OCCULT RUPTURE OF UTERUS IN A PRIMIGRAVIDA

(Case Report with review of Literature)

by

RAMA VAISH,* M.S., M.R.C.O.G., F.A.C.S.

The term "Occult" or silent rupture applies to cases which do not present the classical physical signs of uterine rupture and hence are very difficult to diagnose.

Spontaneous rupture of the upper segment of the uterus, without the onset of strong labour pains, is not common and is rare in a primigravida. Following is a case of occult rupture of a primigravid uterus, where the classical signs did not appear for more than 48 hours with the additional interesting features of the rupture being sited at the fundus and the absence of a definite aetiological factor.

CASE REPORT:

J., 22 years old, W/o Riksha-puller was admitted on 28-11-69 at 9.50 P.M. with the following complaints:

Amenorrhoea 9 months; leaking 7 days; and prolapse of cord for about 12 hours. She was a primigravida and married for 8 years. Her menstrual history was normal and last period occurred 9 months back. There was no history of any significance in any of the trimesters.

History of present illness

The patient started having watery discharge per vaginum 7 days back, but labour pains did not start. A loop of cord prolapsed out of the vagina on the morning of admission. A local 'dai' (untrained native woman attending to patients in confinement) saw her but the details were not available. In the evening some intramuscular injection (the nature of which could not be ascertained) was given by a general practitioner to induce pains; but as stated by the relatives of the patient, pains did not start. Since the morning, the patient also started having temperature.

On examination, the general condition of the patient was fair, pulse 90 per minute, temperature 100 F. and B. P. 120/80. There was no evidence of anaemia, cyanosis, jaundice or oedema. The fundal height was 36 weeks duration of pregnancy and the uterus was found to be hard which was attributed to loss of liquor amnii; there was no tenderness anywhere. Foetal parts could not be felt properly and foetal heart sounds were absent. On vaginal examination, the cervix was long and admitted one finger. Presenting part was high up and was breech; pelvis was adequate. There was no vaginal bleeding. Patient was put on crystalline penicillin and streptomycin injections.

29-11-69

The general and local condition remained about the same as on 28-11-69. Labour pains did not start. Two bottles of I.V. glucose saline were given.

30-11-69 10.00 A. M.

General condition was the same. Temperature was 98.4 F. but the pulse rose to 130 per minute. On abdominal examination, there was epigastric tenderness, and the foetal parts felt to be superficial. On vaginal examination, the findings were the same but there was slight bleeding at this time. A diagnosis of ruptured uterus was made and the patient was prepared for laparotomy.

---

*Prof. and Head, Dept. of Obst. & Gynec., L.L.B.M. Medical College, Meerut.

Received for publication on 25-3-1970.

On opening the abdominal cavity, the uterus could not be visualised properly as the omentum was adherent to it. The latter was separated and the baby was seen to be emerging from the upper part of the ruptured uterus. The baby was extracted out and the fundus of the uterus was found to be sodden and friable with multiple irregular tears going down on the posterior surface with evidence of marked sepsis. There was practically no free blood in the peritoneal cavity. The whole of the placenta was found to be attached to the uterus lower down. Under these conditions it was not considered advisable to preserve the uterus and hence a subtotal hysterectomy was performed. Infected and degenerated portion of the omentum was removed and the abdomen was closed after the usual toilet. Antibiotics including reverine and intravenous fluids were given. There was no evidence of shock at any time in spite of the fact that the blood was not given.

There was wound sepsis giving rise to superficial gaping of some of the stitches on their removal on the 8th day. A right paramedian abscess developed which burst on the 18th day discharging pus. The wound was dressed regularly. It healed up gradually and the patient was discharged from hospital on the 22nd day after the operation in a fit condition.

Discussion

The unusual features in the above case are:

(a) Primigravida
(b) Fundal rupture
(c) Rupture in the absence of strong labour pains
(d) Absence of an aetiological factor
(e) Silent and occult nature of the condition for more than 48 hours.

(a) The rarity of the condition in a primigravida will be obvious from table I which shows the incidence of uterine rupture in 14 series of total number of 1,490 cases reported by various authors from different hospitals and countries. The incidence varies from 0.86 to 16.36%, average being 2.14%.

(b) In none of the above mentioned series, the authors have reported fundus as the site of rupture. Therefore rupture of fundus in a primigravida is most unusual.

