

A TWO YEAR CLINICAL STUDY OF RUPTURE OF UTERUS IN VANI VILAS HOSPITAL OF BANGALORE MEDICAL COLLEGE, BANGALORE

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SUMMARY

Forty two cases of ruptured uterus were treated during two year period from March 1987 to February 1989, at Vani Valas Hospital, Bangalore. The incidence was 1 in 343. 88% of patients belonged to low income group, 78.57% were unbooked cases and 95.24% were emergency admission.

78.57% of patients were in the age group of 21-35 years and in 46.62% cases, uterus had ruptured during second delivery. Two cases of primigravida had ruptured their uterus. 85.70% uterine rupture occurred during labour and 14.30% occurred during pregnancy. Aetiological factors were spontaneous in 41.62%, scar rupture in 30.95% and traumatic in 21.43%.

In 50% of cases, hysterectomy was performed and in 47.12% of cases repair of rent was done. One patient died before surgical management. There were 4 maternal deaths in this series. Maternal mortality rate was 9.52% (lowest when compared with other authors), 7.14% among those in whom hysterectomy was done and nil in whom repair of rent was done. Fetal mortality rate was 71.43%.

Introduction

Rupture of uterus still remains as one of the most serious obstetric complications and continues to claim a high maternal and fetal mortality in our country. Though the government is spending enormous amount of its budget in the form

of mass media programmes, training increased number of paramedical staff and constructing number of primary health units, the vulnerable mass at the grass root level is not able to utilize health services. The reasons are multifactorial, namely poverty, illiteracy and ignorance. It is our aim to analyse and find out the ways and means to reduce the mortality and morbidity attributed to this complication.

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Material and Methods

Cases of uterine rupture treated at our hospital during the two year period from march 1987 to February 1989 have been analysed. There were 42 cases of rupture of uterus amongst 14,426 deliveries (Table VII) During the above period, giving an incidence of 1 in 343 deliveries. Incidences varying from 1 in 93 (Rendle Shorts 1960) to in 18,308 (Lalos Othan et al. 1977) have been reported in the world literature. A comparative table of incidence of rupture uterus quoted by various authors is listed below.

The present series occupies the 10th place as per the Table I. The incidence in our institution continues to be high when compared to that of major cities like Bombay, Madras and Calcutta etc.

Incidence of age

The maximum number of rupture uterus were seen between the ages 21-35 years. It was rare in the extremities of the reproductive age group. The obvious relation of uterine rupture to age is due to the higher fertility rate of that particular age group (Table II).

TABLE - I
INCIDENCE OF RUPTURE OF UTERUS IN SOME OF THE MAJOR CITIES OF INDIA

Sl. No.	Author	Place	Period of study	Incidence
1.	Subhadradevi	Vizag	1960 - 62	1 in 614
2.	Das Gupta	Calcutta	1950 - 53	1 in 1800
3.	Swami & Patel	Baroda	1953 - 59	1 in 200
4.	Shastrakar	Nagpur	1952 - 60	1 in 256
5.	Menon	Madras	1953 - 59	1 in 415
6.	Trivedi et al.	Baroda	1951 - 65	1 in 163
7.	Sheth S.S.	Bombay	1952 - 63	1 in 1180
8.	Paranjyothi and Sumathy	Vellore	1953 - 67	1 in 314
9.	Devatala Singh	Patna	1955 - 59	1 in 212
10.	Narayana Rao	Kurnool	1958 - 63	1 in 139
11.	Prabhavati & Mukherjee	Assam	1960 - 69	1 in 167
12.	Indira Devi & Sathyabhama Reddy	Vizag	1964 - 71	1 in 270
13.	Goswami B.K. & Goswami B.	Calcutta	1973 - 76	1 in 580
14.	Nirmala et al.	Tanjavoor	1976 - 80	1 in 172
15.	Jyoti Sinha & Shanthi Roy	Patna	1978 - 82	1 in 369
16.	Present Series	Bangalore	1987 - 89	1 in 343

TABLE - II
AGE INCIDENCE

Age in years	No. of cases
Between 15 - 20	6
Between 21 - 25	15
Between 26 - 30	14
Between 31 - 35	4
Between 36 - 40	2
Above - 40	1

Of the 42 cases 6 were below the age of 20 years and the rest above 20, thus giving the ratio of 1:7 between the younger and the relatively older patients.

Parity

Table III gives the incidence of parity. 47.62% (20 cases) of ruptures occurred in women in their second pregnancy. 23.81% (10 cases) occurred in the third pregnancy. In 4.76% (2 cases) the rupture occurred in the primigravida. In 19% (8 cases) the ruptures occurred in those of who have borne four or more children.

TABLE - III
INCIDENCE OF PARITY

Parity	Number of cases	Percentage
0	2	4.76
1	20	47.62
2	10	23.81
3	2	4.76
4	6	14.29
5 & above	2	4.76

In 95.24% (40 cases) of our series were emergency admissions among which 78.57% (30 cases) were unbooked and 16.66% (7 cases) were booked cases. Among the unbooked cases 45.5% were referred from peripheral institutions in whom the

uterus had ruptured already or in the process of rupture and admitted in a moribund state.

Etiology

It is customary to classify the etiological factors into spontaneous, traumatic and rupture of previous scar. Etiology of ruptures of uterus is fast changing from cephalopelvic disproportion and misuse of oxytocics to a previously damaged uterus.

