

REPEAT CAESAREAN SECTION

(a) A Case of L.S.C.S. for Disproportion (Repeat L.S.C.S.)

Case Report:

Present Obstetrical History:

1st child N.D. 18 years ago B.W. Unknown. Alive delivered in Johore Bahru.
2nd child N.D. 6 years ago B.W. 7 lbs. Alive delivered in Johore Bahru.
3rd child N.D. 4 years ago B.W. 7 lbs. Alive delivered in Johore Bahru.
4th child Full term. L.S.C.S. for A.P.H. in Johore Bahru. B.W. 6½ lbs.

Previous Medical History:

Nil of note

Previous Obstetrical History:

Admitted on 22.2.56
Unbooked case.
Age 39 years.
Gravida 5, Para 4.
L.M.P. 18.4.55
E.D.D. 25.1.56
Maturity 44 weeks.

Complaint:

- (1) Pain in the back since last night.
- (2) Occasional abdominal pain.
- (3) Slight pain over operation scar for 3 weeks.

On Examination:

General condition good.
Heart N.A.D.
Lungs clinically clear.
Alimentary system N.A.D.
Pulse 82/min. B.P. 112/70.

Obstetric Examination:

Sub-umbilical midline scar.
Fundus height of 36 weeks.
Vertex R.O.A. Head just engaging.
F.H.H. 148 per minute.
Postmaturity.

Treatment:

- (1) O.B.E. stat.
- (2) Hourly record of M.P., F.H. and nature of uterine contractions.
- (3) K.I.V. vaginal examination and stripping of membranes.

Progress:

23.2.56 — 11.30 a.m. — No pains since 12.00 midnight
24.2.56 — 9.15 a.m. — P. V. Cervix half effaced.
Os. admits 1 finger. No bag of forewaters. M.I. Vertex presenting. Pelvis? adequate for vaginal delivery.
Relatively large baby.
25.2.56 — 12.00 noon — P.V. os. 2 fingers dilated. M.I. Vertex presenting. Stripping of membranes from lower segment.
26.2.56 — No pains.
27.2.56 — For E.U.A. and ? amniotomy.
11.30 a.m. P.V. cervix admits 2 fingers and poorly taken up.
Vertex above brim — No liquor left in uterus.

In view of:

- (1) Lack of liquor.
- (2) Size of baby.
- (3) History of post maturity.
- (4) Previous Caesarean Section.
- (5) Station of Head.
- (6) Condition of cervix.
- (7) Maternal worry.

CAESAREAN SECTION WAS DECIDED UPON.

4.00 p.m. L.S.C.S. (repeat) under heavy spinal (1.2 c.c. heavy cinchocane)

Found:

Previous L.S.C.S. done rather high up.
Bladder adherent to lower segment and drawn up. Old scar thin at right side.

Delivered a live male infant weighing 8 lbs. 8 ozs.

28.2.56 — General condition satisfactory.

Discussion:

Dr. WILSON RODDIE discussed Repeat Caesarean Section.

He said that this case had been presented in order to open a discussion on the Management of the patient who has previously been subjected to delivery by section.

It was readily understood that in an era when Caesarean Section was reserved for cases of marked cephalopelvic disproportion there should arise the oft repeated dictum. "Once a Caesarean Section—always a Caesarean Section."

However, with the rapid progress in the development of aseptic surgical technique and the introduction of potent chemotherapeutic agents there was a marked decrease in the maternal mortality and morbidity accompanying the operation, and an all too prevalent impression that the operation is both simple and safe.

Consequently, it was not surprising to note the ever increasing incidence of the operation and the widening of its scope of application to such obstetric complications as placenta praevia, premature separation of the normally situated placenta uterine inertia and abnormal presentations of the foetus plus a very lengthy list of very questionable indications.

Regardless of what opinion one may possess towards the various indications there nevertheless has come into being a large group of women free from pelvic contraction and deformity who have previously been subjected to a Caesarean Section for some temporary consideration.

