

RUPTURE UTERUS

(A Study of 100 cases)

by

PARAMJIT K. SANDHU,* M.D.

NIRMAL GULATI,** M.D.

USHA VERMA,*** M.D.

and

SONIA MALIK,**** M.D., D.G.O.

Rupture uterus still remains the most dreaded complication in obstetrics, associated with high maternal and foetal mortality. Incidence in Western countries has ranged from 1 in 1010 (Delfs and Eastman, 1945) to 1 in 4500 deliveries (Greenhill, 1962). In India incidence has ranged from 1 in 200 (Swamy and Patel, 1960) to 1 in 1257 deliveries (Patel and Parikh, 1960). Rendle-Short (1960) reported an incidence of 1 in 93 in a study from Uganda. We encountered 100 women with rupture uterus at Medical College Hospital, Rohtak (Haryana) during a 9 year period commencing from December, 1970 with 5683 deliveries during the same period giving an incidence of 1 in 57. The present paper is a retrospective study of these 100 cases.

Observations

1. *Age:* Age ranged between 20 to 43 years, mean being 31.5 years. Majority (66%) of the cases were between 26-35 years age group.

*Lecturer.

**Reader.

***Professor and Head.

****Registrar.

Department of Obstetrics & Gynaecology,
Medical College Hospital, Rohtak (Haryana).

Accepted for publication on 23-4-1980.

2. *Parity:* Parity ranged from 0 to 10, mean being 3.8. 50% women had borne 3 to 6 children, in 33% parity ranged from 0 to 2, rest being para 7 and above. There were 4 primigravidas in this series.

3. *Relation to labour:* There were 9 cases where uterus ruptured prior to onset of labour, out of which 5 were classical caesarean section scars, 1 lower segment caesarean scar, 1 after a fall and 2 were unscarred uteri which ruptured without any obvious cause. Seventy-two cases were diagnosed prior to delivery, whereas in 19 women rupture was detected on exploration of uterine cavity after extraction of the baby. One patient was admitted for retained placenta after breech delivery at home and head of the baby was brought out in 3 hours after forceful efforts by dai.

4. *Etiological factors:* There were various etiological factors for rupture uterus and in some cases more than one factor was responsible. One patient with hydrocephalic baby had received pitocin drip prior to admission. We divided our cases into 3 categories: spontaneous (59), traumatic (29) and rupture of previous caesarean section scar (12).

Spontaneous Rupture: Except for spontaneous rupture during pregnancy in

2 grandmultiparas, all the cases were admitted late in obstructed labour with rupture uterus (Table I).

TABLE I
Spontaneous Rupture

Factors	No. of cases
Malpresentation	19
Contracted pelvis	15
Hydrocephalus	12
Grandmultiparity	2
Not evident	11
Total:	59

Traumatic Rupture: Fifteen patients were admitted with rupture uterus (11 after pitocin drip, 2 after internal version, 1 after craniotomy and 1 had a fall), whereas 14 were detected after various operative procedures in this hospital like internal version and breech extraction (9), decapitation (3) craniotomy (1) and one after difficult mid-forceps.

Caesarean Section Scar Rupture: This included 7 cases of classical and 5 of lower segment caesarean section scar rupture. Five of the former and 1 of the latter group ruptured during pregnancy, whereas in the rest uterine scar gave way during labour. All cases in this group except 1 of lower segment scar were of complete variety.

5. Site and Type of Rupture: In the present series, we had 82 complete and 18 cases of incomplete ruptures and 11 out of 12 scar ruptures were of complete type. In 88 cases where unscarred uterus ruptured, site of rupture was fundus in 5 and lower segment in 83, being anterior surface in 77 and posterior wall in 6. Posterior wall had ruptured transversely in 4 cases and vertically in 2. In 22 cases, rupture had extended into the broad ligament—with formation of haematoma

whereas in 8 there was colporrhexis. Bladder had been torn in addition in 8 women although majority had hematuria.

6. Clinical Features: We had 16 patients who came in collapsed state. Majority were anaemic. Surprisingly, pain was a feature in 7% only, 25% had noted cessation of labour pains and history of vaginal bleeding could be obtained in 23. In 30 women, foetal parts were easily palpable and there was difficulty in palpation in 12 (Table II).

TABLE II
Clinical Features

Clinical features	No. of cases
Collapse	16
Pain	7
Cessation of contractions	25
Vaginal bleeding	23
Distension of abdomen	11
Tenderness	14
Foetal parts easily palpable	30
Foetal parts palpable with difficulty	12
Vomiting and constipation	5

7. Management: All patients except 2 had laparotomy. Most of our patients were anaemic and blood had to be transfused in all depending upon the availability and requirement. In 90% general anaesthesia was administered, whereas in 8 procedure was carried out under local anaesthesia.

