

4.7.47: .3 c.c. N.A.B. intravenously.
2 c.c. Bisoxyl intramuscularly.

11.7.47: .3 c.c. N.A.B. intravenously.
2 c.c. Intramuscularly.(Bisoxyl)

12.7.47: W.R. + +.

Kahn + +.

Berger + +.

14.7.47: The patient made an uninterrupted recovery and was sent home, given instructions to attend a V.D. clinic.

21.7.47: Seen at postnatal clinic. Condylomata have all disappeared.

Blood pressure, urine and pelvic organs were normal.

She is attending a V.D. clinic.

A post-mortem was done on the foetus at 10 a.m. 2.7.47.

The main findings were as follows:-

1. The lungs, liver and spleen were normal macroscopically. The bile ducts were normal.

2. The stomach was normal.
There was a retroperitoneal fibro necrotic mass (macroscopically like a gumma) which surrounded the 2nd and 3rd part of the duodenum and the proximal inch of jejunum. (See fig. 1).

A probe could pass through the gut stenosed by this mass.

The Pancreas and pancreatic ducts were normal.

3. Histologically this mass had the appearance of a gumma. There was an area of necrosis, surrounded by fibrosis. (figs. 2 3 4

Plasma cells were abundant. (fig 4

4. The liver did not appear to be normal. There was no pericellular fibrosis as is found in a congenital syphilitic liver.

There was marked evidence of haemopoesis.

Fig. 1

(a) Liver.
(b) Stomach.
(c) Fibro necrotic mass surrounding:-
(d) Duodenum
(e) Jejunum.

Fig. 2 (X 10)

(a) Duodenum.
(b) "Gummatous" area.

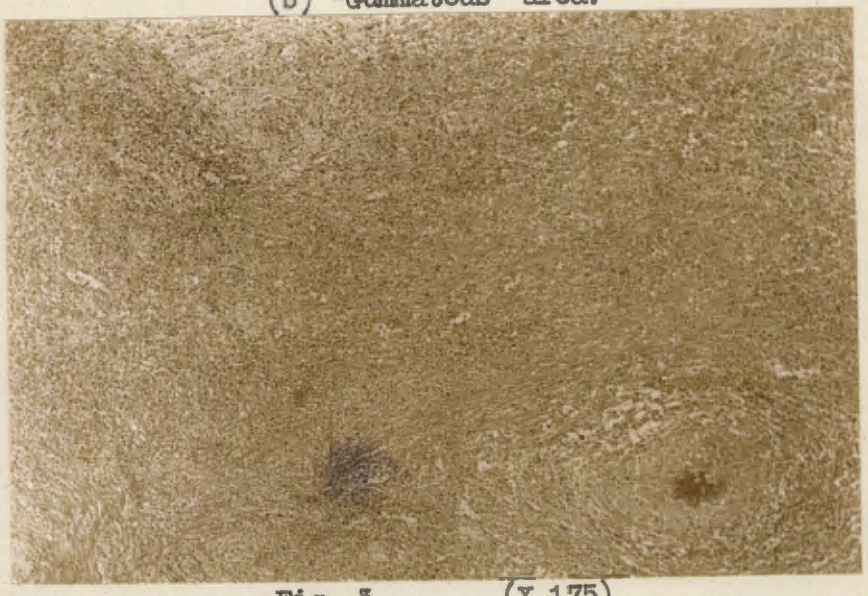


Fig. 3 (X 175)

Note the necrotic and fibrous areas with round-cell infiltration.

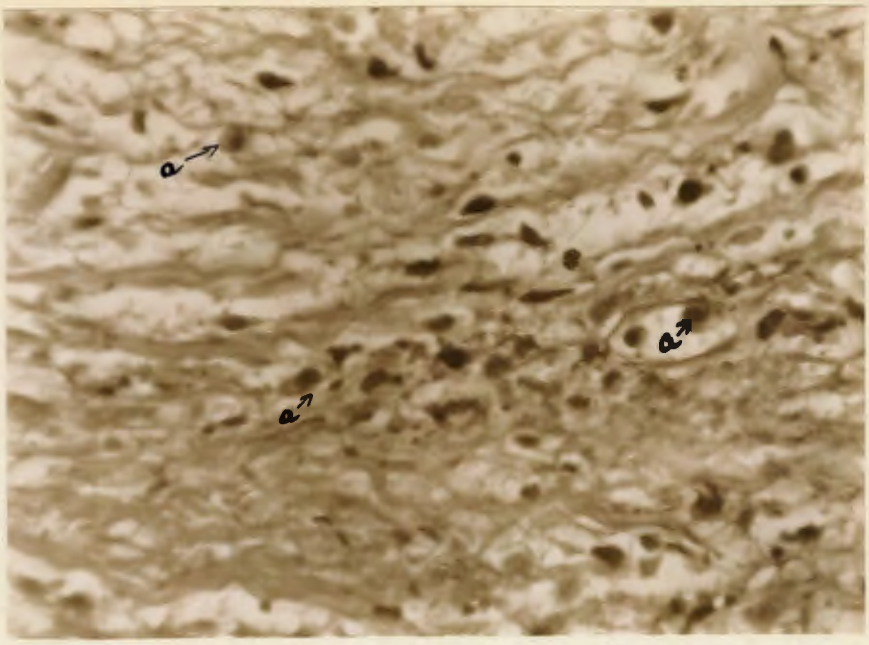


Fig. 4 (X 750)

Fibro-Necrotic area with
(a) Plasma cells.

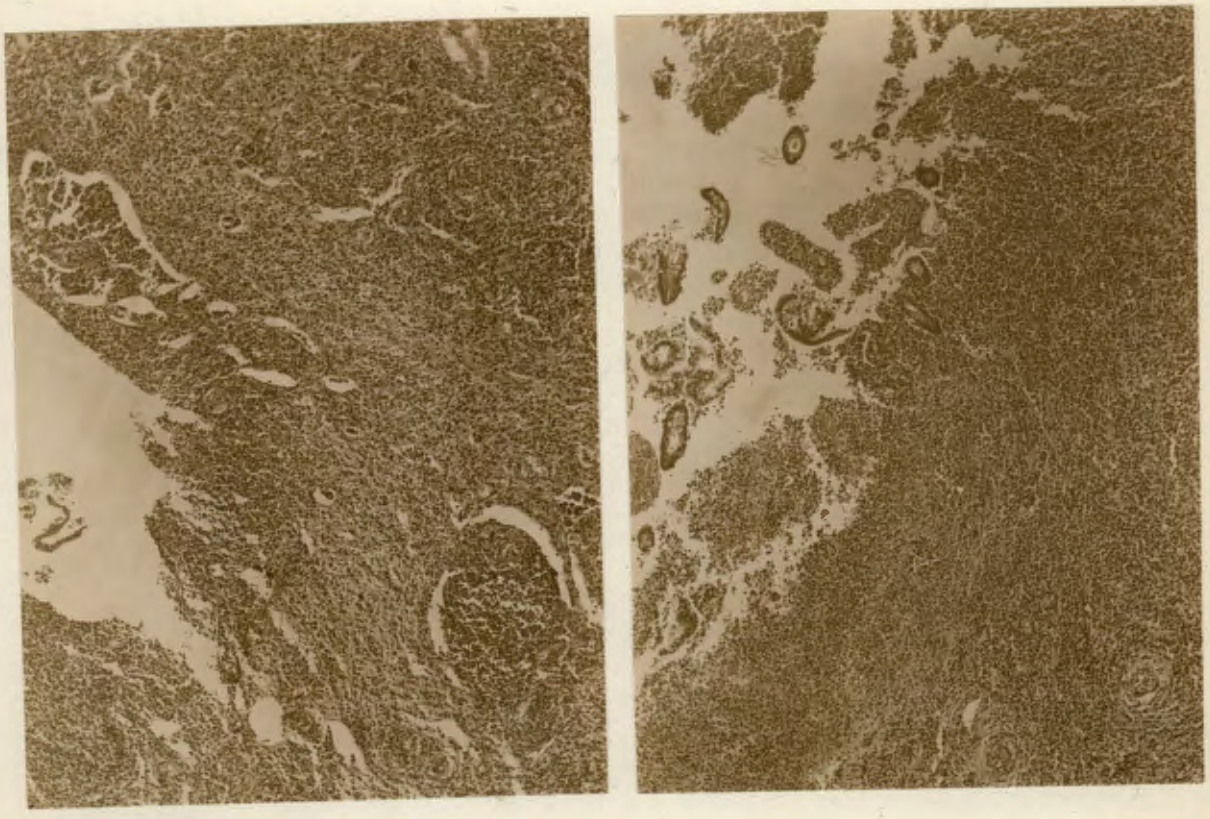


Fig. 5 (X 150)

Affected intestinal wall.

Levaditi stain of the "gummatous" area showing numerous spirochaetes.

(In sections of the liver very few spirochaetes were found.)

Commentary.

The points of interest in this case are:-

1. Acute hydramnios - apparently superimposed on chronic hydramnios - during the latter weeks of pregnancy.

2. Stenosis of the duodenum and jejunum due to an inflammatory mass.

This stenosis in all probability caused the hydramnios - as in infants with congenital stenosis of the small gut hydramnios is found to be a common complication. This case is therefore of great interest because the stenosis of the small gut was a result of a pathological change.

3. The macroscopical and microscopical appearance of the retroperitoneal lesion was gummatous.

In congenital syphilis diffuse fibrosis is the usual reaction found. It is rare to find gummata. These are then mostly miliary and situated especially in the liver. Isolated gummata have been described, but these are rare and usually localised to the skin or mucous membranes.

4. The maternal lesions were those of a secondary syphilis. The lesion of her infant was a tertiary one.

This shows either/that the infant's reaction to the syphilis must have been more rapid than it's mothers, and that the immunity it built up was done very rapidly, or that syphilis may act in an inexplicable way at any time.

Congenital syphilitic lesions of the gut are rare (D'Aunoy and Pearson (1939) - Archives of Pathology Vol. 27. Page 239.)

The upper part of the small bowel is usually affected.

In this lesion the gut seems to be affected primarily (figs. 1, 2 and 5).

The lesion can be stated to be a diffuse sclerosing one, as the stenosis extended over a distance of about three inches.

It is stated that perforations are not uncommonly found in congenital syphilitic lesions of the gut. This fact might explain the large retroperitoneal fibro-necrotic area.

CASE 21.

Reversible constriction ring.

Summary.

The patient, a 47 year old 13th para was admitted, at term, having been in labour for 34 hours - membranes ruptured for 33½ hours.

On abdominal examination a ringlike depression was felt about two inches above the symphysis pubis.

Vaginal examination revealed a fully dilated os and a constriction ring around the baby's neck.

Morphine and adrenalin were administered.

Normal spontaneous delivery of a 9 lbs. 9½ oz. living male child followed 14 hours afterwards.

NAME: SAMUELS, Galima

AGE: 47 years

RACE: Cape Coloured

PARA: 13

L.M.P.: 28.5.1946 Therefore at term.

HOSPITAL: Somerset.

ADMITTED: 19.3.1947 at 1.45 p.m.

EMERGENCY:

Previous:

The patient states that she had "Elephantiasis" of the left leg for 18 years.

The leg was amputated 2 years ago.

Obstetrical:

The patient states that her first baby was still-born 24 years ago. There were no apparent labour or puerperal complications.

The other 11 children were all born normally, labour in each case lasting between 4 and 8 hours.

Six children are alive. The others died of either gastro-enteritis or lung diseases.

The youngest child was born 4 years ago.

Present condition:

The patient attended an antenatal clinic (St.Monica's Home) where at one stage during pregnancy a transverse lie was corrected. There were no other complications.

She came into labour at 4 a.m. 18.3.1947. The pains were poor and irregular. They were unlike the pains of her previous confinement as they were "colicky" and seemed not to be getting stronger nor were they productive.

The membranes ruptured about ½ hour after the onset of labour.

The pains did not alter in character throughout the day.

She was given an injection (Morphine ¼ gr.) at about 9 p.m. and had a good rest.

The pains were at long irregular intervals during the night.

Throughout the morning of 19.3.1947 the pains became more regular, would last a very short while but were not the true labour pains experienced with her previous pregnancies.

As there was no advance in labour she was transferred to this hospital.

On Examination:

General: Condition good. Pulse 74/min. Temperature: 98.2°F.

Local: Abdomen: Fundus 2 fingers below Xiphisternum.

L.O.A.

Head in pelvis but not fixed.

A marked ringlike depression could be felt on the surface of the uterus about 2 inches above the symphysis. It was about ½ - 1 inch broad.

Contractions were very infrequent; about 1 every ¼ to ½ hour, lasting 20 - 30 seconds.

Foetal heart : 146/min.

C.V.S. : No abnormality was detected.

B/P : 140/90.

Respiratory : No abnormality detected.

No oedema.

Urine : Clear. No albumen.

Vaginal: The introitus was very large.

The os was fully dilated.

The head was mobile high up in the pelvis cavity.

There was neither caput nor moulding.

It was lying in the antero-posterior diameter.

The whole hand was inserted into the vagina and the fingers slipped past the head. A constriction ring was felt keeping the shoulders back. The ring was around the baby's neck but was not tightly applied to it.

The cord had not prolapsed through the ring.

Morphine ¼ gr.

Adrenalin 5 mins. 1/1000 solution.intra-muscularly.

The patient had a good sleep.

9 p.m.: 50 c.c.s. 50% glucose given intravenously.

11 p.m.: Pains came on again.

The pains now were regular and the contractions were good but lasted 30 - 45 seconds.

The pains gradually became more frequent but still were of short duration.

The maternal and foetal conditions remained good.

20.3.1947:

3.55 a.m: A 9 lbs.9½ oz. live male child delivered spontaneously without any difficulty.

The third stage lasted 35 minutes. The placenta was expelled spontaneously.

31.3.1947: The patient's puerperium was uneventful.

She and her baby were discharged to Sister Annie's Home for prolonged convalescence.

Commentary.

The important features in this case were:-

(a) Poor type of labour.

(b) Early rupture of the membranes.

