

AN UNUSUAL TYPE OF RUPTURE OF THE UTERUS

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Rupture of the uterus occurring during pregnancy is rare when compared with its incidence in labour. These ruptures when they occur are usually in a uterus previously injured. Naturally the commonest cause is a previous caesarean section mostly classical, occasionally lower segment. Apart from this, the so-called spontaneous rupture of the uterus in pregnancy or labour has been frequently reported and in many of these cases in which an obstetric history is given, there is a history of curettage (Lloyd and Ganner 1933, Banks 1934, Gordon and Rosenthal 1949) or a manual removal of placenta at a previous parturition. Infection usually follows these procedures and under such conditions the injury to the uterus results in healing by granulation and formation of scar tissue. When pregnancy occurs in such a uterus, it is possible that with the increasing distension produced by the growing foetus, the weak uterine scar might give way. This is more likely to happen if the placenta happens to be implanted over the weakened area. Occasionally such ruptures may take place as

a result of developmental defects which result in a congenital weakness of the uterine myometrium. However such types of ruptures are rare and it is the rarity of this condition that has prompted me to report this case in detail.

Patient S., age 27 years, second para, was admitted into this hospital on 10-1-52 at 6-15 p.m. She gave a history of ten month's amenorrhoea and said that at 4 p.m., i.e. two hours before admission, she experienced a sudden attack of pain over the abdomen. The pain was continuous and tearing in character. This attack was followed almost immediately by difficulty in breathing.

Previous Obstetric History.

She has been married for the last ten years and her last delivery was five years ago. The exact details of the delivery were not available. But the important facts elicited were that it was a twin delivery, labour was prolonged,—48 hours—, the delivery itself was under anaesthesia, both babies died soon after birth. The patient was critically ill after delivery

for a time, had very high fever and delirium in the puerperium and left the hospital in a weak state after one and a half months' stay. Ever since her confinement, she was having a dull constant ache in the lower abdomen and dyspareunia.

She was admitted into this hospital on 11-7-50 for continuous pain in the lower abdomen, difficulty in defaecation and micturition of one month's duration. She had no periods after her last confinement. Vaginal examination revealed an eroded cervix, with a retroverted fixed uterus and a tender mass in the posterior fornix. At laparotomy on 20-7-50, it was found that the right tube was the seat of a tubal abortion and there was a pelvic haematocele as well. The right ovary and the left adnexa were normal. On the posterior surface of the uterus in the middle line, there was a small groove or depression about its middle. Right salpingectomy was done. The patient made an uneventful recovery and went home on 30-8-50. Two months later menstruation was re-established; it was regular but painful.

Condition on Admission.

She looked very ill and distressed with obvious difficulty in breathing. She was pale, heart and lungs normal. Temperature 98°.4 F., pulse 88, respiration 24. The pulse was of low tension and poor in volume. B.P. 70/40. Urine—no albumen. There was a sub-umbilical mid-line scar over the abdomen, uterus full term, not acting, tense, very tender on palpation. Foetal parts could not be made out easily, foetal heart was inaudible. Vaginal examination showed that os

admitted a finger, cervix not taken up, cephalic presentation with the head at the brim of the pelvis. A tentative diagnosis of concealed accidental haemorrhage was made. She was given Omnopon, and blood transfusion was started. The membranes were punctured artificially and clear liquor amnii let out. Four hours later, i.e. 10-15 p.m.—the uterus showed no signs of contracting; she was a little restless. 100 mg. of Pethidine was given and the transfusion continued. There was no external vaginal bleeding.

11-1-52; 7 a.m. The patient had by now 750 c.c. of blood. Her general condition in spite of it showed steady deterioration. Pulse rate had gone up to 130 per minute, of poor volume and tension. The blood pressure was steady at 70/40. The abdomen looked more distended than the previous night, the contour of the uterus was less definite and both flanks were dull. Vaginal examination at this stage revealed that the cervix was still one finger dilated, not taken up and the head was at the brim. In view of the steady deterioration in spite of blood transfusion and the now evident signs of intra-abdominal haemorrhage, it was decided to do a laparotomy.