Spontaneous	20 cases	47.62%
Traumatic	9 cases	21.43%
Scar rupture	13 cases	30.95%

In the present series, spontaneous ruptures occurring during labour is usually as a result of prolonged and obstructed labour. The causes of obstruction may vary. In 85% of cases, the rupture had occurred outside the hospital and in 15% of cases rupture had occurred inside the hospital.

The present study shows that malpresentation was commonest cause of spontaneous rupture, comprising 50% (10 cases) - a case of occipito posterior presentation, 3 cases of brow presentation and 6 cases of neglected shoulder presentation. The incidence of spontaneous rupture due to contracted pelvis is dying down as those cases would be identified earlier and would be taken for caesarean section. In 4 cases, hydrocephalus was the cause of rupture. In 7 cases grand multiparity was the cause. In 4 cases grand multiparity was co-existing factor in causing rupture along with the other etiological factors. In 2 cases there was history of previous dilatation and curettage as a method of induced abortion (Table IV).

TABLE - IV

<i>Etiology</i>	<i>No. of cases</i>
Contracted pelvis	1
Hydrocephalous	4
Neglected shoulder presentation	6
Brow presentation	3
Occipito posterior presentation	1
Grand multipara	7
Previous H/o of D & C/induced abortion	2
Placenta percreta	1

Weight of baby among the cases of spontaneous rupture

Out of the 20 cases in 10, the fetal size was more than average, in 6, the fetal size was average and in 4 below average.

Traumatic Rupture

There were 9 cases of rupture of uterus attributable to trauma in our series comprising 21.43% of the total ruptures. Etiological factors were destructive operations, injudicious application of forceps, misuse of oxytocics, therapeutic dosage of prostaglandins (Asha and Rathnamma, 1988) and internal podalic version.

Scar Rupture

Scar rupture accounted for 30.9% (13 cases) of the total ruptures. In all the 13 cases there was previous history of one or two emergency LSCS operations done for various obstetric indications. In 9 cases there was complete rupture of uterus, in 3 cases there was incomplete rupture of uterus and in one case there was scar dehiscence. The fetal outcome in scar ruptures was 38.5% still births and 61.5% live births.

In 8 cases, rupture had occurred prior to the admission to hospital. In 5 cases, the rupture had occurred after admission to hospital pending the time for formalities of the admission, preparation for surgery. In those 8 cases where rupture had occurred outside the hospital, there were 5 still births and 3 live births. In the present series the percentage of lower segment scar rupture is 0.64%. The incidence of scar rupture is 1 in 156.

Clinical features

Many of the patients came for admission to hospital in a state of varying degrees of shock. The commonest clinical features apart from shock were abdominal tenderness, prolonged labour, loss of fetal movements, palpable superficial fetal parts. Rare clinical features were vaginal bleeding, haematuria, suprapubic bulge, distention of abdomen, shoulder pain and epigastric pain. Duration of labour was more than 12 hours in 21 cases and more than 24 hours in 9 cases. In 21 cases duration of labour was less than 12 hours.

Treatment

All 41 cases were treated surgically. Hysterectomy performed in 21 cases - total hysterectomy in 2 cases, subtotal hysterectomy with or without salpingo-oophorectomy in 19 cases. In 20 cases repair of rent was carried out. Of which in 10 cases sterilisation was carried out simultaneously. One case died before active surgical management.

Maternal mortality rate

In our series mortality rate of cases treated by repair of rent was nil and in cases treated by hysterectomy it was 7.14%. Out of 42 cases, 4 died (9.52%). The cause of death in two were due to peripheral

circulatory failure, and one due to anaesthetic complication. Another died of septicemia.

Blood transfusion

Blood transfusion was given to 34 patients. The amount varied from one to four units as per Table V.

TABLE - V

Number of bottles	Number of cases
Nil	7 + 1*
1	12
2	18
3	3
4	1

* Patient died before active management.

Anaesthesia

Out of 42 cases, 41 cases were treated surgically out of which general anaesthesia was given in 78.57% (33 cases) patients and spinal anaesthesia was given in 19.05% (8 cases) patients. One patient died before operation. In none local anaesthesia or epidural anaesthesia was employed. The advanced technique of anaesthesia has changed the outcome of surgery, only one patient died of anaesthetic complication.

Maternal Morbidity

Post operative complication occurred in 66.66% ranging from wound sepsis to death. 33.33% of patients had uneventful recovery. More than one complication was present in some of the cases. The commonest complication was wound sepsis.

Fetal Mortality

In the present series there were 30 still births and 12 live births giving the

fetal mortality rate as 71.40% as shown in Table VI.

TABLE - VI

Fetal Mortality	Number cases	Percentage
Dead born	8	19.00
Still born	22	52.40
Live born	12	28.60

Conclusion

The cause of uterine rupture was largely due to lack of proper antenatal, intranatal and postnatal care secondary to poverty, illiteracy and ignorance on the part of patients and patients attendents and lack of transportation facilities.

One should be rupture uterus minded. Early diagnosis and active surgical management would be the key point in reducing the maternal and fetal mortality rates.

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Conclusion

The cause of uterine rupture is largely due to lack of proper antenatal supervision and obstetrical care especially during the third and fourth trimester. The high incidence of uterine rupture is due to the high incidence of multiple pregnancies, especially twins, and to the high incidence of obstructed labour.

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