(c) Delay in the second stage not due to disproportion or a mal-presentation.

(d) Ringlike depression felt about two inches above the symphysis pubis.

(e) The inner aspect of this ring was felt as a constriction surrounding the neck of the foetus.

(f) Loose fitting head in the pelvis.

The diagnosis of an anomaly of uterine action constriction ring - was positive and explained the delay in labour.

That the constriction could be felt abdominally - and that the inner aspect of the constriction corresponded to that area, favoured the diagnosis of a spasm of a region of uterine muscle (as opposed to reversed polarity - see main commentary.)

Because of this fact the patient was treated conservatively with satisfactory results.

There is no proof that morphine and/or adrenalin caused relaxation of this spasm. Pains restarted 9 hours after these injections and at no time were they good strong labour pains i.e. the outcome might have very well been the same without adrenalin or morphine.

CASE 22.

Constriction ring.

Summary.

A 30 year old fourth para, at term was admitted in a poor type of labour. The membranes ruptured spontaneously after 12 hours of labour.

She was treated as a bad type of primary uterine inertia.

After 55 hours of labour the os was fully dilated - there was foetal distress.

Forceps were applied but failed to deliver the head - not because of cephalo-pelvic disproportion but because of a constriction ring.

Amyl nitrite and deep chloroform anaesthesia had no effect on the ring. Caesarean section was performed - and the ring had to be cut before the dead foetus still born baby could be delivered.

Acute dilatation of the stomach followed.

She weathered a stormy first three post operative days and then made a steady recovery.

Name : TAYO, Amelia.

Age : 30 years.

Para : 4

Race : Native.

L.M.P. : April 1945 : Therefore at term.

Admitted : 3.2.46 at 7.45 p.m.

Hospital : Shipley, Somerset, Cape Town.

Antenatal case

19.11.45 : Urine: No alb. : B/P: 125/70 : Vertex presenting.

27.11.45 : Urine: No alb. : B/P: 120/70 : R.O.A. : Head high and mobile. F.H.H.

18.12.45 : Urine: No alb. : B/P: 120/80 : 3 F.D. : L.O.A. Head high and mobile : F.H.H.

8.1.46 : Urine: No alb. : B/P: 110/70 : 2 F.D. : L.O.A. Head high and mobile : F.H.H.

15. 1.46 : Urine: No alb. : B/P : 110/80 : 2 F.D. : L.O.A. : Head high and mobile : F.H.H.

22. 1.46 : Urine: No alb. : B/P : 115/80 : 1 F.D.: L.O.A. : Head mobile : F.H.H.

29. 1.46 : Urine: No alb. : B/P : 130/90 : 1.F.D. : L.O.A. : Head mobile : F.H.H.

Previous History

General: The patient has always been well.

Obstetrical: Her previous deliveries have all been difficult resulting in instrumental delivery/ not in hospital Her babies were all above average weight - being 9½ lbs. each.

Her youngest baby was born in April 1944.
All her children are alive.

Present condidtion.

The patient states that she was quite well throughout this pregnancy

excepting 2/

excepting for a dull pain in the left iliac fossa and pain on micturition in November. The pain soon passed off and was not incapacitating.

Throughout the night of 2.2.46 she had slight irregular labour pains. The pains continued in this poor and irregular fashion - unlike the good pains of her previous pregnancies - until noon 3.2.46, when the membranes ruptured. i.e. 12 hours after onset of labour.

Since noon her pains have come on regularly and have been stronger.

On Examination.

General : Good.
Pulse 108/min.
Temperature 98.4°F.

Abdominal : Fundus 1 finger below Ziphisteruum L.O.A. Head fixed but still much head above the brim.
Foetal heart 140/min.
Palpation gave the impression that the baby was well above average size.

9.30 p.m. Pains were now wearing off. The head has descended but still palpable above the symphysis.

The patient was getting tired. Nembutal gr. 1½ and chloral hydrate gr.20 given.

4.2.46.

5 a.m. : The patient has had a good rest.
Pains were now regular and strong. 50 c.c. of 50% glucose given intravenously.

7.30 a.m.: Pains were good. The head was no longer palpable above the brim.

The 3/

The foetal heart varied between 100 and 140/min. and was irregular. Coramin ampoule given intramuscularly to the patient. She was also given continuous oxygen through a nasal tube.

Forceps delivery was decided upon as per rectum the os was found to be fully dilated.

The forceps were applied.

Traction revealed an elastic resistence.

The forceps were removed.

The pelvis was roomy and easily allowed both the foetal head and the examining hand.

Surrounding the foetal neck was a tight constriction ring.

Forceps were re-applied; a finger was kept in readiness on the constriction ring and amyl nitrite given to the patient. It made no difference to the ring and therefore no traction was applied.

The patient was deeply anaesthetised with chloroform. It made no impression on the ring.

Although the foetal heart was now no longer heard the patient was prepared for an immediate Caesarean section.

Intravenous saline and glucose - continuous drip - started.

OPERATION.

Lower midline abdominal incision made.

The outer surface of the uterus had a normal appearance.

A longitudinal incision was made into the uterus extending from just above the reflexion of the bladder upwards.

The upper segment was slightly thinner than normal (± ¼ inch thick).

There was no thinning of the uterine wall between the upper segment and the constriction ring,

..... 4/

ring, ie. there was no evidence of lower segment formation.

The ring had to be cut in order to deliver the baby's head. The ring was felt to extend right round the uterus in a circular fashion.

The uterus would not contract down well. There was a severe loss of blood: Pituitrin was injected into the wall of the uterus and Ergometrine intravenously.

The patient's condition deteriorated rapidly.

A warm cloth was inserted into the uterus and a warm cloth wrapped around it. The uterus contracted down well and bleeding ceased.

The uterus was stitched after the swab in its interior was removed. The constriction ring was still present.

The abdomen was closed by stitching consecutive layers.

The stillborn female baby weighed 11 lbs. $\frac{1}{4}$ oz.

Post-operatively.

(1) Two pints of blood transfused.

(2) Penicillin 30,000 units 3 hourly.

(3) Morphine gr.$\frac{1}{4}$p.r.n.

7 p.m. : Pulse rate 140/min. Her abdomen is grossly distended. Acute dilatation of stomach diagnosed.

Levine's tube passed and ± 2 pints of greenish fluid withdrawn. The tube was left in situ.

Continuous suction apparatus connected to the Levine's tube.

Adequate fluid balance kept up.

5.2.46 Lost about 2 pints of fluid through the suction during 24 hours.

Kept on Morphine gr.$\frac{1}{6}$ four hourly provided the respiratory rate is above 16/min.

Vitamin B. complex.

6.2.46 .....5/

6.2.46. No abdominal distension. Suction and morphine discontinued. 1 oz. glucose water by mouth hourly. Passed urine on her own.

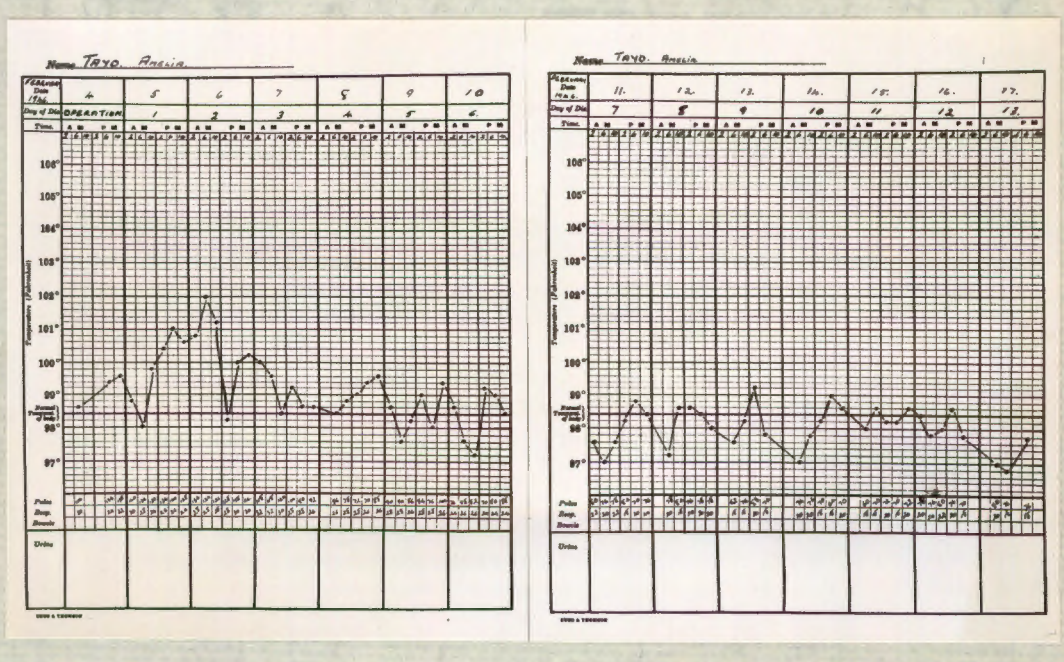
7.2.46. Feels comfortable. Has passed flatus. Light fluid diet commenced.

8.2.46. Penicillin decreased to 10,000 units four hourly. Patient comfortable. Diet increased.

11.2.46. The patient feels well.

22.2.46. The wound has healed by first intention. The patient felt and looked very well. She was transferred to a convalescent home for one month.

Temperature charts follow.



Year, 19 46 WARD No.
Month FEBRUARY. BED No.

NAME TAYO. AMELIA Age 30. No. of Pregnancy 4th Period of Pregnancy F. T.
Admitted 3-2-'46 at ... a.m. 7.45 p.m.

PREVIOUS HISTORY.
- Previous Labours: Abortions — Premature — Full Term 3. Nature Breech & Normal [illegible]
- Date of Last Labour APRIL. 19 44. Last Menstruation began APRIL. 1945.
- Health during Pregnancy Good. Health on Admission Good.
- Temperature on Admission 98.4°F. Pulse on Admission 105/m. Bath on Admission Bed.
- Measurements: Inter-Spinous ... Inter-Crist ... Ext. Conj. ...

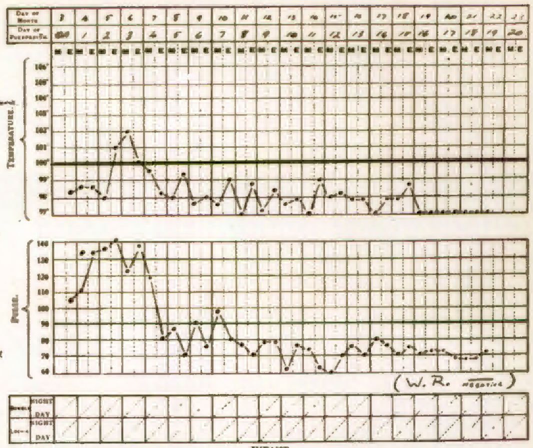
DIAGNOSIS.

	Day	Month	Hour A.M.	Hour P.M.	Signature
Abdominal Palpitation L. O. A. : Head fixed: RRR	3	2		12 m.n.	
Vaginal—Examination Os 3 fingers dilated. Cervix thinned well applied to the head. Caput felt. Posterior fontanelle is anterior	3	2		12 m.n.	

LABOUR.
- Labour began 2nd of Febr. at during night a.m. ... p.m. Membranes ruptured 3rd a.m. afternoon p.m.
- Infant Born 4 · 2 · '46 at 9.30 a.m. ... p.m. Placenta delivered in ... minutes
- Presentation VERTEX Position L. O. A. Nature of Labour CAESAREAN SECTION
- Membranes ' INTACT. Placenta INTACT.
- Examined before Admission No Perineum: Intact / Torn
- Sister on Duty ...
- Nurse in Charge ...

PUERPERIUM.
- Date of first leaving the Bed 15 - 2 - 46.
- Date of Discharge (Transfer to convalescent home) 22 — 2 — 19 46. Condition when leaving Hospital Satisfactory.
- Day Nurse in Charge ... Night Nurse in Charge ...

NOTES:—
Date of Examination. Urine—Sp. G 10.15 Qualitative Examination — Reaction Acid



INFANT

Sex FEMALE. Weight 11 lbs. 4 ozs. Length ... ins.
Condition at Birth STILL — BORN. Bathed by Nurse ...
Mode of Feeding ... Bowels ... Weight, 8th day ...
Condition when leaving Hospital ... Weight ... Condition of Cord ...

NOTES:—

Commentary.

This patient attended the antenatal department regularly. No abnormality was detected.

She stated that her three previous labours were difficult and ended in instrumental delivery in each case. Her babies are alive and were all large. The weights are unknown.

Because of the irregular infrequent contractions a primary uterine inertia was diagnosed. She was treated accordingly viz. sedatives and intravenous glucose.

Foetal distress in the second stage called for interference.

The head fitted loosely in the pelvis. There was no cephalo-pelvic disproportion. Forceps were applied. Traction produced no advance. There was an elastic type of resistence.

Further examination revealed a tight constriction ring around the baby's neck.

The possibility of constriction was unfortunately completely overlooked. Shocking!

Amyl nitrite (2 ampoules) followed by deep chloroform anaesthesia made no impression on the ring.

The risks entailed in now setting about a Caesarean section were realised.

It was thought to be the only way out for saving the mother's life, the foetal heart was no longer heard.

Intravenous glucose and saline and Penicillin were given and the operation was done.

The ring had to be cut to deliver the baby.

The outstanding feature was that the area under the loose uterine peritoneum was thick and the upper segment was relatively thin.

A severe post-partum haemorrhage followed. The explanation of this phenomenon might be:-

1. The previous deep chloroform anaesthesia.
2. The anomaly of uterine action viz. poor contraction and retraction.

The puerperium was stormy.

The first complication was sepsis. Penicillin fortunately took care of this process.

Secondly - and rapidly - was acute dilatation of the stomach. Aspiration of the gastric contents followed by continuous suction, intravenous replacement of the fluid lost, and Morphine at regular intervals soon cleared this complication.

Once she was over the latter complication she made a steady recovery as her temperature charts indicate.