(c) The patient or her relatives did not give any history of labour pains at any time, though there had been leaking liquor for the last 7 days. It was stated that a doctor gave some injection (nature of injn. not known—probably oxytocic) without any result. Rupture of uterus during the course of inefficient weak uterine action with slow progress and in the absence of obstruction and undue stretching of the lower segment has also been stressed by Menon (1962) in 10 out of 162 cases reported by him.

(d) There is no definite aetiological factor like cephalopelvic disproportion in this case though certain factors can not be ruled out absolutely. Following two causes deserve special mention:

(i) The "dai" or the untrained quack who attended her might have massaged her abdomen and the uterus too vigorouly (as is the practice occasionally followed by them to stimulate the uterine contractions). This might have caused bruising or partial rupture of the upper and post surface of the fundus.

(ii) The oxytocic injection given by the doctor could have been a causative factor but is not likely in this case as it did not produce any pains and could hardly be responsible in the absence of obstruction.

(e) The uterine rupture remained occult without the appearance of any clinical features in this case for more than 48 hours. There was no evidence of shock or blood loss, vaginal bleeding, abdominal tenderness or distension, or palpation of superficial foetal parts until

TABLE I
Incidence of rupture uterus in a primigravida in the various series

S. No.	Author	Years of study	Place	Total number of cases of rupture uterus	No. of gravida	% of primigravida
1	Birger Astedt (1967)	1956-61	Swedish Department of Obstetrics.	83	0	0
2	Choudhuri (1961)	1958-60	Govt. distt. Hosp. Murshidabad, West-Bengal.	39	1	2.56%
3	Claiborne & Schelin (1967)	1957-66	Richmond, Virginia group of Hospitals U.S.A.	56	5	8.92%
4	Dave & Daftary (1968)	1960-68	N. W. Maternity Hosp. Bombay.	57	1	1.75%
5	Harris & Angawa (1951)	1947-50	Govt. African Hosp. Kimbu, Kenya.	33	1	3.03%
6	Menon (1962)	1953-59	Govt. Hospital for Women & children Madras.	164	2	1.21%
7	Narayana Rao (1964)	1958-63	Govt. General Hosp. Kurnool.	60	5	8.33%
8	Oscar Aguero & Saul Kizer (1968)	1944-66	Concepecion Palacios Maternity Hospital Venezuela, Latin, America.	462	4	0.86%
9	Prabhavati & Mukherjee (1963)	1959-64	General Hospital, Pondicherry.	60	1	1.66%
10	Sheth (1969)		N. W. Maternity Hosp. Bombay.	110	1	0.9%
11	Shikand & Mirchandani Quadeer (1965)	1961-65	Lady Hardinge Hosp. New Delhi.	34	1	2.94%
12	Trivedi, Patel & Swami (1968)	1951-65	Shree Sayaji General Hospital, Baroda.	181	0	0
13	V. D. Shastrakar (1962)	1952-60	Medical College, Hosp. Nagpur.	55	9	16.36%
14	Woodward & Beacham (1951)	1913-50	Charity Hosp. of Louisiana, U.S.A.	96	1	1.04%
			Total	1490	32	2.14%

late. The disquieting features in this case, which were not given enough attention, were high presenting part and non dilation of the cervix inspite of good period of conservative treatment for over 24 hours.

The sequence of events which probably occurred in this patient are: weakening of the upper part of the post surface of the uterus by multiple bruises incurred during vigorous massaging of the uterus by the "Dai", gradual rupture of this weakened area in the presence of weak almost painless uterine contractions.

Since the placenta remained attached to the uterus all along and the site of its attachment was below the rupture, there was practically no intra-peritoneal

bleeding and no evidence of shock.

The danger of uterine rupture occurring under apparently normal conditions and developing without any premonitory signs whatsoever has been pointed out by Milne Murray as long ago as 1902 but its occurrence in a primigravida is rare as the primigravid uterus nearly always reacts to obstruction by hypertonus and diminishing activity (Jeffocate 1950).

In countries where patients are covered with efficient obstetric service, the causes of spontaneous rupture of the uterus assume a priority very different to the ones prevailing in our country. In the former the causes are mostly: rupture of a scarred uterus (the scar may be due to caesarean section, myomectomy or curettage), rupture of uterus following oxytocin drip and those following obstructed labours with or without operative interference. In each of these cases, the cause is quite obvious, the patient is under supervision and there is usually no difficulty in diagnosing the rupture.

The causes which are likely to be missed and consequently give rise to silent rupture are.

