

**A RETROSPECTIVE STUDY OF RUPTURE UTERUS
AT PATNA MEDICAL COLLEGE HOSPITAL
DURING FIVE YEARS PERIOD 1978-1982**

by

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SUMMARY

(1) The incidence of rupture uterus at Patna Medical College Hospital shows a gradual decline from 1:272 (1955-59) and 1:276 (1967-65) to 1:369 (1958-82).

(2) Spontaneous rupture occurred in 50.42 per cent, traumatic in 23.07 per cent and scar rupture in 26.49 per cent.

(3) The incidence of scar rupture has increased from 10.6 per cent (Singh, 1967) to 23.9 per cent (present series) whereas the incidence of traumatic rupture has come down from 29.5 per cent (Singh, 1967) to 18.8 (present series).

(4) Hysterectomy was done in 62.3 per cent and rent repair in 37.6 per cent cases.

(5) Maternal mortality was 17.9 per cent.

The type of surgical procedure did not affect the maternal mortality. It was the degree of infection and general condition of the patient at the time of surgery that affected the maternal mortality.

Introduction

Rupture uterus is one of the most serious complications of obstetrics. Though its incidence has considerably gone down, the same is not true in our part of the country. Its incidence at a particular institution largely reflects the antenatal and intranatal care prevailing in that area.

The present study is a review of 117 cases of rupture uterus which were treat-

ed in the Department of Obstetrics and Gynaecology of Patna Medical College Hospital from January, 1978 to December, 1982. During this five years period of our study 43,325 deliveries occurred giving the incidence of rupture uterus as 1:369.

Age: The age of the patients varied from 19 to 38 years, majority belonging to the age group of 20-30 years which is probably due to high fertility rate of that particular group.

Parity: The mean parity of the patients of rupture uterus was 3.6. One patient

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was para 0 + 1 and the patients with maximum parity were para 9.

Causes of Rupture

Table I analyses the aetiological factors responsible for rupture uterus in these patients. As evident more than 50 per cent had spontaneous rupture, 23.07 per cent had traumatic rupture, 26.49 per cent had rupture of previous scar of the uterus. C.P.D. was the single most common causative factor, followed by rupture of previous LSCS scar (19.65%). The third most common cause in the series was injudicious use of oxytocics (14.53%).

Injudicious use of oxytocics needs special mention in the traumatic group. In 3 cases I.M. syntocinon had been administered by midwives in the periphery. This seems to be a common rural practice in our part of the country where the accoucheur often administers I.M. oxytocin to hasten delivery. In one case of missed abortion with previous C.S. scar who had 16 weeks size uterus and was given I.V. syntocinon drip, the scar ruptured before any evidence of cervical dilatation. At laparotomy the scar was found to be in the upper segment. In another case who

was second gravida (Para 0 + 1) syntocinon drip was given by titration method for induction of labour under medical supervision. A limb was found to be felt superficial following established contractions, rupture was suspected and laparotomy confirmed a fundal scar rupture with a prolapsed limb. An alive baby was delivered due to early detection and quick management.

Pathological Anatomy

Of the 117 cases of rupture uterus, 101 (86.32%) had complete rupture and 16 (13.67%) had incomplete rupture. Transverse tear of the anterior wall often with lateral extension to involve the broad ligament was the commonest variety. Bladder was involved in the rupture in 7 (5.98%) cases. In one case of traumatic rupture where evisceration had been attempted at a peripheral hospital, the pelvic colon was damaged.

Clinical Diagnosis

Complete rupture gave the classical signs and symptoms. A history of prolonged obstructed labour together with evidence of C.P.D. or malpresentation was the commonest factor in spontaneous

TABLE I
Aetiology of Rupture Uterus

Causative factors	No. of cases	Percentage of cases
I. Spontaneous:	59	50.42
1. C.P.D.	37	31.62
2. Malpresentation	15	12.82
3. Multiparity	7	5.98
II. Traumatic:	27	23.07
1. Following obstetrical manoeuvre	10	8.54
2. Injudicious use of oxytocics	17	14.53
III. Scar rupture	31	26.49
1. Previous LSCS	23	19.65
2. Previous USCS	6	5.12
3. Healed scar of previous perforation at D & C or D & E	2	1.7

TABLE II
Site of Rupture

Site of rupture	No. of cases	Percentage
Fundus	3	2.56
Upper segment	7	5.98
Lower segment	107	91.45
(a) Anterior with or without extension to broad ligament	80	68.36
(b) Posterior with or without extension to broad ligament	9	7.69
(c) Extending to cervix and vault of vagina	11	9.4
(w) Extending to involve bladder	7	5.98

rupture. Where the uterus threatens to rupture it is often in a state of tonic retraction with thinned out lower segment and a rising Bandl's ring. The mother is exhausted and the foetus usually dead. When complete rupture takes place she goes into a state of shock often with unrecordable low level of blood pressure and thready pulse. Vaginal bleeding of varying degree is present. The foetus becomes palpable per abdomen and the contracted uterus can be felt as a separate mass. A fluid thrill can at times be elicited. If the patient survives shock and haemorrhage, at a later stage distension of abdomen and peritonitis sets in leading to death, if not properly managed.