She has not visited the post natal clinic.

Had the constriction ring been diagnosed in the first place and a Caesarean section done without the vaginal manipulations the baby in all probability would have been alive - and the mother's puerperium been a less stormy one.

CASE 23.

Constriction Ring.

Summary.

A 26 year old 4th para, who had attended the antenatal clinic regularly was admitted in labour.

She was diagnosed and treated as a primary uterine inertia.

Vaginal examination revealed the cause of the delay in labour - viz. a hard, broad, tight constriction ring around the baby's neck.

Caesarean section resulted in a live baby and healthy mother.

Two years later - after regular antenatal supervision - her labour was complicated by the same condition.

Name : ALEXANDER, Galima.

Age : 26 years.

Para : 4

Race : Cape coloured.

L.M.P. : September, 1944, therefore at term.

Admitted : 2.7.45 at 7.35 p.m.

Hospital : Maternity section, Somerset - Cape Town.

Previous history.

General : The patient states that at no time has she been seriously ill.

Obstetrical : Her previous babies were all at term. Labours and puerperia were normal. The first two children died of intercurrent diseases, the first when 8 months old and the second at the age of 3 years.

Her last baby was born in June 1943. This child is alive.

Present Pregnancy.

		Urine	B/P	
Antenatal :	28.3.45:	No alb. : acid :	115/75 :	L.S.A. : F.H.H.
	4.4.45:	No alb. : acid :	120/80 :	L.S.A. : F.H.H.
	19.4.45:	No alb. : acid :	110/65 :	Fundus midway between umbilicus and Ziphisteruum. L.O.A. : F.H.H.
	15.5.45:	Alb.nil : acid :	125/78 :	Midway - L.O.A. : F.H.H.
	29.5.45:	Alb.nil : acid :	120/75 :	4 F.D.: L.O.A. Head high and mobile : F.H.H.
	18.6.45:	Alb.nil: acid :	145/90 :	3 F.D.: L.O.A.: Head high and mobile : F.H.H.

2. 7. 45 : Admitted at 7.30 p.m.

The patient states that labour started on 30.6.46 at 3 p.m. The pains, however, were poor, irregular and infrequent until 2.7.45

when 2/

drinking
when after/a 2 oz. bottle of castor oil they became strong and regular. She therefore decided to come into hospital. She has had little sleep since 30.6.45.

On Examination.

General : The patient appeared to be tired.

Pulse : 105/min.

Temperature : 98.4°F.

Respirations : 20/min.

B/P : 145/90.

Urine : no albumen.

Local : Abdomen : Fundus 3 fingers below ensiform.

L.O.A.

Head mobile.

Foetal heart regular 140/min.

Poor quality contractions lasting about 20 - 30 seconds coming on at intervals varying from 5 to 10 minutes.

Nembutal 1½ gr. and chloral 30 gr. given at 10 p.m.

The patient had a good night's rest.

3.7.45 Poor pains.

6.30 a.m. : Membranes ruptured.

The liquor was meconium stained.

8.15 a.m. : Thick meconium passed. Foetal heart was very irregular, ranging between 120 - 180/min.

The head was fixed.

Coramine 1 ampoule administered intramuscularly.

Oxygen by nasal tube.

The 3/

The Foetal heart soon steadied to 150/min.

9 a.m.: Vaginal examination. Os 4½ fingers dilated. Cervix soft, but thick anteriorly and thin posteriorly, not applied to the head. Head not completely fixed.

The patient had poor pains throughout the day.

7.30 p.m.: Temperature : 98.8°F.
Pulse : 90/min.

Abdominally : Head still high but fixed.

Vaginal examination under general anaesthetic : The os fully dilated.
The head fitted loosely in the pelvis.
During a contraction the head remained stationary i.e. it did not come down.

Around the neck of the baby was a broad constriction ring i.e. the ring was about 1½ inches in breadth.

Immediate Caesarean section decided upon.

OPERATION.

Lower midline abdominal incision made.

There was no demarcation between the upper and the lower segments of the uterus.

A longitudinal incision was made into the uterus.

The upper segment was found to be about 1/6 inch whereas the lower segment was about 1½ inches thick.

The baby was delivered, as usual - breech first. The head could not be delivered. The constriction ring, which was about 2 inches broad had to be severed before the head was freed. The ring was immediately below the peritoneal reflexion - uterus to bladder and extending about 1½ inches upwards.

The placenta was adherent and had to be removed manually.

Two packets of 'Steraps' were sprinkled into the uterine cavity.

The 4/

The uterus contracted down well. The cut surfaces were stitched.

The abdomen was closed by suturing consecutive layers.

The live female baby weighed 8 lbs. $10\frac{3}{4}$ oz.

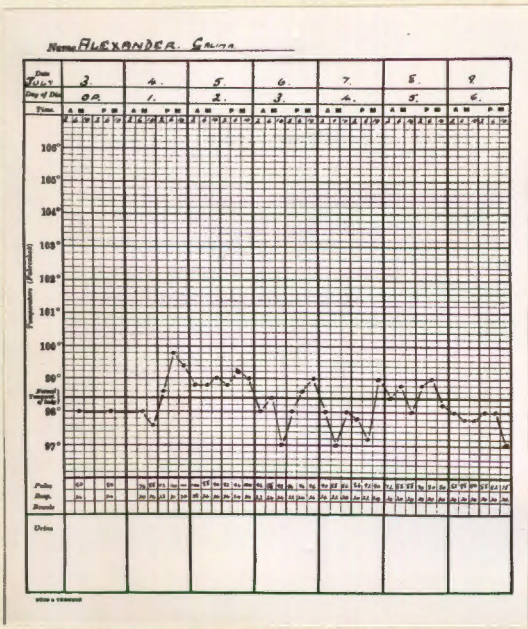
Post-operatively.

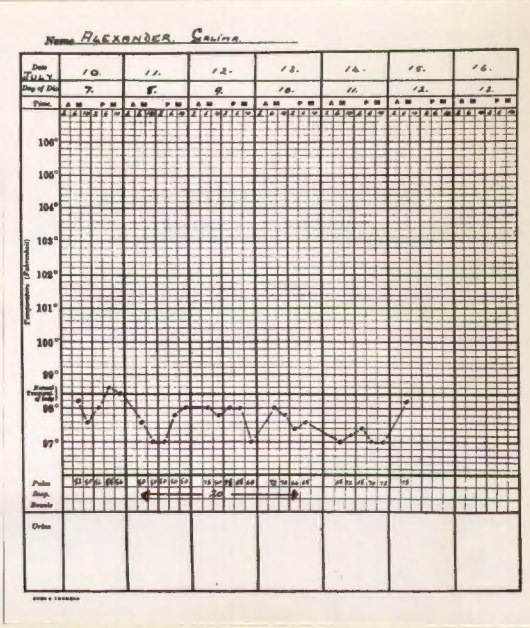
The patient was given Penicillin 20,000 units 3 hourly.

7.7.45 : Penicillin stopped.

The patient made an uninterrupted recovery and was discharged from hospital with her baby on 15th July, 1945.

Temperature charts portrayed below.





22. 7.1947: She was re-admitted at 1030 a.m. Her last menstrual period started on 26.9.1946. She therefore is at term. She had visited the antenatal department regularly and at no time was any abnormality detected.

The baby's head remained high and mobile.

The lie was R.O.A.

She states that she has been experiencing suprapubic "colicky" pains since 20.7.1947. The pains are irregular and infrequent and unlike the pains of her previous normal labours - but not unlike those experienced during her labour of 1945.

The pains do not radiate. Just occassionally has she experienced a dull ache low down her back.

Examination:

General: Condition good.
Pulse rate : 60/min.
Temperature : 97°F.
Respirations: 18/min.
Blood pressure : 120/75
Urine : No albumen.

Abdomen: The contour of the abdomen was normal. The fundus was 4 fingers below the ensiform.

R.O.A.

Head in the pelvis.

A tender depression was felt proximal to the head.
Foetal heart rate : 140/minute.

23.7.1947: She had poor pains at infrequent irregular

intervals throughout 22.7.1947 and 23.7.1947. The contractions lasted 15 - 30 seconds and came on at 5 - 30 minute intervals. The contractions affected the whole uterus. The pain remained localised to the suprapubic region.

6.30 a.m.: The membranes ruptured spontaneously. The liquor was meconium stained.

Foetal heart 140/minute.

4 p.m.: The pains had not changed. Meconium in the liquor was thicker.

Foetal heart varied between 110 and 135 per minute.

The head was in the pelvis.

The depression was still present immediately proximal to the head. It was tender.

Vaginal Examination:

The introitus and vagina were large. The os admitted three fingers. The cervix was thick but soft. It was not applied to the head.

(At this stage the uterus contracted. The head did not come down at all but remained stationary.)

The examining hand was slipped past the head and a hard, non-resilient constriction ring was felt surrounding the neck of the foetus. This ring was opposite the tender supra-pubic depression.

Because of the slowing foetal heart and the presence of the constriction ring Caesarean section was decided upon.

40,000 units of Penicillin given.

Blood transfusion started and the Caesarean section was done under gas, oxygen and ether anaesthesia.

On opening the abdomen a few adhesions between anterior uterine and abdominal wall were found. These were freed.

A marked circular depression about two inches broad could be seen extending from the reflection of the peritoneum of the bladder to uterus. The inferior margin of the ring was at the line of peritoneal reflection.

The ring had to be cut to allow delivery of the foetal head.

There was no demarcation between upper and lower segments.

The upper segment was about $\frac{1}{4}$ inch thick. The ring was about 1 inch thick and two inches broad.

The upper segment would not contract and retract properly.

Ergometrine was injected both into the uterus and intravenously.

The patient lost a great deal of blood.

The uterus eventually contracted down.

The upper segment now became about one inch thick. The ring was still present.

The cut edges of the uterus were sutured.

The abdomen was closed in the usual way.

The baby weighed 9 lbs. $4\frac{1}{4}$ ozs.

25.7.1947: She is still on Penicillin 40,000 units three hourly.

She feels well.

Her temperature has not been over 99°F.

Her pulse rate varies between 80 and 100/minute.

She has passed flatus.

3.8.1947: The patient's puerperium was uneventful. She was not morbid. Stitches removed. Wound has healed well.

6.8.1947: She and her baby were discharged from hospital.

Commentary.

Although this patient visited the antenatal department regularly and was a fourth para an anomaly of uterine action was neither foreseen nor could it be prevented.

On admission and later - it was thought that she had a primary uterine inertia.

With this "inertia" came foetal distress. Coramine and oxygen given to the mother adequately treated the foetal distress.

The patient showed signs of exhaustion.

Vaginal examination revealed a loosely fitting head in a large pelvis. The head did not descend - but remained stationary - during a contraction.

An anaesthetic was given and the fingers were slipped around the baby's head.

A firm, thick, constriction ring was felt.

Caesarean section was done. A live 8 lbs. $10\frac{3}{4}$ oz. baby was delivered.

The uterine musculature presented a strange picture. The upper segment was as thin as the lower segment usually is after a hard labour. The lower segment, on the other hand, was thick and taut around the neck of the baby.

This ring had to be cut in order to deliver the baby's head.

The ring extended from opposite the peritoneal

line of reflection from bladder to uterus and extended about two inches proximally - gradually tapering into the thin upper segment.

This patient came into labour - after regular antenatal visits - two years later.

Once again her labour was unlike her previous normal labours.

Having watched her carefully throughout the antenatal period for any abnormality - a lookout for constriction ring was kept.

A depression was felt suprapubically. It was tender.

Vaginal examination revealed a thick non-applied cervix and again a constriction ring was felt around the baby's neck.

Caesarean section was done.

Again the ring was at the same site and the lower segment thick, with the upper thin.

It seemed as if the uterine action was in reverse gear.

Both mother and baby were fit when they left hospital.

C A S E 24.

Constriction Ring.

Summary.

A 23 year old primipara antenatal patient, was admitted in labour. The type of labour suggested a severe primary uterine inertia.

Vaginal examination under general anaesthesia after 57 hours of labour with no further descent of the head revealed a $2\frac{1}{2}$ finger dilated, non-applied os, no cephalo-pelvic disproportion and a constriction ring (through which the cord had prolapsed) around the baby's neck.

Caesarean section was done and a 6 lbs. 15 oz. live baby was delivered.

The ring persisted throughout the operation.

NAME: TODD, Stella Mary.

AGE: 23 years.

PARA: 1

RACE: European.

L.M.P.: 23.4.1946, Therefore at term.

HOSPITAL: Peninsula Maternity, Cape Town.

ADMITTED: 8.2.1947 at 5.15 p.m.

ANTENATAL CASE: W.R.

Antenatal chart reveals:

31.10.46: Urine : No alb. : B/P : 120/80 : Fundus midway between umbilicus and ensiform.

12.11.46: Urine : No alb. : B/P : 120/75 : Fundus 4 fingers down : Breech : Foetal heart heard.

26.11.46: Urine : No alb. : B/P : 110/70 : Fundus 3 F.D.: L.O.A.: Head mobile : Foetal heart heard.

10.12.46: Urine : No alb. : B/P : 105/70 : Fundus 3 F.D.: R.O.A. : Head mobile : Foetal heart heard.

24.12.46: Urine : No alb. : B/P : 105/80 : Fundus 2 F.D. : R.O.A.: Head mobile : Foetal heart heard.

7. 1.47: Urine : No alb. : B/P : 115/80 : Fundus 1 F.D. : L.O.A. : Head mobile but can be pushed into the brim. Foetal heart heard.

14. 1.47: Urine : No alb. : B/P : 120/80 : Fundus 1 F.D. : L.O.A. Head mobile but easily pushed into the brim. Foetal heart heard.

27. 1.47: Urine : No alb. : B/P : 120/85 : Fundus 2 F.D.: L.O.A.: Head mobile - but enters brim. Foetal heart heard.

6. 2.47: Urine : No alb.: B/P : 110/70 : Fundus 3 F.D. : L.O.A. : Head mobile - enters brim. Foetal heart heard.