The woman who has had a previous Caesarean Section and who presents herself in a subsequent pregnancy creates a definite clinical problem and challenge.

Two questions had to be answered:

1. "To what degree is such a patient endangered by the presence of a scar of her uterus."
2. "What is the prospect of delivery P.V.N. in the succeeding Pregnancy?"

The fundamental question thus revolves around the behaviour of the uterine scar—whether it will prove firm enough to

tolerate the distension of the uterus of pregnancy or to withstand the stress of labour itself.

The functional strength of the scar is intimately dependent upon the histology of wound healing in the uterus and the location of the incision.

We have all noted how often the old scar is invisible in many cases of repeat section though sometimes it can be felt as a depression. Some authorities have stated that complete muscle regeneration occurs the uterus heals like all other organs containing non-striated muscle by regeneration of muscle fibres and not by a fibroblastic response. It is said that if there has been perfect coaptation of the incised tissues and the various layers have not been separated by blood clot, lochia or serum and where there has been no infection, the incision heals by complete muscular regeneration in 80-90% of cases.

Others doubt this and feel that healing could not occur without fibrous tissue formation.

However, no matter what school of thought is accepted rupture of previous scars does occur. It is said to occur or rather account for 20% of all cases of uterine rupture. The accident in these cases is not usually accompanied by nearly as formidable a maternal mortality as when it results spontaneously or following a traumatic procedure in a uterus free from a scar.

A sinister feature of rupture of a Caesarean Section scar is that the accident may occur at any period of gestation or labour. This adds to the difficulty of protecting the patient completely.

Various people have noted that the incidence of the lower segment scar is 0.25% and of the Upper Segment scar 3 to 4%.

Clinically when the uterine incision has been sutured carefully in accordance with well established surgical principles, and when there has been no subsequent infection as characterised by foul lochia or a febrile convalescence one may expect the scar to be capable of withstanding the distention of the maturing pregnancy and the stress of labour itself.

With attention directed to the perfect coaptation of the margins of the incision and the avoidance of too tight suturing

which leads to muscle infarction, bacterial invasion of the wound will be discouraged and therefore better healing obtained.

When faced with a patient with a previous Caesarean Section what is one to do? A person's attitude to such a situation is based on:

1. His training.
2. His personal experience.
3. The judicious evaluation of the experience of others.

Because of the possibility of rupture of the scar such pregnancies, labours and deliveries should be conducted in hospitals equipped to cope with any obstetric complication and should be conducted by trained doctors. Patients must be encouraged to seek the antenatal case early. Some people advise soft tissue X-Rays, and try visualisation of the old scar.

The patient must be impressed with the importance of coming into hospital at the very onset of labour before rupture of the membranes or the appearance of a show.

She should have close attention during labour to detect the earliest signs and symptoms of impending rupture.

If labour progresses satisfactorily, one may anticipate a favourable termination while the intervention of severe uterine inertia may be the factor to influence one to perform repeat Caesarean Section.

The use of oxytocic drugs is only mentioned to be condemned. The second stage of labour should be eliminated by forceps provided the necessary conditions for their

application are fulfilled. Intra-uterine manipulations like internal version should never be attempted as they just invite rupture of the scar.

Following delivery the placenta is allowed to separate spontaneously, but it is wise to explore the uterus to make sure there is no rupture.

I feel that, in properly selected cases that have been previously subjected to Caesarean Section for some temporary indication, attempts to secure a vaginal delivery are to be encouraged provided that the rigid precautions are observed.

By pursuing such a policy one may anticipate not only a considerable curtailment in the frequency of Caesarean Section, but a reduction in maternal mortality and morbidity.

OPEN COMMENTS:

Dr. SINHA asked what was the maximum number of Repeat Caesarean Sections recorded in a woman.

Professor **SHEARES** said that the world record was 13. In Kandang Kerbau Hospital he carried out Caesarean Section a woman who did have 7 previous Caesarean Sections but he believed that in general a woman's tubes should be ligated at the 3rd Caesarean Section Operation.