8 a. m. Under local infiltration anaesthesia, the abdomen was opened by a right paramedian incision. On opening the peritoneal cavity, a very large amount of free blood and clots escaped. The uterus was about 34 weeks' size; there was no sign of any obvious rupture and the foetus was palpable within the uterus. To facilitate exploration and find out the cause of this extensive haemorrhage,

the dead baby was delivered by a classical caesarean section. It was then found that about the middle of the posterior surface of the uterus, there was a rent about four inches long through which part of the placenta was projecting into the peritoneal cavity. The uterine wall in this area was thin and papery and the placenta itself was implanted on this thin posterior wall approaching the fundus. The placenta had a succenturiate lobe. Haemorrhage was therefore due to the thinned out posterior wall of the uterus giving way—it being more easy owing to the attachment of the placenta to this thinned out area. The right tube had been removed previously. The left adnexa were intact. A rapid supravaginal hysterectomy with left salpingo-oophorectomy was done. The patient's condition was in extremis, but with further transfusion of one thousand c.c. of blood and five hundred of plasma, she rallied and made an uneventful recovery.

Specimen (Fig. 1). On the posterior wall of the uterus about its middle, there is a rent about four inches long extending to the fundus over which part of the placenta is attached. Part of the placenta is protruding through the rent. The placenta has a succenturiate lobe, and is implanted on the posterior wall towards the fundus. The uterine wall surrounding the protruding placenta is thin like paper.

Microscopic examination of the placenta and the uterus showed marked thinning of the uterine wall at the site of rupture. It is essentially composed of fibrous tissue and very little muscle fibres are seen. Attached to

it is the placental tissue with extensive haemorrhage. Placenta is normal in all respects. Elsewhere the uterine muscle is normal.

The patient was discharged on 28-1-52.

Discussion.

Several possible aetiological factors have at various times been considered as causes of otherwise unexplained uterine rupture, among them degenerative changes in the uterine wall, previous injury and infection and multiparity. The injury caused at a previous parturition by operative interference and perhaps unrecognised at the time may heal by granulation and scar tissue formation. In such cases the rupture in a subsequent pregnancy is more likely to be in the lower segment as in the case reported by Milne Murray of unexplained rupture in labour in which there was a history of two previous forceps deliveries both ending in still-births. But it may occur in the upper segment also, depending upon the site of injury and nature of manipulation, for example, manual removal of a very adherent placenta with resulting tearing of the uterine muscle may lead to healing by scar tissue formation and bring about rupture in a subsequent pregnancy.

During the four years 1948-1951, fifty-eight cases of rupture of the uterus were treated in this hospital. Of these, twenty-eight were rupture of the uterus in labour for which, except multiparity, no obvious cause could be found; ten were due to the giving way of classical caesarean section scars, and in twenty the

rupture was traumatic. It is permissible to conclude (in this case) from the history, that the previous delivery under anaesthesia might have been accompanied by intra-uterine manipulations—perhaps manual removal of an adherent placenta. This might have caused some amount of trauma to the uterine wall. Her puerperium was morbid and prolonged as evidenced by the history of fever and long stay in the hospital. The injury to the uterine wall might have healed by granulation and scar tissue formation. It is possible that it was this scar tissue which was noticed as a groove or depression on the posterior wall of the uterus at the time of the operation for a ruptured tubal gestation in 1950. During the present pregnancy, the placenta got implanted over this weak area and just as the scar of a classical caesarean section gives way more easily when the placenta is implanted over the scar, during this pregnancy the scar readily gave way at term with profuse intra-peritoneal haemorrhage.

The case was at first mistaken for concealed accidental haemorrhage and it was only at laparotomy that the real condition was realised. If the history of the previous labour was normal, one would have been justified in assuming the groove on the posterior uterine wall to be the site of fusion of the two Mullerian ducts and the rupture could then have been attributed to a congenital weakness of the myometrium—a developmental anomaly. But with the recorded history, preference in this case must be given to trauma in a previous delivery as the aetiological factor concerned in rupture.

References.

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