Previous History:

General: The patient states that she had never been seriously ill.
Her menstrual history was a completely normal one - Menarche at 12, no dysmenorrhoea, menorrhagia or oligomenorrhoea.
She was married for 4 months when she became pregnant.

Present condition:

She states that she was perfectly fit throughout pregnancy.
At 6.45 a.m. on 8.2.'47 she developed slight pains in the back. These radiated round her abdomen.
The interval between pains varied from 15 to 20 minutes.
After a few pains she noticed a slight bloody - slimy vaginal show.
The pains gradually came at more frequent intervals, i.e. about every 10 minutes - and lasted longer.
She therefore decided to come into hospital - as told in the antenatal department.

On Examination:

General condition: Good.
Pains come on at 10 minute intervals and last between $\frac{3}{4}$ and 1 minute. The pain experienced by the patient seems to be in excess of the contraction felt abdominally.

Abdomen: Palpation: Fundus 3 fingers below the Xiphisternum.
L.O.P.
Poor contractions as described above. Head fixed.
± 2 inches of sinciput above the brim.

Auscultation: Foetal heart rate 135/min.

C.V.S. : Heart sounds are normal.
B/P : 125/75.

Respiratory : No abnormality found.

Urine: No albumen.

Rectal : Vertex presenting.
Os 1 finger dilated, thick, and not closely applied to the head. Membranes intact.

6 p.m.: Membranes ruptured spontaneously. There has been no improvement in the nature of the pains at all. No further descent of the head.

9.2.47: Poor but painful contractions all night. She slept off and on. Foetal heart normal.

The patient took her glucose and jellies well.

Pains continued at varied, poor, intervals throughout the day.

10 p.m.: The patient is showing a few signs of exhaustion.

Rectal: Os 2 fingers dilated and thin.
It is not well applied to the head.

Given 1 vacolitre of saline + 10% glucose.
Chloral hydrate 30 grs. given.

10.2.47:

9.30 a.m.: The patient slept on and off during the night. Pains remained poor. They would stay away for periods up to 1 hour.

The patient is becoming fatigued.

Abdominally: L.O.P.
No evidence of further descent of the head.
Foetal heart 140/min.

Rectal: Os $2\frac{1}{2}$ fingers dilated.
Thin.
Not well applied.

In view of the fact that this patient has had a long but very poor labour with little continuous sleep Morphine grs. $\frac{1}{4}$ was given.

As the membranes have now been ruptured for 40 hours Penicillin 20,000 units 3 hourly was prescribed.

4 p.m.: The patient had a good sleep until 2 p.m.

Pains have not improved since that time.

As the head had not descended, and because of the exceedingly poor uterine action it could not be gauged whether there was disproportion.

It was therefore decided to do a vaginal examination, under general anaesthesia in order to determine, the size of the pelvis, and whether the head could pass through it or not.

Vaginal Examination:

Os $2\frac{1}{2}$ fingers dilated and not well applied to the head. The cervix was thin and not oedematous.

The head was not fixed - yet not completely mobile.

Clinical measurements.

Diagonal conjugate : $4\frac{1}{2}$ inches.
The ileo-pectineal lines made a wide sweep laterally.
The sciatic notch was large.
The sacral curve was normal.
The ischial spines were normal in direction.
The subpubic angle admitted 2 knuckles plus a finger easily.
The bisischial diameter admitted a fist with the greatest of ease.

As these measurements were grossly normal, the pelvis could not be blamed for non-engagement of the head.

The head felt apparently normal in size. The position was L.O.P. There was no caput and no moulding. The head could easily be pushed into the pelvis, i.e. fundal pressure by anaesthetist, operator's right hand in vagina and left hand dipping the head into the pelvis.

Disproportion was hence easily ruled out - this not even being a border-line difficult judgement case.

As the cervix was not well applied it was felt that the cause of the non-engagement lay within the uterus itself.

Two fingers were inserted through the cervix.
A constriction ring was felt around the baby's neck. A loop of cord was felt prolapsing through the ring. The pulsations were normal.

Immediate Caesarean section was decided upon.

50 c.c.s. 50% glucose followed by a continuous drip glucose - saline were given and started pre-operatively.

Meconeum was being passed per vaginam. The foetal heart however was a steady 140/min.

OPERATION.

Lower midline abdominal incision made.

Opening the abdomen the constriction ring could be seen around the foetal depression, i.e. the neck.

The middle of the depression of the ring was exactly at the site of the peritoneal reflection line of the bladder to uterus.

A longitudinal incision was made into the uterus extending from the lower to the upper segment.

The upper segment was found to be ¼ inch thick.

The placenta was attached to the anterior uterine wall.

The ring was cut. It was slightly (visibly) thicker than the upper segment.

The L.O.P. position of the foetus was confirmed.

The live male child weighed 6 lbs. 15 oz. There was no caput succedaneum.

9 p.m.: B/P : 125/75 Pulse : 98/min.

She came round from the anaesthetic soon. Her condition is good.

To continue with Penicillin. Morphine ¼ gr.

22.2.47: The patient made an uninterrupted recovery.

She and her baby (weight 6 lbs. 15½ oz.) were discharged from hospital.

Year, 1947.
Month February.

WARD No. ______
BED No. 244

NAME TODD. Mrs STELLA. Age 23 No. of Pregnancy 1. Period of Pregnancy F.T.
Admitted 8-2-47 at 5.15 a.m. ______ p.m. in labour.

PREVIOUS HISTORY.
Previous Labours: Abortions — Premature — Full Term — Nature —
Date of Last Labour —— 19___ Last Menstruation began 23-4-46.
Health during Pregnancy good Health on Admission good.
Temperature on Admission 98.2°F. Pulse on Admission 96/m. Bath on Admission ✓
Measurements: Inter-Spinous ______ Inter-Crist ______ Ext. Conj ______

DIAGNOSIS.
Abdominal—Palpitation Infants back to Mothers left and posterior. Head engaged. F.H.H.
Rectal ~~Vaginal~~ Examination Os admits 1 finger.
Vertex presenting. Membranes intact

Day.	Month.	Hour. A.M.	Hour. P.M.	Signature.
8	2	9		

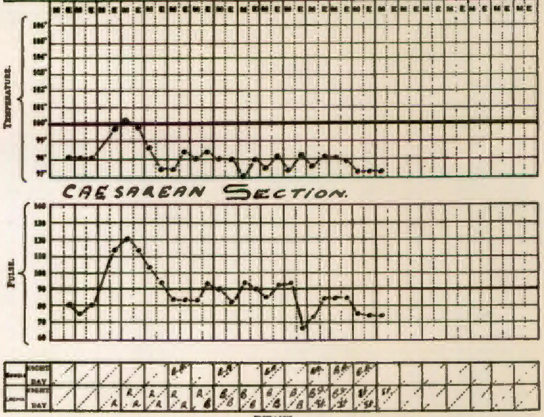
LABOUR.
Labour began 8/2/47 at 6.45 a.m. ______ p.m. Membranes ruptured ______ a.m. 6 p.m. 9.2.47
Infant Born 10.2.47 at ______ a.m. 5 p.m. Placenta delivered in ______ minutes
Presentation L.O.P. Position ______ Nature of Labour CAESAREAN SECTION
Membranes —— Placenta Intact.
Examined before Admission ______ Perineum: Intact ______ / Torn ______
Sister on Duty Naudé.
Nurse in Charge ______

PUERPERIUM.
Date of first leaving the Bed 20.2.47
Date of Discharge 22.2.47 19___ Condition when leaving Hospital good.
Day Nurse in Charge Visser. Night Nurse in Charge ______

NOTES:—

Date of Examination.	Urine—Sp. G.	Qualitative Examination	Reaction
8.2.47	1015	Alb —	Acid.
		Sugar —	

Day of Month	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Day of Puerperium			OP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18



INFANT.
Sex Male Weight 6 lbs. 15 ozs. Length ______ ins.
Condition at Birth slight distress. Bathed by Nurse ——
Mode of Feeding Breast. Bowels ______ Weight, 8th day 6 lb. 10 oz.
Condition when leaving Hospital good. Weight 6 lb. 15½ oz. Condition of Cord good – healthy.

NOTES:—

Hertzog—S0881/1/65

Commentary.

This primipara was admitted and treated as a severe type of primary uterine inertia and a posterior position.

Primary uterine inertia because she had poor pains at irregular intervals and the pain experienced was in excess of the contractions felt (objectively).

The membranes ruptured after 36 hours labour.

Fifty-seven hours after the onset of labour the patient, although given adequate nutrition and sedation, showed signs of tiring. The head had not descended.

A vaginal examination was therefore done under general anaesthesia - to determine the cause of this gross delay in labour (1st stage). The cervix was effaced but not well applied to the head. There was no caput.

There was no cephalo-pelvic disproportion.

A constriction ring was felt around the neck of the foetus. The cord had prolapsed through the ring.

Conservative measures of dealing with the ring were not tried because of the prolapse of the cord through the ring (already meconium in the liquor was steadily increasing - although the foetal heart remained steady.)

Caesarean section was done. The site of the ring was exactly below the line of peritoneal reflection.

The upper segment was thin.

The ring was severed to allow delivery of the head.

The area of uterine wall occupied by the ring was thicker than the upper segment.

The fact that there was no caput proves that there was neither application of cervix to head nor fixation of the head - although labour had lasted fifty-seven hours.

Penicillin and adequate nutrition - both by mouth and intravenously - can be claimed as being responsible for her rapid recovery.

CASE 25.

Angular Pregnancy at term complicated by Constriction Ring.

Summary.

A 27 year old 4th para had poor labour pains for over 120 hours - the membranes ruptured soon after the onset of pain. These pains were irregular and unlike previous labour pains.

Forty-eight hours after the onset of labour she bled vaginally.

Seventy-two hours later she noticed hair in her evil smelling vaginal discharge.

Examination revealed gas within the uterus, a dead foetus and a constriction ring between the two finger dilated os and the vertex.

The uterus could not be made to contract.

Gangrene of the uterus was diagnosed.

At operation the lower portion of the uterus was found to be normal.

Subtotal hysterectomy was done.

She made an uninterrupted recovery after three stormy days.

NAME: JULIES, Caroline.

AGE: 27 years.

RACE: Cape Coloured.

PARA; 4th

L.M.P.: 13.10.1945 (i.e. 39 weeks pregnant)

ADMITTED: 11.7.1946 at 4 p.m.

EMERGENCY: Sent in by her Doctor as a 'Tonic Contraction'.

History.

Past: 1932 : Aborted when 3 months pregnant.

1942 : Normal pregnancy and delivery, at term.

1945 : Normal pregnancy and delivery, at term.

These deliveries took place at home. Both her children are alive.

Present: The patient states that she did not attend an antenatal clinic. Up to 4.7.46 she was perfectly well and carried on with her household duties as usual.

On 5.7.46 she noticed that all foetal movements had ceased.

On 6.7.46 she experienced a dull backache and lower abdominal cramps, i.e. like the onset of a normal labour. During the day her membranes ruptured.

On 7.7.46 she had slight labour pains again. The pains passed off after about 12 hours. Towards that evening she started feeling slightly feverish.

Since 8.7.46 she has had more or less continuous dull abdominal pain. At odd intervals a little blood escaped from her vagina. On 10.7.46 dark evil-smelling 'clots' were passed vaginally. Although she felt ill she was not confined to bed as yet. Since 11.7.46 she has felt really ill, being more feverish than before. She was too ill to get out of bed. She now noticed hair in the vaginal discharge.

She sent for a Doctor. He examined her abdominally and sent her into hospital.

On Examination:

General: The patient looks very ill. There are sordes on the lips and her tongue is dry.

Temperature	:	100.8°F.
Pulse rate	:	160/min.
Respirations	:	35/min.
B/P	:	115/90.

Local:

Abdomen: The abdomen was grossly distended. The fundus was up to the ensiform cartilage. The uterus was tense, and tender. No gut was felt lying over the uterus. The lie of the child could not be determined. The foetal head was in the pelvis. Palpation revealed a peculiar crackling sensation over the uterus. The uterus was resonant to percussion.

Vaginal Examination:

There was a foul-smelling bloody-purulent vaginal discharge.

A swab was taken for Bacteriological examination.

The os admitted two fingers. Separating the os from the head there was a cylindrical channel about 1 inch long and admitting one finger only. The membranes were found to be ruptured and scalp was protruding through both the narrowed channel and cervix.

The head was presenting. Bare bone was palpated. The head was tightly applied to the upper end of the constricted channel.

The head was pushed up gently in order to allow gas to escape. The gas was foul smelling.

Foetal hair was present on the examining finger.

Urine: Orange colour.

S.G. 1014.

Albumen +.

Sugar -

Acetone -

X-Ray: (straight - portable) vide figs. 1 and 2.

P/A. and Lateral views taken to show up gas in the uterus.

Treatment: Penicillin 20,000 units 3 hourly.

Sulfadiazine 4 tabs. stat. 2 tabs. 4 hourly.

2 litres I/V saline and glucose, followed by 2 pts.

whole blood.

48,000 units antigasgangrene serum I/M.

10 mg. stilboestrol hourly for 10 hours.

11 p.m.: There was slight improvement in her clinical picture. Her pulse rate had improved. There were no uterine contractions. Vaginal examination done to allow gas to escape. There was no change in the state of the cervix or ring.

12.7.46:

3 a.m.: The patient had a rigor.

5 a.m.: The patient had slept quite well. Abdominal distension had increased. Vaginal examination done to release gas.

There was no change in the condition of the cervix.

6 a.m.: Castor oil 2 ozs. given.

8 a.m.: Hot enema given.

10 a.m.: Pituitrin 3 minims. given i/m.

Quinine 1 gr. per os.

11 a.m.: Pituitrin and Quinine repeated.

12 noon: Pituitrin and Quinine repeated.

1 p.m.: Pituitrin and Quinine repeated.

As there were no uterine contractions at all (objectively) and as the patient's condition now started deteriorating viz. her pulse rate started increasing and her temperature dropped to 97.8°F. - hysterectomy was decide upon.

The diagnosis was:- 1. Foetal death and putrefaction.