Dr. Khoo Boo Chai next asked how long after a Caesarean Section should pregnancy be allowed to occur again?

Professor SHEARES said that the usual advice given is 2 years, and he knows of no reason for lessening this particular time interval.

(b) A Case of Pregnancy in a Rudimentary Horn of Uterus—Ruptured

Case Report:

(Presented by Dr. C. S. Seah)

Reg: No. 432-B. H.S.N. Aet. 31. Married.
Para 5.

Chief Complaint: Very severe attack of abdominal pain since 8.30 a.m. this morning.

Menstrual History:

Menarche at 15.

Menstrual periods regular.

Type 28 — 32 days.

Habit 3 — 5 days — moderate flow.

Last menstrual period 3.10.55.

No dysmenorrhoea.

Obstetric History:

The patient has had 5 normal pregnancies and deliveries, the last one 4 years ago.

History of Present Illness:

This pregnancy was quite uneventful except for slight nausea in the morning, until the evening of 12.2.56 when she suddenly had colicky right sided lower abdominal pain. During the height of each pain she could feel a lump in the right lower abdomen. The pain persisted on and off and was not severe enough to interfere with her sleep at night.

On 15.2.56 she attended the Gynaec. Out Patient Department the doctor who saw her noted that on vaginal examination she held her abdomen rather tensely but the uterus felt like one with a normal 16-week pregnancy. As she also was complaining of flatulence, she was given a carminative mixture and sent home.

For the next 8 days she had only mild spasmodic pain on the right side.

On 24.2.56 at 8.30 a.m. the pain on the right side recurred in a severe form and persisted. She also felt very dizzy and weak. She then went to a Maternity and Child Welfare Clinic which was near her home. There the doctor in charge found her to be in severe shock and sent her to K.K.M.H. immediately as a case of Ruptured Ectopic Pregnancy.

History of Past Illness: Nil of note.

Clinical Examination:

On admission the patient's condition was very critical. She was in acute shock. The pulse was scarcely perceptible and the B.P. was not registerable. Abdomen: Distended with free fluid.

Quite flaccid.

Provisional Diagnosis: Ruptured Ectopic Pregnancy.

Treatment:

Antishock measures were instituted at once and the patient prepared for immediate laparotomy. In the operating Theatre the patient was examined vaginally first without and then with an anaesthetic. The uterus was found to be rather bulky and pushed to the left by a soggy ill defined mass. A laparotomy was done.

Found:

The abdominal cavity was filled with about 3 pints of blood, most of which had not clotted. The uterus was rather bulky, about the size of a 14 week pregnancy and slightly asymmetrical. The gestation sac had ruptured. The foetus was attached by its umbilical cord to the placenta which was still attached to the rudimentary horn. This horn was attached to the middle of the right side of the uterus by a pedicle of muscle about 8 cm. in diameter.

An ovary, the fimbrial end of the tube and the round ligament could be

seen near the distal end of the tumour mass. Pressure forceps were applied and the tumor mass removed with conservation of the right ovary. Excess blood was sponged away and the abdomen closed.

The patient's recovery after the operation was quite uneventful.

Gross Description of removed Specimen:

The rudimentary horn was ruptured at its distal portion and foetus and foetus and part of the placenta and escaped. The horn is 6.5 cm. long by 4 cm. across. The round ligament can be seen arising from the distal lower end of the tumour mass.

The foetus was 15 cm. in length.

Microscopically there was no connection between this rudimentary horn and the cavity of the developed horn of the uterus.

Discussion:

Dr. SEAH then read a dissertation on pregnancy occurring in a rudimentary horn.

He said that in early embryonic life the Mullerian ducts give rise to the uterus, both tubes and the upper 2/3 of the vagina. If fusion of the Mullerian ducts fail to occur completely or in part a great variety of anomalies of the uterus and vagina or both may result. In a case of a uterus with a rudimentary horn there is usually one nearly normal uterus with a single tube and normal ligament at its lateral cornu. On the other side there is another ill-developed uterus or hemi-uterus with the usual adnexae which may also be rather poorly developed.