Depending upon number of living children, condition of patient, site and extent of rupture and presence of sepsis, operative procedure was decided (Table III). Hysterectomy was carried out in 65% and repair of rent in 33%. In 2 patients no surgery could be undertaken as 1 died within 15 minutes of admission and second patient died of cardiac arrest during craniotomy under anaesthesia and rup-

TABLE III
Operative Procedures and Mortality

Surgery	No.	%age	Deaths	
			No.	%age
Total hysterectomy	16	16	2	12.5
Subtotal hysterectomy	49	49	9	18.2
Repair	17	17	4	23.5
Repair with tubal ligation	16	16	1	6.5
No treatment	2	2	2	100.0
Total:	100	100	18	18

ture was diagnosed on postmortem exploration.

8. *Maternal Morbidity and Mortality:* We lost 18 of our patients, although 2 died before laparotomy could be done. Seven patients who came in collapsed state did not recover. 5 died of septicaemia and 2 due to postpartum hemorrhage. Anaesthetic complications proved fatal in 2 cases. Our mortality for hysterectomy group was (16.92%) almost same as for the repair series (15.15%). In the present study, in 7% postoperative period was uneventful, whereas 75% had complications. Majority (43%) had urinary tract infection and 9% developed vesicovaginal fistula. One patient had hemorrhage for which internal iliac artery had to be ligated 3 hours after the first operation of subtotal hysterectomy. Postoperative distension (12%), wound infection (18%), thrombophlebitis (7%), extraperitoneal hematoma and cellulitis (2%), chest infection (7%) and faecal fistula (1%) were the other complications encountered.

Foetal Mortality: We had 6 live-born babies in the present series, 3 being from caesarean section scar rupture and 3 were from spontaneous rupture of unscarred uterus. In both the groups, rupture was complete in 2 and incomplete in 1 patient.

One live born 8½ lbs baby unfortunately died of aspiration after 1 day.

Comments

Incidence of rupture uterus (1:57) is very high as compared to most Indian series. This hospital is the only one in Haryana State that caters most of the referred cases of obstructed labour, who reach either with impending rupture or after rupture has actually occurred.

Mean parity (3.8) is almost same (3.5) as reported by Oomachigui *et al* (1979). Scar rupture constituted 12% of our cases, whereas majority (88%) were unscarred uteri. A higher rate of scar rupture (18.9 to 58.5%) has been reported (Delfs and Eastman, 1945, 18.9%; Menon, 1962, 31.7), although Oomachigui *et al* (1979) encountered 6.45% scar ruptures out of 124 cases. In 29% rupture could be attributed to trauma. Oxytocics are still being used indiscriminately, a factor observed in 11% of our cases. One should be extremely careful in carrying out procedures like internal version as rupture was associated/caused in 11% of the cases. Routine exploration of uterus after such procedures should be carried out for early detection and management of these cases.

Hysterectomy (65%) was carried out

more often than repair of the rent (33%) in the present series, as invariably our patients came after manipulations in an infected state with poor general condition and margins of the rupture being irregular, ragged and necrosed. The mortality was almost same with the two procedures, although some workers have reported a lower mortality with hysterectomy (Oomachigui, 1979), whereas others have found a lower mortality with repair of the rent (Mennon, 1962; Sheth, 1968).

Our maternal mortality rate (18%) for rupture uterus is in accord with 17.07% and 20.5% reported by Mennon (1962) and Sikand *et al* (1966). In the present study, there was no mortality in scar rupture cases. Sikand *et al* (1966) were able to save 23.4% babies and Krishna Mennon reported foetal salvage rate of 4.3%. We had 6% liveborn babies.

Summary

One hundred cases of rupture uterus amongst 5683 deliveries were encountered at Medical College and Hospital, Rohtak (Haryana) giving an incidence of 1 in 57.

We had 59 cases of spontaneous rupture. In 29% rupture was due to trauma and 12% were previous caesarian scar rupture. Hysterectomy was done in 65% cases, subtotal 49%, total 16%. Repair

was carried out in 17% and repair of rent along with tubal ligation in 16%.

Maternal mortality was 18%, 16.92% for hysterectomy group and 15.15 for repair group. 7% cases who came in collapsed condition did not recover whereas 5% died of septicaemia. Postpartum hemorrhage (2%) anaesthetic complications (2%) were other factors responsible for mortality. Two died before laparotomy could be undertaken.

Foetal mortality was 94%, 6% being liveborn.

References

1. Delfs, E. and Eastman, N. J.: J. Canad. Med. Assn. 52: 376, 1945.
2. Greenhill, J. P.: Yearbook of Obstet. Gynec. 1961-62 page 237.
3. Mennon, M. K. K.: J. Obstet. Gynec. Brit. C'wlth. 69: 18, 1962.
4. Oomachigui, A. Prabhavathi, R. Gilbert, B. and Nayak, P. N.: J. Obstet. Gynec. India. 29: 148, 1979.
5. Patel, D. and Parikh, M. N.: J. Obstet. Gynec. India. 11: 74, 1960.
6. Rendle-Short, C. W.: Am. J. Obstet. Gynec. 79: 1114, 1960. 1
7. Sheth, S. S.: J. Obstet. Gynec. Brit. C'wlth. 75: 55, 1968.
8. Sikand, S., Mirchandani, J. J. and Qadeer, S.: J. Obstet. Gynec. 16: 506, 1966.
9. Swami, N. and Patel, T. V.: J. Obstet. Gynec. India. 11: 63, 1960.