2. Paralysis or death of the uterine muscle.

3. Puerperal infection: ? Gas gangrene.

1st Bacteriological report:

Large Gram positive bacilli present in fair numbers, various sizes, some filamentous, others tending to form chains.

A few showing enlarged terminal spores.

Blood transfusion was started again: in order to continue throughout the operation and afterwards. i.e. the transfusion was just a follow on of the saline.

As it was not clear whether a subtotal could be done the patient was prepared for a total hysterectomy.

12.7.46:

2 p.m.: OPERATION.

The vagina was thoroughly cleaned the external os stitched, after a plug had been inserted into the uterus.

The abdomen was opened by using a midline incision extending from two inches above the umbilicus to 1 inch above the symphysis pubis.

On opening the abdomen the omentum was found to be adherent to the fundus and the whole anterior surface of the uterus. It was also adherent to the peritoneum of the anterior abdominal wall in a few areas.

The upper uterine segment was greenish-purplish in colour.

The lower segment appeared normal. There was no clear line of demarcation. There was a gradual transition from normal to gangrenous appearance. A subtotal hysterectomy was therefore decided upon. There was no gas within the uterine wall.

The omental adhesions were stripped where possible and severed and tied where it was found possible to do so. When the anterior wall and fundal adhesions were cleared, the uterus was lifted out of the abdominal cavity only to find that gut was adherent to its posterior wall. These adhesions were now freed.

Once the uterus was lifted out of the abdominal cavity it was well packed off in order to avoid possible spill into the peritoneal cavity.

A subtotal hysterectomy was done in the usual way. The few essential differences were that the vessels, both uterine and ovarian were grossly enlarged (due to pregnancy plus inflammation), especially those on the right side.

The lower uterine segment was very friable.

In order to avoid any spilling into the peritoneal cavity the lower uterine segment was severed in between clamps. The amputation was at a level higher than reached by the plug inserted before the abdominal operation.

All bleeding points were ligatured.

The uterine stump was covered with peritoneum.

A drainage tube was inserted.

The abdomen was closed by stitching consecutive layers.

20 c.c.s. Prontosil rubrum was injected through the drainage tube.

The stitches closing the external os were removed, the intra cervical-uterine plug was removed.

For photographs and description of specimen vid. figs. 3,4,5, 6 and 7.

As the operation was performed in the septic ward, the patient's bed was brought up to the table and the patient transferred into her warm bed.

She vomited 'coffee grounds' on coming round from the anaesthetic. A duodenal tube was immediately inserted. 1 pint of 'coffee ground' fluid was withdrawn. Continuous gastric suction apparatus was immediately connected up.

Post-operatively: 3 pints of blood were given, followed by saline and glucose, sufficient to maintain an adequate fluid balance.

Catheterised 8 hourly in order to avoid any unnecessary tension on the sutures in the uterine stump.

Penicillin 40,000 units 3 hourly.

Sulfadiazine 1 Gram. 4 hourly.

Morphine $\frac{1}{4}$ gr. on recovery from the anaesthetic.

1/6 gr. 4 hourly provided her respiratory rate is above 16/minute.

13.7.46: The patient had a very comfortable night. She appears to be and states that she feels much better.

Her tongue is moist.

Gastric suction continued. 1/v. saline and 1 pint of blood were given. Adequate fluid balance maintained. There is a slight oozing through the dressing. The tube was moved. Dressing repacked.

14.7.46: She is much better. There is no abdominal distension. Gastric suction discontinued. Fluid intake satisfactory. Passed flatus towards evening.

15.7.46: Penicillin dosage decreased to 30,000 units four hourly, and Sulfadiazine to 2 tablets, t.d.s.

Has slept well. Passing urine and flatus.

Feels hungry. Egg flips, jelly and milk.

As there was very slight oozing through the tube, it was shortened by 1 inch.

2nd Bacteriological report:

Blood Agar: Very light growth -
Scanty Staphylococcus albus.
Viridans colonies of Gram positive cocci.
Scanty coliform bacilli.

Egg meat: Scanty long chained streptococci only.

Milk under oil: Numerous long chained streptococci.
No Gram positive bacilli after 24 hours.

Serum Broth: Gram positive bacilli ?diphtheroids.
Gram positive diplococci, some in chains.

15.7.46: No gas gangrene organisms isolated after 3 days.
Viridans streptococci from milk and egg meat subcultures - aerobically.

16.7.46: Condition satisfactory. Tube shortened by 1 inch.

17.7.46: Patient looks and feels well.

Pulse : 80 - 86/min.
Temperature : 97.2°F.
Respirations : 20/min.

Penicillin decreased to 10,000 units 3 hourly.

Sulfadiazine decreased to 1 tablet tds. Tube shortened by 1 inch.

18.7.46: Slight serous discharge from the wound. Drainage tube removed.

Full diet.

Penicillin and Sulfadiazine stopped.

Total Penicillin given : 640,000 units.

Total Sulfadiazine given : 17 grams.

21.7.46: Stitches removed. Wound healed by first intention.

24.7.46: Patient allowed up.

Vaginal examination done : uterus anteverted. Corresponds to a normal uterus in size at this stage of involution.

There is a small cystic mass in the Pouch of Douglas (? collection of serum and low grade inflammatory exudate.)

29.7.46: Patient up and about. Worrying about going home.

31.7.46: Lipiodol injected through the cervix to outline remains of uterine cavity (vide figs. 9, 10,11).

The patient was discharged from hospital and was told to report during the 2nd week of September of a check up.

For temperature charts, vide fig. 8.

13.9.46: She states that she feels perfectly fit and has had no pains or aches.

She has only bled slightly after the lipiodol 31.7.46, but not since.

On Examination: Scar - well healed.

P.V. Cervix - normal.

Uterus - not defined.

Adnexa - small cystic swelling in the left fornix.

X-Ray: Lipiodol injected into the uterine cavity - leaked out into the pelvic venous plexus (vide fig. 12).

There was slight vaginal bleeding at the completion of the lipiodol injection.

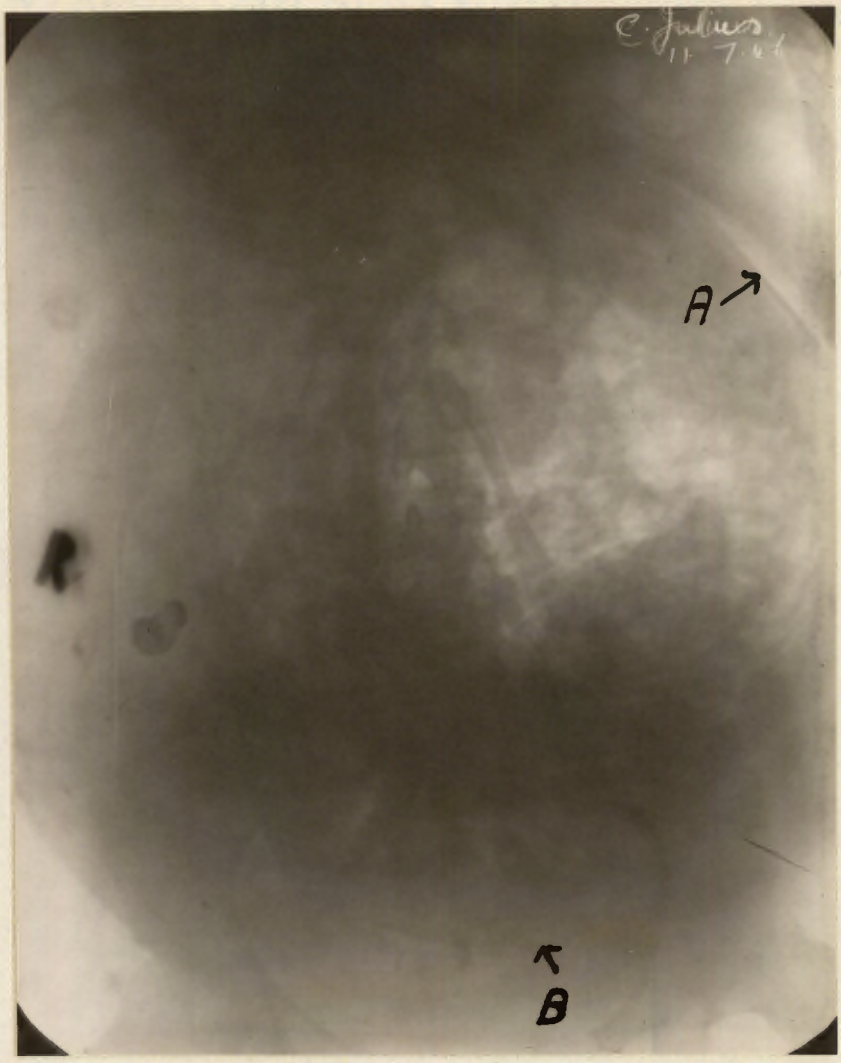


Fig. 1 P.A. view.

A. - gas within uterine cavity.

B. Spalding's sign.

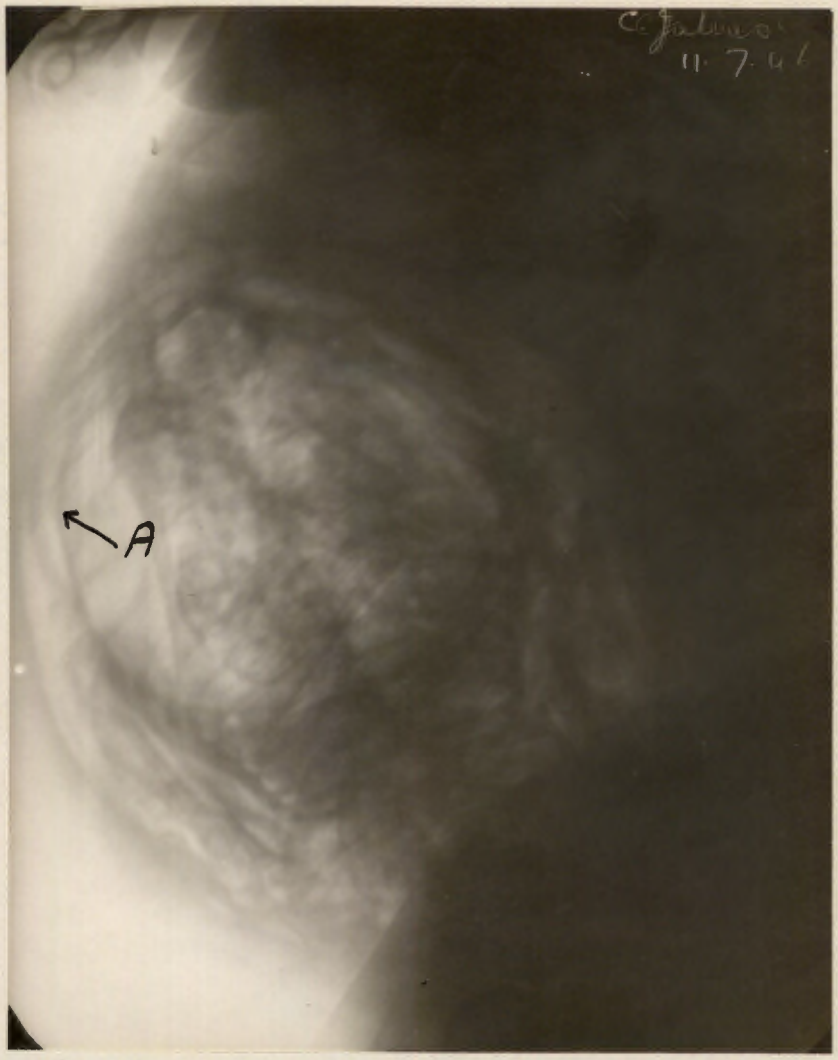


Fig. 2 Lateral View.

A. Gas within uterine cavity.

Fig. 3 Uterus removed.

A. Right round ligament.
B. Omentum.
C. Left tube.
D. Left round ligament.
E. Scalp protruding.

Fig. 4 Foetus utero.
Notice skull bone and slough of scalp.

Fig. 5 Opened uterus showing foetus, placenta, (a) extremely thin walled uterus with (b) thick ring.

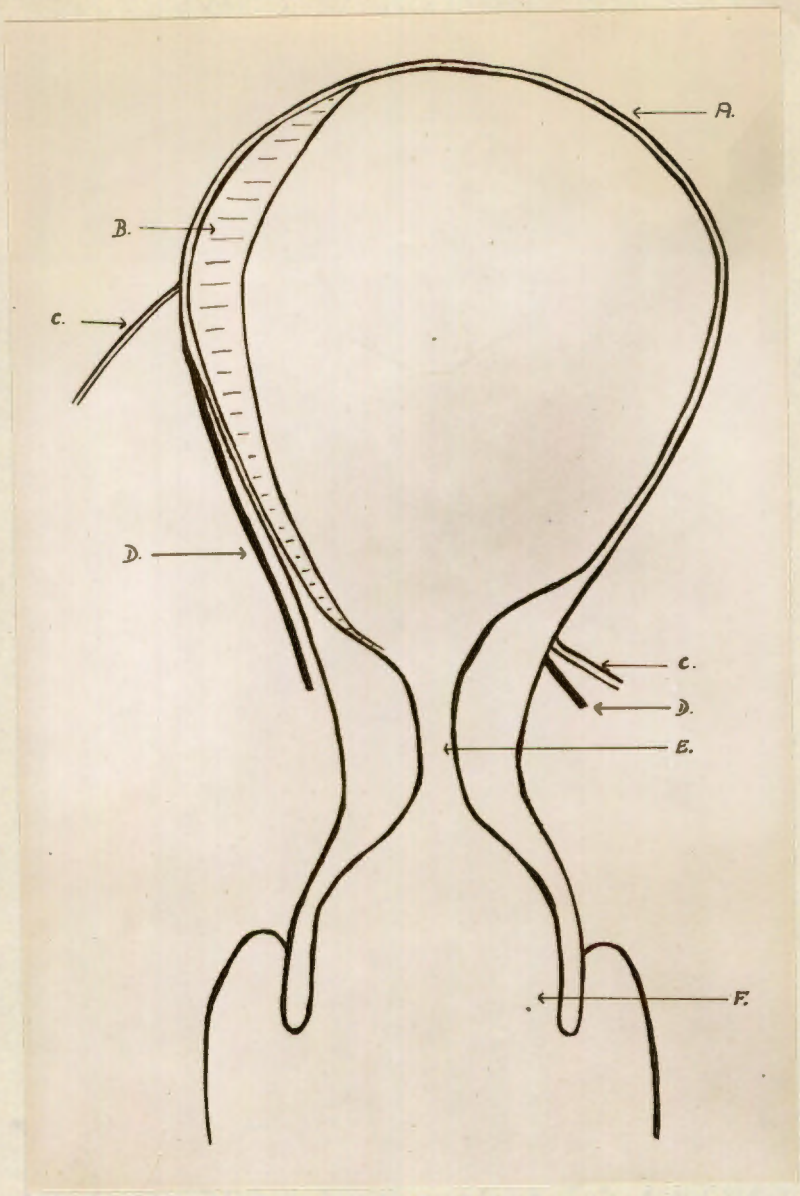


Fig. 6 Combined clinical and pathological impression of the uterus.