There is usually no connection between the cavity of the rudimentary horn with the cavity of the main uterus and very rarely has it any functioning endometrium. If there is functioning endometrium the result is usually haematometra and/or intra abdominal menstruation through the Fallopian tube. Vernaglia in 1947 reported a case of intra abdominal menstruation from a rudimentary horn and stated that he found no similar case in the literature. Carpenter in 1952 reported a case in which there was not only intra abdominal menstruation from a rudimentary horn but also pelvic endometriosis.

Pregnancy originating in a rudimentary horn of the uterus is rare. Maurician and Varssal, 1669, reported the first case, and Kehrér 1900, collected 84 cases from the literature. It is interesting to note that in 78% of these 84 cases of proximal end of the rudimentary horn did not communicate with the uterine cavity so that in them pregnancy must have followed external migration of the spermatozoa or of the fertilized ovum. Death from intraperitoneal haemorrhage resulted in 47.6% of his cases.

The change that occur when pregnancy takes place in the rudimentary horn is described by Eastman as follows: "If the muscular tissue of the rudimentary horn is poorly developed, as is usually the case, spontaneous rupture occurs within the first four months, and may lead to the death of the patient from intraperitoneal hae-

morrhage. On the other hand if the muscular tissue is abundant the pregnant horn may hypertrophy normally and the pregnancy go on to term. In such cases, the foetus, if it is not removed by operative means, may be gradually eliminated by suppurative processes or be converted into a lithopedion."

Mulsow, 1945, carried out a review of the literature, and said that since 1911 only 9 more cases of pregnancy in a rudimentary horn had been reported. He himself added another case. Taking into account reports published prior to 1911 also, he estimated that 90% of these cases rupture about the 4th month, and may result in sudden death from intraperitoneal haemorrhage. The remaining 10% may go to term and cause considerable trouble and result in the death of the foetus.

Reports of Pregnancy in Rudimentary Horn of the Uterus

Author	Age and Site	Remarks
Scott, E., & Forman.	45, Right side Full-term twins.	Cramps for 2 weeks at term. No more cramps or life felt. Had 2 babies before this, two shortly afterward, then 3 miscarriages, & 9 years later a baby. At operation for mass present 20 years found bones of twins in the rudimentary horn.
Lahman, A.H. Kilkenney, G.S. & Mietus, A.C.: Am. J. Obst. & Gynec. 42: 534; 1914	26 Right side. Full-term twins. Small canal with uterus.	Uterus small at term. Friedman positive and waited 6 weeks. No more fetal motions. Negative Friedman, positive X-Ray. At operation macerated twin females in rudimentary horn.
Humpstons, C.P.: Surg., Gynec & Obst. 31: 505, 1920.	30, Left side. Ruptured at 4 months.	Sudden severe pain. At operation for ectopic pregnancy, ruptured pregnant horn of uterus found.
Ibid.: Case 11	21, Right side. 8th month.	Eclampsia at 8 months. Attempted vaginal section failed and removal of uterus with rudimentary horn made a difficult operation.
D'Arcy, C.E.: M. P. Australia 2: 373. 1925	35, Left side. Full term.	Few pains and bleeding at term. Became ill 3 weeks later with fever and vomiting. Large left pregnant & small right rudimentary horn found at operation.
Stables, E.: Newcastle M.J. 2: 117. 1931	Age not given. Left side. 8th month.	Two previous premature births. Pains began at 8th month. Medical induction of labour failed. Normal pregnancy 2 years later, and could not deliver previous fetus. Operation 2 months later found pregnant rudimentary horn.