1. Previous undiagnosed perforation of the uterus during curettage operation. James Mair discribed a case of fundal rupture of the uterus occurring during otherwise normal labour, in which there was a history of previous perforation of the uterus by a dilator at an operation for incomplete abortion. There was no such history of previous operation in this case.

2. Intra-uterine devices are very commonly used for family planning these days, specially in India, and quite a large number of women have had these devices in the uterus for 2 years or longer and in a few cases, the device has perforated its way out of the uterine cavity. It is very likely that in a few cases, the device may weaken the uterus to such an extent as to cause a rupture in a subsequent pregnancy. There was no history of a loop insertion in our case.

3. Scarring of the cervix leading to nondilatation and rigidity of the cervix during labour, with birth of child through undilated cervix producing a tear going high up in the lower segment has been pointed out by a few authors including Menon. Such a possibility does not arise in our case.

4. Fibrosis of the fundus of the uterus following repeated pregnancies is a cause of spontaneous rupture of uterus during pregnancy and labour and is responsible in multi or grand multigravida. Fibrosis of the fundus can occur following severe sepsis of the uterus after an abortion or other iflammatory processes of the pelvis but are likely to give rise to sterility in most of these cases.

5. Hydrocephalus as a cause of rupture of uterus not revealed clinically should always be kept in mind and is an indication of routine exploration of the uterus after delivery to exclude rupture. The stretching of the lower segment is so gradual on the elastic hydrocephalic head that quite often the rupture is incomplete.

James M. Ingram, Robert L. Alter and Bayard Carter reviewed 16,654 consequtive deliveries at Duke Hospital and found that in 5, the rupture was occult and the diagnosis delayed. One must consider rupture of uterus often in order to recognise the unusual cases. Symptoms like supra-pubic pain and bladder tenesmus, unexplained maternal tachycardia during labour, sudden cessation of foetal heart rate, unexplained intra or post partum haemorrhage and even patient's

intution should not be discarded as unworthy of one's attention.

Summary

An unusual case of occult rupture of the fundus in a primigravida where the physical signs did not appear until after 48 hours is reported. No aetiological factor e.g. cephalopelvic disproportion, malpresentation, scarring of the uterus or abnormal uterine action following injection of oxytocic drug could be attributed in this case. There was complete absence of shock and evidence of intraperitoneal bleeding.

The literature has been extensively reviewed. In 14 series comprising a total of 1490 cases from various hospitals and countries gives an incidence of primigravid rupture of uterus from 0.86 to 16.36%, average being 2.14%. In none of these cases, the fundus has been reported as the site of rupture in a primigravida.

The causes which are likely to be missed and consequently give rise to silent rupture are discussed and the sequence of events likely to have taken place in our case have been enumerated.

References

1. Birger, Astedt: Acta Obst. et Gynec. Scand., Fasc. 2, 46: 168, 1967.
2. Choudhuri, P. K.: J. Obst. & Gynec. India, 12: 108, 1961.
3. Dave and Daftary, S. N.: J. Obst. & Gynec. India, 16: 648, 1968.
4. Harris, Brian P. and Angawa, James O. W.: J. Obst. & Gynec. Brit. Emp. 58: 1030, 1951.
5. Herbert, A. Claiborne, Jr., Schelin, Eri C.: Am. J. Obst. & Gynec. 99: 900, 1967.
6. James Mair: J. Obst. & Gynec. Brit. Emp. 57: 539, 1950.
7. Jeffocate, T. N. A.: Modern Trends in Obstetrics & Gynaecology, London, 1950, Butterworth, p. 234.
8. Krishna Menon, M. K.: J. Obst. & Gynec. Brit. Comm., 69: 18, 1962.
9. Murray, R. M.: J. Obst. & Gynec. Brit. Emp., 1: 142, 1902.
10. Narayana Rao, A. V.: J. Obst. & Gynec. India, 14: 706, 1964.
11. Oscar Aguero and Saul Kizer: Obst. & Gynec., 31: 806, 1968.
12. Prabhavati, R. and Mukerjee, S. N.: J. Obst. & Gynec. India, 13: 455, 1963.
13. Shastrakar, V. D.: J. Obst. & Gynec. India, 12: 391, 1962.
14. Shikand, S., Mirchandani, J. J. and Qadeer, S.: J. Obst. & Gynec. India, 15: 506, 1965.
15. Trivedi, R. R., Patel K. C. and Swami, N. B.: J. Obst. & Gynec. Brit. Comm. 75: 51, 1968.
16. Woodward, D. B. and Dan, W. Beacham: Am. J. Obst. & Gynec. 61: 824, 1951.