A. Extremely thin wall.
B. Placenta.
C. Fallopian tubes.
D. Round ligaments.
E. Constriction ring.
F. 2 Finger dilated cervix.

Fig. 7 X 175.

A. Thin normal uterine wall.
B. Damaged wall - notice the swollen appearance of the cells.
C. Necrosed uterine muscle.

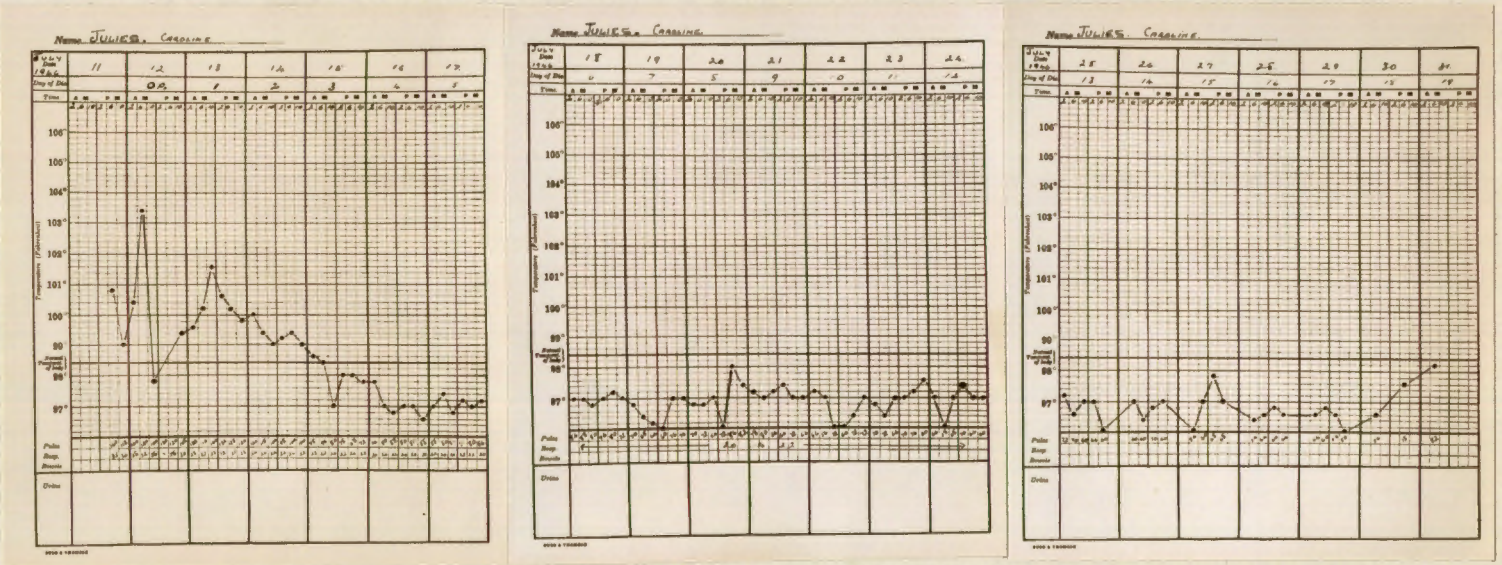


Fig. 8 Temperature charts.

Fig. 9 Lipiodol extravasation into the pelvic veins.

Fig. 10 A. Cervix.
B. Lipiodol in pelvic veins.

Fig. 11 Post ambulatory picture.
Notice fine network of veinous infiltration.

Fig. 12 Taken 6 weeks later. Again lipiodol leaked into the pelvic veins.

Commentary.

From the history, clinical examination, photographs and legends the following deductions may logically be made:-

1. ANGULAR PREGNANCY.

Figures 3 and 6 show that the fallopian tube, round ligament and ovary are attached high up on the right side of the specimen whereas the uterine attachment of the left adnexa is below the level of the head of the foetus, i.e. the left side of the uterus did not take any active part in this pregnancy.

Therefore, the ovum was implanted either in the right cornu of the uterus, in a diverticulum, in a rudimentary horn, in one cornu of a uterus bicornis, or in a sacculus.

Against a pregnancy in a diverticulum rudimentary horn or uterus bicornis is the fact that the uterus is not separate and distinct from the pregnancy.

Sacculation can be ruled out as there is no history of pain or urinary disturbances pointing towards a displaced uterus unable to correct itself.

The situation also is against sacculation as the latter tends to affect the anterior wall in retroflexions and the posterior wall following ventral suspensions.

The pregnancy was completely within the uterus with the placenta attached to the area over the entry of the

right tube into the uterus. It thus conforms to Angular pregnancy as described by Munro Kerr and de Lee.

2. CONSTRICTION RING.

Viewing figure 6 will show that:-

(a) Clinically the os was found to be two fingers dilated There was a narrow cylindrical uterine channel extending from the cervix (? plus lower part of the body of the uterus - as it easily admitted a swab - vide 'operation') to the head of the foetus.

(b) Operatively the foetus was found to lie in what logically was a thinned out cornu and fundus of the uterus.

The dilated os shows that the cervix took part in the labour.

That this channel was not the original uterus below the Angular pregnancy is borne out by the following facts:-

(i) The cervix took an active part in the labour - a function not performed with ectopic pregnancy.

(ii) Had this channel been the original uterus it should have admitted more than one finger as the uterus enlarges - due to hormonal influence - no matter where the pregnancy is situated.

Therefore it can be assumed that this ring-like channel was due to a segment of uterine muscle in spasm, i.e. a constriction ring.

The site of the ring being at the junction of the

affected cornu plus fundus with the body of the uterus.

This situation - embryologically - tends to favour Rudolph's theory on the etiology of constriction ring i.e. at sites of physiological constrictions found in lower animals.

3. PHYSOMETRIA.

Both clinically - the uterus being resonant to percussion and because of the escape of gas from the uterus when the foetal head was pushed up - and radiologically (figs. 1 and 2) the diagnosis of physometria was established.

4. PARTIAL DESTRUCTION.

This can be seen by studying figures 3,4,5 and 7.

The following argument explains the cause of the partial destruction:-

The history suggests death of the foetus before the onset of the poor type of labour viz. complete absence of foetal movement.

The membranes ruptured early in labour.

At the onset of, or during, labour the constriction ring developed. (Vaginal bleeding occurred four days after the onset of abdominal cramps. Figures 4 and 5 show the placenta extending on to the ring.

This suggests that the placenta acted "praevia" after the formation of the cervix-like ring.)

The amniotic cavity became infected, the foetus macerated.

Foetal scalp sloughed, plugged the constriction

ring, and prevented the escape of both infected fluid and gas.

The tension within the pregnant sac increased.

According to Morison and Saint an increase in tension diminishes or cuts off the bloodsupply to the affected part. This in turn leads to partial destruction. Hence the gangrenous macroscopic appearance of the muscle surrounding the foetus (figure 3). This was confirmed histologically.

5. RECOVERY.

The patient's recovery is a remarkable feat. Her resistance, Penicillin, sulfa drugs, adequate fluid balance, blood transfusions and nursing can be claimed as the responsible factors. (See figure 8).

6. LIPIODOL IN PELVIC VEINS.

In order to prove beyond doubt that the major part of the body of the uterus was still left a hysterogram was done twenty days after her operation. It was done so soon post-operatively for fear of loosing sight of the patient as she threatened to sign 'the red ticket and quit hospital'.

The uterine cavity was poorly outlined.

Lipiodol intravasation occurred into the pelvic veins. (9,10,11).

Six weeks later she returned to the out-patient department.

Lipiodol again was gently injected through the cervix. Figure 12 shows the result - again it escaped into

the pelvic veins.

The veinous intravasation of lipiodol is a rare phenomenon.

The patient has failed to report for further examination.

(Lipiodol was injected for the second time as neither the radiologist nor I knew about lipiodol leakage into veins at the first session and therefore missed the diagnosis completely.

As soon as the August 1946 number of the J. of Obstetrics and Gynaecology of the British Empire arrived we realised the position - However the hysterogram had then already been done. Fortunately the patient suffered no ill effects.)

MAIN COMMENTARY.

THE RINGS OF LABOUR.

THE RINGS OF LABOUR.

A study of eleven cases with the complication of labour - Constriction Ring.

In reviewing the literature much confusion is found in the use of the terms "Retraction", Bandl's", "Contraction" and "Constriction" rings.

These conditions are clear-cut and, as such, demand a clarity in definition and use.

Retraction or Bandl's ring.

In normal labour a narrow band-like depression can be palpated on the uterine surface 2 to 2½ inches above the sumphysis pubis. This band is a physiological one and denotes the line of demarcation between the upper and lower uterine segments. This is the normal retraction or Bandl's ring (7.10).

In more difficult labours retraction is more marked. The upper segment becomes increasingly thickened and the lower segment increasingly stretched and thinned out. The result, therefore, is that, as retraction normally progresses, this line of demarcation - this retraction or Bandl's ring - gradually rises. If this ring rises to an abnormally high level, i.e. to the umbilical region, it is one of the signs of obstructed labour.

Constriction or Contraction ring.

During any stage of labour a circular segment of uterine muscle can go into, and remain in, spasm. (4.7.29).

Usually one region only is affected. Two and three rings occurring simultaneously have been described. (7.26).

The site most commonly affected, is the inner aspect of the junction of the upper and lower uterine segments (6.7.9. 21.22).

lower part of the lower segment (10)
upper part of the lower segment (11)
any level (26).

de Lee (7) states that the commonest site is at the junction of the upper and lower segments, just above, or just below it.

In most instances, in my series, the ring was situated opposite the line of reflection of peritoneum from uterus to bladder extending upwards.

The ring most commonly occurs around the neck of the foetus in vertex presentations.

It can also form below the foetus (11.29.30) (case C.); around a limb (11.30) (case B.); or around the body of the baby (9).

If it forms during the first stage, labour, as a rule, gradually progresses to the second stage.

It's occurrence during the second stage inhibits descent of the foetus.

When it occurs in the third stage of labour the placenta is usually locked in behind the ring, and it is referred to as an hour glass contraction. Therefore it is a cause of retained placental.

Constriction ring, as opposed to retraction ring, therefore is a diagnosis.

INCIDENCE: As opposed to Rucker's (23) 1 in 66 and Johnson's 1 in 80 findings at the Peninsula Maternity Hospital (Cape Town) amongst 1663 deliveries (in 1946) 6 were complicated by constriction ring i.e. an incidence of .36%.

Symptoms and Signs.

If the condition is not actively born in mind the following usually happens:-

The prolonged first stage is diagnosed as a severe primary uterine inertia. The ring might relax, and the baby be born spontaneously. If the ring does not relax, or occurs during the second stage there will be a delay in labour. Indications for forceps might arise e.g. maternal distress. Forceps are applied. Traction fails to budge the foetus. The forceps are removed; the examining hand is inserted past the head and the cause of the delay - the constriction - is felt around the baby's neck.

In order to avoid the above, the following symptoms and signs should put one on guard:

Some authors (9.11.24.26) state that it is more commonly found in primipara. In my series, eight multipara and three primipara were affected. Of the multipara four had 12 or

more pregnancies.

The membranes of ten ruptured early in, or even before the onset, of labour (7.9.11.15.17.21.22.24.26.29).

The first stage is prolonged (7.17.19).

The contractions are infrequent, irregular and painful (7).

The pain experienced is colicky in nature (7.20.26) and patients often volunteer that the pain is different from the pains of previous labours. (vide cases A.C.G.H.J.K.).

The onset of the pain may be before the commencement of uterine contraction, resists throughout, and tapers off after the contraction has ceased (20).

The patient tires easily (10.17).

On abdominal palpation no marked abnormality can be detected. A ring can seldom be felt (29).

During uterine diastole the head can be pushed into the pelvis. A contraction tends to lift the head out of the pelvis. (11.26).

On vaginal examination - with the os not fully dilated - the cervix, although effaced is not well applied to the head. If the examining finger is kept on the vertex; with the contraction of the uterus the head will tend to be lifted out of the pelvis rather than be forced into it, as is done normally.

With the fully dilated os the most common finding by vaginal examination was a loose fitting head in the pelvis. Again, uterine contractions do not force the head into the pelvis.

The fingers should be inserted past the head, and the ring - if present - is all too easily felt.

The latter is the only positive diagnosis.

Care should be exercised not to confuse the normal, or exaggerated normal, slightly protruberant inner circular ring at the junction of the upper and lower segments i.e. the inner aspect of Bandl's ring with a constriction ring.

Patients are often sent to maternity institutions with the diagnosis of retained placenta.

In many of the cases in whom manual removal is resorted to an hour glass contraction is found.

The diagnosis, again, can only be positively made when the localised contracture is felt.

Treatment.

Good treatment aims at prevention.

It is well known that improper management of the third stage e.g. trying to express the placenta before it has had time to separate and, above all, the injection of ergotrate or ergometrine before the placenta is expelled, is the cause of hour glass contraction.