Author	Age and Site	Remarks
Noakes J.M.: Am. J. Obst. & Gynec. 28: 250, 1934.	19, Left side. 6 months.	Abortionist tried to interrupt pregnancy at 5 months, and again at 6 months but failed, fetus killed. At operation 2 months later, found true condition.
Ruthford, R., & Morgan, J.: Lancet 2.: 1337, 1934.	35 Right side. Full term.	False labour at term with death of fetus. Induction of labour failed, sepsis developed and patient survived difficult operation on rudimentary horn pregnancy.
Guerrant, E.: S. Clin. North America 15: 537, 1935.	33, Right side 5th month. Small lumen to uterus.	Normal pregnancy to 5th month, when slight bleeding occurred. Friedman test negative. Author thinks she is lucky to be alive after so long delayed operation.
F. W. Mulsow. Am. J. Obst. & Gynec. 49: 774, 1945.	31, Left side. 5th month.	Sudden death at 4½ months. Condition disordered at postmortem.
R. J. Carpenter Tt. Alia Am. J. of Obst. & Gynec. 63: 206, 1952.	25, Right side. 3rd month.	Sudden severe pain with sever shock. At operation for ruptured ectopic pregnancy, a ruptured right rudimentary horn was found.

Clinically in the early months of pregnancy before rupture has occurred the condition may present as a tumour corresponding in size to the duration of pregnancy, alongside which a slightly enlarged uterus may be made out.

After rupture of the horn has occurred the usual signs of intra-peritoneal haemorrhage is present, and the haemorrhage may be so severe that the patient not infrequently dies before she can be admitted. The picture would therefore be quite similar to that of ruptured tubal pregnancy except that, as Mayes points out, pregnancy in a tube usually ruptures at about the 6th to 8th week while pregnancy in a horn ruptures at about 3rd—4th month. In the later months, a diagnosis is usually not made until false labour sets in at term. In other cases this does not occur and the child dies, but in either event no abnormality is suspected until one attempts to empty the uterus, when it is found that its cavity is empty and the child lies in a sac to one side of it. At laparotomy, to differentiate it from a tubal pregnancy, according to Eastman, it is important to remember that the round ligament is felt coming off from the distal side of the tumour and not from its proximal or uterine portion as in the latter condition.

TREATMENT:

In early pregnancy if the condition is definitely diagnosed before rupture had occurred the treatment is immediate laparotomy and amputation of the pregnant horn. This operation was first performed by Sanger in 1884, and Kehner and Wells reported 44 cases operated upon at this stage. Most frequently, however, as in this case, the first suggestion of the existence of the abnormality is afforded by the symptoms of intra-peritoneal haemorrhage, when the operation is undertaken in the expectation of finding a ruptured tubal pregnancy. In late pregnancy even though the foetus is dead the treatment is still laparotomy with removal of the foetus and excision of the horn.

The only other case of pregnancy in a Rudimentary horn since 1949 in this hospital was admitted in November 1951 sever P.E.T. and what was thought to be 1st stage pains. After about 10-12 hours the foetal heart could not be heard, though the cervix was still tightly closed. She had no more pains and a day later was examined in the operating theatre when a firm mass was left lying to the side of the presenting vertex. A sound could be passed through the cervix into the cavity of this mass and opinions varied as to whether we were dealing with an abdo-

minal pregnancy or a preganacy in a rudimentary horn. Lipiodal was introduced through the cervix and the cavity of the uterus showed up quite separate from the foetus. When a laparotomy was done the diagnosis of pregnancy in the rudimentary horn was established as the foetus was still lying in the unruptured horn. The foetus was extracted and the horn amputated. Subsequently, the became pregnant and delivered normally.

OPEN COMMENTS:

Dr. T. K. CHONG commented that, in an article by Latteo and Norman in the British Medical Journal in 1950, it was pointed out that in all probability there was a connecting channel between the

rudimentary horn and the main uterine cavity, but this channel was closed when pregnancy occurred in the rudimentary horn by the formation of the decidual cells. In point of fact, therefore, impregnation in the rudimentary horn by transmigration of the spermatozoa or fertilised ovum, according to this author, is very rare.

Professor B. H. SHEARES remarked that in this case as there was quite a definite pedicle between the rudimentary horn and the developed horn, it could not be confused with cornual rupture following implantation of this fertilised ovum in the postion of the tube and its subsequent major development in the direction of the uterine cavity.