Incomplete ruptures give considerable difficulty in diagnosis. The possibility of incomplete rupture should always be kept in mind in all cases of prolonged obstructed labour. If vaginal delivery is effected in these cases and delivery is accompani-

ed by signs of collapse and excessive vaginal bleeding, exploration of the uterus for any tear must be done as a routine.

Management

Once the diagnosis was made the management consisted of resuscitation and immediate laparotomy. The prognosis is rendered unfavourable if one waits too long as by that time abdominal distension due to peritonitis takes place.

The type of surgery was decided only at laparotomy depending upon the following factors:

- (1) Type and extent, of tear.
- (2) Degree of infection.
- (3) Parity of patient.

Rent repair was done in 44 (37.6%) cases where rupture was not extensive and repair seemed feasible. In patients who had not completed their family (17 cases i.e. 14.53%) great efforts were taken to conserve her uterus. In cases

TABLE III
Surgical Management

Operative procedure	No. of cases	Percentage
Rent repair:	44	37.6
(a) with ligation	27	23.07
(b) without ligation	17	14.53
Sub-total hysterectomy:	73	62.39
Bladder repair	7	5.98
Surgery on the gut	1	0.85

with severe degree of infection or with extensive tear sub-total hysterectomy through the tear (73/117 i.e. 62.39%) was the operation of choice.

Special care was taken to look for associated vaginal tears and stitch up the torn edges. The uterine blood vessels in the lateral tears were identified and ligated. Every effort was made to get complete haemostasis during surgery.

If bladder was injured (7 i.e. 98%) it was repaired by standard technique in three layers. In 1 case (0.85%) of traumatic rupture colostomy had to be done as pelvic colon was found to be damaged. In infected cases a corrugated rubber drain was inserted which was removed at the end of 48 to 72 hours when soakage from the drain ceased.

Indwelling catheter was put in all the cases. It was removed after 48 hours when the bladder was not damaged. In cases of bladder injury or in cases where obstructed labour resulted in rupture uterus indwelling catheter was removed only on 14th post-operative day. Higher antibiotic coverage including metronidazole I.V. was given to all patients.

Complications

In the post-operative period there was a high incidence of paralytic ileus (24/

117), peritonitis (19/117) and wound infection (27/117). Febrile recovery and U.T.I. were also commonly seen. One case having severe infection had burst abdomen and secondary suture had to be given. Urinary fistula and tubo-ovarian mass were late complications which occurred in 2 cases each.

Maternal mortality: Twenty-one out of 117 cases (17.9%) died. The main causes of death were haemorrhage, shock and sepsis.

Perinatal mortality: It was 96.4 per cent (113/117 cases).

Discussion

Incidence varying from 1.4466 (Biram, 1957) to 1.93 (Rendleshort, 1962) had been reported in the world literature.

In our institution the incidence of rupture uterus has considerably decreased from 1:212 (as reported by Singh, 1967) to 1:369 (Present series).

The average parity of 3.6 is lower than that reported by Menon (1962) and Gogoi (1971) who have reported average parity of 4.7 and 4.9 respectively. The lower parity of the present series may be due to higher incidence of scar rupture.

The aetiological factors in the present series are similar to those reported by Menon (1962). The incidence of scar

TABLE IV
Post-operative Complications

Complications	No. of cases	Percentage
1. Paralytic ileus	24	20.51
2. High temperature	42	35.89
3. Peritonitis	19	16.23
4. Haematuria	1	0.85
5. Urinary tract infection	39	33.33
6. Burst abdomen	1	0.85
7. Wound sepsis	27	23.07
8. Parietal haematoma	1	0.85
9. Tubo-ovarian mass	2	1.71
10. V.V.F./Urinary Fistula	2	1.71

rupture in our series is higher than that reported by other Indian authors which is due to the higher incidence of L.S.C.S. now being performed. The clinical picture depends upon the site and type of rupture and it varies from no symptom to complete collapse. Classical clinical picture was present in 78 per cent of our cases. Incomplete rupture is more difficult to diagnose. It may present as accidental haemorrhage or as occult rupture. To diagnose such a condition, one has to be "rupture uterus minded".

Transverse tear of anterior wall with lateral extension was the commonest variety in the cases of sponaneous rupture in our series. Similar observations have been made by Patel and Parikh (1960), and Ambeye and Vaidya (1982).

Maternal mortality of our series is 17.94 per cent which is higher than the corrected maternal mortality of 10.6 per cent reported by Menon (1962).

Perinatal mortality of 96.4 per cent in our series is similar to that reported by

Ambeye and Vaidya 95.7 per cent. Early diagnosis and quick laparotomy saved the baby in four cases where rupture occurred in our hospital during labour.

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