If established, the ring is dealt with in so far as it prevents removal of the placenta, i.e. the aim primarily is to get the placenta out and not make the ring disappear.

Amyl nitrite - first used by Barnes (2) - one or two ampoules, is usually all that is required. The ring relaxes silightly - often momentarily only - and the placenta is removed.

If the ring is diagnosed during the first or second stage the propsition immediately becomes a formidable one.

FIRST STAGE. Adequate nutrition and sedation should be compled with careful observation.

Miles Phillips (20) aims at prevention by early heavy sedation in patients with colicky pains at infrequent irregular intervals.

Proteins and glucose, if not taken by mouth in sufficient quantities, should be given intravenously.

Morphine grs. $\frac{1}{4}$ - $\frac{1}{2}$ together with hyoscine gr. 1/1000should be administered.

Adrenalin 5 m. 1/1000 solution is said to relax the ring in some cases (see under Adrenalin in "Second stage").

Careful observation, but infrequent irritating examinations (e.g. vaginal or suprapubic) should be made. It should be noted whether the pains alter in character viz. whether after a long absence - from adequate sedation - they come on regularly and strongly, and/or whether labour is passing on to the second stage.

The general condition of the patient should be watched. If it deteriorates, in spite of nutritive treatment, caesarean section should be done - as it is done in a small percentage of cases suffering from severe primary uterine inertia.

SECOND STAGE. If the patient's general condition is good, adequate nutrition, sedation, and adrenalin 5 mins.1/1000 solution should be given.

However, if there are signs of maternal exhaustion - and the ring is around the neck of the foetus - gas, oxygen and ether anaesthesia should be given.

Forceps are applied.

Amyl nitrite is given, feel the ring. If it relaxes, deliver the baby.

The use of Epinephrine or Adrenalin 5 mins. 1/1000 is surrounded by controversy.

Some authors (3.6.7.22.23.24.26.28) claim that it relaxes the ring. Others (4.17) state that it not only has no effect on the ring but is positively dangerous (4).

Miller et al (18) states that in 88 per cent of cases Adrenalin caused the uterus to contract. No effect was noted in 2 per cent of cases. In 10 per cent there was relaxation.

Woodbury et al (31) states that Adrenalin produced a marked rise in blood pressure. The first uterine contraction following the injection was stronger, followed by a few weaker contractions, but soon uterine action returns to normal.

Gunn (12) found that there was no conformity in uterine action to Adrenalin in different species of animals.

According to Gunn and Russell (13) Adrenalin stimulates contraction of uterine muscle - the lower segment, at term being more sensitive than the upper.

In cases G. and H. Adrenalin was used. It certainly did not relax the ring. Clinically it felt as if the ring became harder after the injection. This tends to support Gunn and Russell's (13) experimental findings.

However so many authors have met with success when treating constriction rings with Adrenalin that it deserves use in early "reversible rings", e.g. cases A. and C.

The baby can be delivered only if there is relaxation. Naturally, if Adrenalin is given, chloroform cannot be administered, and vice versa, for fear of ventricular fibrillation.

Deep ether or chloroform anaesthesia causes the ring to relax in some instances (6.10.14.17.21.23). If there are signs of relaxation the presenting part may be pushed through the ring, internal version done and the legs brought down - leaving the rest to nature (vide cases B. and C.) Hicks (15) decapitated a foetus then did an internal version followed by continuous traction.

If all these methods fail to produce relaxation of the ring the only justifiable procedure is caesarean section (5.6.7.10.11.15.17.29.30) preceded and followed by penicillin and sulfadiazine. Not only the maternal White (58%) but also the foetal (72%) death rate is appalling in these cases when vaginal delivery is resorted to.

In my series amyl nitrite tried in two cases (vide cases B and I) had no effect. In another case (case H) it caused softening but no relaxation.

Adrenalin had no effect on two cases (case G and H) - clinically it caused the ring to tighten. In one patient it is open as to whether the adrenalin or the sedative administered (or neither) caused relaxation of the ring (see case A). It was responsible for partial relaxation in one case (C).

Deep chloroform anaesthesia caused incomplete relaxation in one case (case B).

High spinal anaesthesia caused the ring to tighten (see case G.).

Caesarean section was performed in cases (D.E.F.G.H.I. and J. In each case the ring had to be severed in order to deliver the baby's head.

From the facts given the following conclusions may be drawn:-

1. In some cases the constriction ring will relax.

2. In others it will not.

Rudolph (26) has therefore classified constriction rings into:-

1. Reversible - those relaxing.

2. Irreversible - those not relaxing.
(Even persisting until after death (Miles Phillips (19)).

These conclusions may warrant the deduction of the following aetiological hypotheses:-

1. The reversible ring is due to a spasm of a circular segment of uterine muscle (4.7.29).

This may be compared to spasms of other hollow muscular systems e.g. cardio-spasm. (It must be borne in mind that the uterine function of labour is not a frequent phenomenon - occurring but a few times in many a woman's lifetime).

That it is a spasm is borne out by the fact that it is released by drugs e.g. adrenalin and amyl nitrite.

2. The irreversible ring is a different proposition. It may be due to an irreversible change taking place in a spasm i.e. the spasm will not pass off no matter how it is treated, or, more likely it is due to "reversed polarity" of the uterus, as stated by Crichton (5).

The latter statement is supported by the fact that in cases D.E.F.H.I.J. a thick lower and a thin upper segment was found - suggesting that the uterus was in "reversed gear".

Ivy et al (16) found that stimulation of the lower part of the lower uterine segment of a pregnant monkey's uterus - at term - caused a reversal of the normal uterine contraction wave. The same phenomenon was produced by stimulation of the hypogastric plexus - but not constantly.

Rudolph (in discussion) (27) states in monkeys, in labour, the lower segment was found to undergo brachystasis (thickening) first. This was followed by mecystasis (thinning).

Theoretically, therefore, if the same holds good for the human, a failure of the stimulus of mecystasis will result in continuous brachystasis. The lower segment will therefore become thick and ringlike, dilating the cervix but preventing advance in labour.

This state of affairs may theoretically also be produced by a <u>continued</u> lower uterine segment stimulation.

Unless this action is prevented (by e.g. early heavy sedation - suggested by Miles Phillips) or some method of altering the action of the uterus (i.e. changing gears) is found - caesarean section (an admission of failure) with severence of the ring remains the treatment of choice.

Predisposing causes.

1. Interference.

(a) Manipulations.

Many cases are seen who have had and require intra-uterine manipulations and no constriction ring developes.

Andrews and Maxwell (1) describe a case in which a constriction ring developed following difficult and prolonged intra-uterine manipulations.

(b) Drugs.

Oxytocic drugs might possibly predispose to the formation of constriction ring. However cases are induced medically without the later formation of a constriction ring.

It is a well known fact that where ergometrine is given in the third stage of labour prior to the delivery of the placenta a high incidence of hour glass contraction is found.

2. Early rupture of the membranes is a common phenomenon, constriction ring is a rare complication.

Early rupture of the membranes per se therefore cannot be claimed as an aetiological factor. It may well be due to the constriction ring.

3. Malpresentations again are not infrequent. However in most of these cases no malpresentation was found.

4. Intra-uterine infection was present in two patients, one had an angular pregnancy complicated by a constriction ring. The other was grossly septic due to bad management outside the hospital.

5. That the fault is primarily within the uterine musculature cannot be claimed as a cause as most of the patients encountered were multipara (many being grande multipara) with previous normal deliveries.

This finding does not correspond with those of other authors (9.11.24.26) who state that primipara are mostly affected.

6. Faulty innervation of the uterus cannot be blamed for exactly the same reason. The high incidence of acute dilatation of the stomach following caesarean section in these cases suggests the possibility of a general nervous factor.

A combination of some of the above factors may presumably predispose to lower uterine segment stimulation.

Site of Constriction rings.

Rudolph (26) has shown that in pluriparous animals in labour e.g. the bitch, physiological rings form between the pups. A physiological ring is also found between the cornu not expelling the pup and the body of the uterus. The body of the uterus is but a passage and plays practically no part in expelling the pup.

In the sheep, a uniparous animal with a bicornuate uterus, pregnancy takes place in one cornu - and can either go to term in that cornu alone or else encroach upon the body of the uterus as well. The non-pregnant cornu also enlarges. In labour, a physiological ring shuts off the non-pregnant cornu from the corpus. The pregnant horn contracts and expels the lamb. The body of the uterus plays practically no part in the expulsion.

It can therefore be assumed that the body of the uterus in lower animals corresponds to the lower segment in humans, i.e. the isthmus - as shown by Frankl (8).

Rudolph also states that in the uterus of the monkey - and that of a bitch - a sphincter is found at the level of the internal os.

Physiological constrictions in animals therefore occur:-

1. In the upper segment (Rings between pups).

2. At the junction of the upper and lower segments (between cornu and corpus).

3. At the level of the internal os.

In the human a physiological ring is found between the upper and lower segments viz. Bandl's ring.

Pathological rings are found:-

1. In the upper segment (7.26) (corresponding to rings between pups).

2. At the junction of a rudimentary horn with the body of the uterus (26) (corresponding to a ring between a cornu and the body).

3. Between an angular pregnancy and the body of the uterus (case K) (corresponding either to a ring between the cornu and the body or a ring between pups).

4. At the junction of the upper and lower segments, just above or just below it. (7.11) (between cornua and corpus).

The inference therefore is that constriction rings occur in regions corresponding to physiological contraction rings found in lower animals.

CASE A. (See page 133)

G.S. a 47 year old 13th para at term was an emergency admission.

Her previous deliveries were all normal. She had been in labour for 34 hours - the membranes having ruptured ½ hour after the onset of labour.

The labour differed from her previous labours in that the pains were poor and at irregular intervals, and colicky in nature.

On abdominal examination a ringlike depression was felt about two inches above the symphysis pubis. The lie was L.O.A. Foetal heart heard.

Vaginal examination revealed a fully dilated os, head loose in the pelvis and a ring was felt around the neck of the foetus.

She was given ¼ gr. Morphine and 5 minims 1/1000 adrenalin.

She had a good sleep and expelled her live 9 lb. 9½ oz. baby without difficulty, 9 hours later.

The third stage and puerperium were without incident.

C A S E B.

M.F. a 20 year old 2nd para 35 weeks pregnant was an emergency admission. Her previous delivery was normal.

The membranes ruptured 4 hours after the onset of poor, infrequent, irregular labour pains.

The untrained midwife did a vaginal examination soon after the rupture of the membranes and then sent for a Doctor saying a hand was felt.

The Doctor came, inserted his whole hand into her vagina, could do nothing and therefore sent her into hospital.

On admission - 11 hours after the onset of labour - her condition was good. She had poor pains at irregular intervals, with poor relaxation between pains. The position of the foetus could not be determined. The foetal heart was not heard.

Vaginal examination revealed a four finger dilated os. Both arms and a leg were protruding through a constriction ring, about two inches higher up.

She was anaesthetised with pure Ether.

Amyl nitrite was now given. It had no effect on the ring.

The patient was now put into a deep plain of chloroform anaesthesia.

Slight relaxation of the ring and the uterus was felt.

The limbs were pushed through the ring and a bipolar version done through the ring.

The oedematous leg - the one that had prolapsed through the ring - was brought down and 1 lb. weight attached to it.

One-and-a-half hours later she was in good regular labour. The 4 lbs. 11 oz. baby was born three hours after the manipulations. The third stage was without incident.

Her puerperium was uneventful.

C A S E C.

M.S. a 42 year old Coloured 12th para at term, with previous normal deliveries, was admitted as an emergency having been in labour 33 hours with the membranes ruptured for 24½ hours.

She states that her pains were unlike the pains of her previous pregnancies in that they were irregular, infrequent and localised to the hypogastrum. Interspersed with these pains she had few true labour pains.

Abdominal examination revealed a transverse lie.

One vaginal examination a four finger sleeve-like os was found. Between the cervix and the foetus was a norrow tight constriction ring admitting one finger through which the pulsating cord had prolapsed.

Five minims of adrenalin 1/1000 administered to the patient caused the ring to relax. Ethyl chloride + ether was administered. The cord was replaced. A Bipolar version was done and a leg brought down.

She gave birth to a still born 8 lbs. 2 oz. baby 19 hours afterwards. The third stage was uneventful.

Duration of labour : 52½ hours.

CASE D.

F.R. a 25 year old Coloured primipara was admitted 67 hours after the onset of labour at term.

Membranes ruptured one hour after the onset of labour. Her contractions throughout labour were infrequent and very painful. The untrained midwife had her bearing down from the onset of labour and made many unsuccesful attempts at catheterisation.

Seventeen hours after the onset of labour she was seen by a Doctor who catheterised her and withdrew 40 ozs. of urine.

Thirty-four hours later the foetal heart was no longer heard. She was later transferred over 100 miles to this hospital.

On admission she was sick, tired, and toxic.

The uterus was tense and contracted poorly at irregular intervals.

There was a ringlike depression in the uterus $2\frac{1}{2}$ inches above the symphysis pubis.

Her gut was distended.

The uterus was resonant to percussion.

Vaginal examination revealed markedly oedematous labia and a torn uretha.

The head was loose in the clinically assessed normal pelvis. There was only a thin rim of cervix left.

A steel-like constriction ring was felt around the baby's neck.

Despite the severe degree of sepsis Caesarean section was done. Foetid gas escaped when the uterus was opened.

The upper segment was found to be about 1/6th inch thick. The lower segment was more than one inch thick. The ring (± 2 inches thick) had to be severed to deliver the head of the 9 lbs. 4oz. dead baby.

The uterus took a long time to con- and retract. Bleeding was minimal. Post Mortem changes were of interest. (see fig.2)

She died four days later.

Post-mortem showed multiple miliary left renal abscesses.(fig.1)

Fig. 1.

L. Kidney.
A. Abscesses.

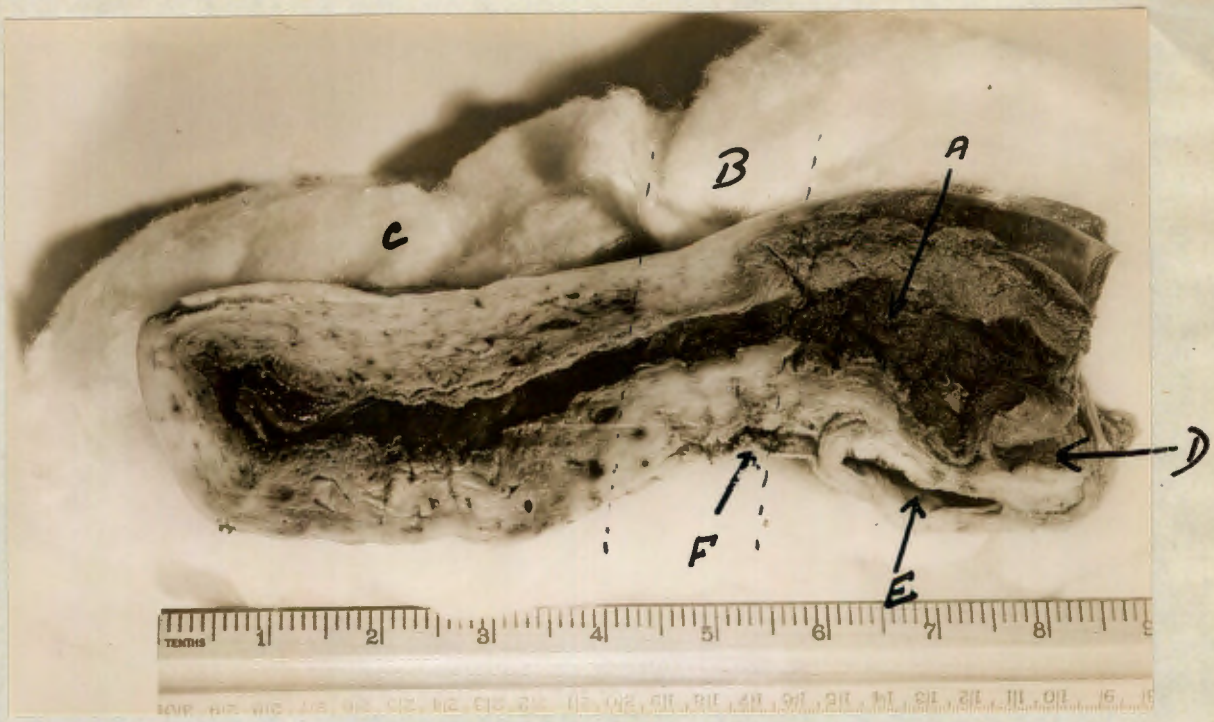


Fig. 2.

A. Cervix.
B. Lower segment.
C. Upper segment.

Note that the lower segment i.e. the area occupied by the constriction ring - still differs in appearance from the upper segment.

D. Vagina.
E. Bladder.
F. Loose peritoneum reflected off the lower segment in order to cut the ring at the time of the Caesarean section.

CASE E. (See page 157)

S.M.T. a 23 year old primipar (antenatal case) with no cephalo-pelvic disproportion was in labour for 57 hours with the membranes ruptured for 45 hours.

She had poor, irregular, and infrequent pains.

Vaginal examination revealed a loosely fitting head with a constriction ring around the neck of the foetus. The cord had prolapsed through the ring.

Caesarean section was done.

The upper segment was found to be thinner than the lower which harboured the ring.

The ring had to be cut in order to deliver the baby's head. The live baby weighed 6 lbs. 15 oz.

C A S E F.

M.A. an 18 year old primipar at term was admitted having suffered from poor, irregular and infrequent painful contractions with intermittent sharp long pains for 113 hours.

She remained in hospital - kept in good condition by adequate sedation and nutrition - for five days, continually having poor pains at irregular intervals. Rectal examinations revealed a slow steady dilating well effaced, poorly applied os.

The head R.O.P. did not advance despite a clinically measured normal pelvis.

Two-hundred-and-sixty-one hours after the onset of labour the os was found to be fully dilated, the head was loose in the pelvis, a tight ring was found round the baby's neck. The cord had prolapsed through the ring. It was pulsating.

Caesarean section was done.

The upper segment was found to be $\pm \frac{1}{4}$ inch thick. The ring situated at the reflection of peritoneum from uterus to bladder was about $1\frac{1}{2}$ inches thick and about $1\frac{1}{2}$ inches broad.

The baby was alive.

The patient's convalescence was complicated by an acute dilatation of the stomach - cured by continuous gastric suction and adequate fluid balance.

C A S E G.

A.S. a 46 year old 12th para at term was admitted as an emergency.

All her previous deliveries were spontaneous.

For the past two years her periods have been scanty. She had periods of amenorrhoea lasting from two to seven months.

Labour commenced twelve hours after the spontaneous rupture of the membranes.

Her pains were unlike those of her previous labours in that they were poor, irregular and infrequent.

After 18 hours of labour the untrained midwife told her to bear down.

An hour later the Doctor was called in. He did a vaginal examination, found the os one finger dilated and sent her into hospital.

Examination revealed a patient in excellent condition. R.O.A. Rectal examination revealed a two finger well effaced, well applied os.

She had poor pains at irregular intervals for a further 50 hours - with adequate sedation and nutrition - when the os was found to be full dilated.

Vaginal examination revealed a tight constriction ring around the baby's neck.

Caesarean section was decided upon.

A high spinal anaesthetic was given to see what it's effect on the ring would be.

If anything - the ring tightened.

Epinephrine had no effect on the ring.

The upper segment was about $\frac{3}{4}$ inch thick and the lower $\frac{1}{4} - \frac{1}{2}$ inch thick.

The lower segment had a greyish-red avascular appearance.

The ring had to be cut to deliver the live baby.

Contraction and retraction were rapid.

C A S E H.

C.D. a Coloured 47 year old 12th para at term was admitted as an emergency.

Her previous labours were all normal.

The membranes ruptured practically with the onset of her poor irregular labour pains.

The pains were unlike the pains of her previous labours.

She had been in labour for 85½ hours, during which time six vaginal examinations were made by a midwife.

Abdominal palpation revealed an L.O.A. The foetal heart was not heard.

On vaginal examination a full dilated os, loose fitting head and constriction ring around the neck were felt.

Gas, oxygen and ether anaesthesia were given. Forceps were applied but no traction exerted. Adrenalin 5/minims 1/1000 was given. This caused the ring to tighten.

Amyl nitrite caused the ring to soften but not to dilate. Slight traction was now applied to the forceps. The ring immediately tightened. Forceps were removed, and a Caesarean section was done.

The upper segment was found to be ¼ inch thick and the lower one inch. The ring was about 1½ to 2 inches thick and had to be severed in order to deliver the still born 9 lbs. 8½ oz. baby.

Her puerperium was complicated by an acute dilatation of the stomach. This was cured by continuous gastric suction and adequate fluid balance.

C A S E I. (See page 137)

A.T. a 30 year old Native 4th para, an antenatal case, was in poor labour i.e. irregular, infrequent contractions for 52½ hours before indications for forceps arose. (Her membranes ruptured 36 hours after the onset of labour)

The head was loose in the pelvis (L.O.A.). There was an elastic resistance to traction by forceps.

The forceps were removed.

A tight constriction ring was felt around the neck of the baby.

Amyl nitrite and deep chloroform anaesthesia had no effect on the ring.

Caesarean section revealed a thin upper and thick lower uterine segment.

The ring had to be cut in order to deliver the baby's head.

She had a brisk haemorrhage controlled by Pituitrin and hot plugs within and around the uterus.

Her puerperium was complicated by an acute dilatation of the stomach cured by continuous gastric suction and adequate fluid balance.

C A S E J. (See page 147)

G.A. a 26 year old Coloured 4th para, who attended the antenatal clinic regularly was admitted in poor labour - the pains being irregular and infrequent, unlike her previous normal labours.

After 88½ hours the cause of the delay in labour viz. a broad tight constriction ring around the baby's neck, was detected. Lie of child L.O.A.

The membranes ruptured 75½ hours after the onset of labour.

The head was fitting loosely in the pelvis and did not descend during a contraction.

Caesarean section was done.

The upper segment was about 1/6 inch and the lower 1½ inches thick.

The ring had to be cut in order to deliver the baby's head.

The live baby weighed 8 lbs. 10¾ oz.

Two years later this patient attended the antenatal clinic regularly and came into a labour identical with the previous one.

Vaginal examination once again revealed a loosely fitting head with a constriction ring around the baby's neck.

Caesarean section revealed an exact reduplication of the findings at the previous operation.

She had a profuse haemorrhage on this occasion.

The live baby weighed 9 lbs. 4¼ ozs.

Her puerperium was uneventful.

CASE K. (See page 166)

C.J. a 27 year old 4th para had poor labour pains for over 120 hours - the membranes ruptured soon after the onset of the pain. These pains were poor, infrequent and irregular - unlike previous labour pains.

Forty-eight hours after the onset of labour she bled vaginally.

Seventy-two hours later she noticed hair in her evil smelling vaginal discharge.

Examination revealed gas in the uterus, a dead foetus, and a constriction ring between the two finger dilated os and the vertex.

The uterus could not be made to contract.

Gangrene of the uterus was therefore diagnosed.

At operation the "upper uterine segment" was found to be as thick as brown paper and greyish-black in colour. The "lower" segment harboured a thick ring. This was found to be a right angular pregnancy with a constriction ring between it and the rest of the uterus.

Subtotal hysterectomy was done.

She made an uninterrupted recovery after acute dilatation of the stomach was treated.

CASE	NAME	AGE	PARA	PERIOD OF PREGNANCY	DURATION OF LABOUR	TIME OF RUPTURE OF MEMBRANES	FOETAL RELATION TO RING	PHYSO-METRIA	DRUGS AND EFFECT ON RING	TREATMENT	POST OPERATIVE COMPLICATIONS	MATERNAL DEATHS	FOETAL DEATHS	ANTENATAL OR EMERGENCY	LIE OF CHILD	WEIGHT OF BABY
A.	G.S.	47	13	TERM	43 HRS.	½ HOUR AFTER ONSET	AROUND NECK	-	RELAXATION DUE TO MORPHINE AND ADRENALIN	SPONTANEOUS DELIVERY	-	-	-	E.	L.O.A.	9 LBS. 9½ OZ.
B.	M.P.	20	2	35 WEEKS	14 HRS.	4 HOURS AFTER ONSET	AROUND BOTH ARMS & ONE LEG	-	AMYL NITRITE NIL CHLOROFORM SLIGHT	BIPOLAR VERSION AND TRACTION	-	-	NO F.H.H. DEAD	E.	TRANS-VERSE	4 LBS. 11 OZ.
C.	M.S.	42	12	TERM	52½ HRS.	8½ HRS. AFTER ONSET	BELOW FOETUS	-	RELAXATION (PARTIAL) TO ADRENALIN	BIPOLAR VERSION AND TRACTION	-	-	F.H. HEARD ON ADMISSION DEAD	E.	TRANS-VERSE	8 LBS. 2 OZ.
D.	F.R.	25	1	TERM	67 HRS.	1 HRS. AFTER ONSET	AROUND NECK	+	-	CAESAREAN SECTION	ACUTE DILATATION OF STOMACH	4TH DAY RENAL ABSCESS FOUND	NO F.H.H. ON ADMISSION DEAD	E.	L.O.A.	9 LBS. 4 OZ.
E.	S.M.T.	23	1	TERM	57 HRS.	12 HRS. AFTER ONSET	NECK	-	-	CAESAREAN SECTION	-	-	-	ANTENATAL	L.O.A.	6 LBS. 15 OZ.
F.	M.A.	18	1	TERM	?216 HRS.	219 HRS. AFTER ONSET	NECK	-	MORPHINE NIL	CAESAREAN SECTION	ACUTE DILATATION OF STOMACH	-	-	E.	R.O.P.	7 LBS. 7½ OZ.
G.	A.S.	46	12	TERM	68 HRS.	12 HRS. BEFORE ONSET	NECK	-	SPINAL — ADRENALIN -	CAESAREAN SECTION	-	-	-	E.	R.O.P.	8 LBS.
H.	C.D.	47	12	TERM	85½HRS.	WITH THE ONSET	NECK	-	ADRENALIN — AMYL NITRITE (SLIGHT SOFTENING)	CAESAREAN SECTION	ACUTE DILATATION OF STOMACH	-	F.H.NOT HEARD ON ADMISSION DEAD	E.	L.O.A.	9 LBS. 8½ OZ.
I.	A.T.	30	4	TERM	52½ HRS.	56 HRS. AFTER ONSET	NECK	-	AMYL NITRITE° CHLOROFORM°	CAESAREAN SECTION	ACUTE DILATATION	-	F.H. HEARD ON ADMISSION DEAD	ANTENATAL	L.O.A.	11 LBS. ½ OZ.
J.	G.A.	26	4	AT TERM ON BOTH OCCA-SIONS	88½ HRS.	63 HRS. AFTER ONSET	NECK	-	-	CAESAREAN SECTION ON BOTH OCCA-SIONS	-	-	-	ANTENATAL ON BOTH OCCA-SIONS	L.O.A.	8 LBS. 10½ OZ.
			5		82 HRS.	72 HRS. AFTER ONSET	NECK								R.O.A.	9 LBS. 4½ OZ.
K.	C.J.	27	4	TERM	120 HRS.	SOON AFTER ONSET	BELOW FOETUS	+	-	SUBTOTAL HYSTE-RECTOMY WITH FOETUS IN SITU	ACUTE DILATATION	-	NO F.H.H. ON ADMISSION DEAD	E.	R.O.L.	± 8 LBS.

Analysis of Cases.

Summary.

Summaries of eleven cases presenting with the complication of labour - constriction ring - are given.

The pitfalls, symptoms, signs and treatment of the condition are outlined - together with a review of the literature.

An aetiological factor viz. reversed polarity of the uterus is discussed.

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