

# STUDY OF UTERINE RUPTURE IN A MOFFUSIL MEDICAL COLLEGE HOSPITAL

by

A. V. K. NIRMALA,\* M.D., D.G.O.  
R. VIJAYA,\*\* M.D., D.G.O., F.I.C.S.

and

BHARANI,\*\*\* M.B.,B.S.

## Introduction

In modern obstetrics, rupture of the uterus at once suggests a badly managed labour. But in a mofussil Medical College Hospital like ours catering to all referred cases, it is not rare but a frequent occurrence. The commonest cause of rupture was prolonged obstructed labour and trauma. Efficient antenatal and intranatal care can almost eradicate this dreadful complication. Unfortunately this is not known to the local midwife in this part of the country.

Our conditions are entirely different. Even in this era of jets and rockets, the women are brought into the hospital from miles away in a bullock cart or other slow moving vehicles, hours after rupture had occurred, in a state of shock. Hence, rupture uterus is still a life threatening problem for us.

## Materials

All cases of rupture uterus admitted during the 3 years period from 1975-1977 in the Government Raja Mirasdar Hospi-

tal attached to Thanjavur Medical College, Thanjavur, were studied in detail in relation to their various factors. There were 104 cases of rupture uterus during this period.

## Incidence

During this three years period there were 104 cases of rupture uterus among 14,608 deliveries giving an incidence of one in 102. Table I shows the comparative incidence of the other mofussil Medical College hospitals in Tamil Nadu state, for the year 1977 only. The incidence at Thanjavur was much less than the other mofussil teaching hospital. (Table I).

TABLE I  
Comparison of Incidence

Place	Total No. of deliveries	No. of rupture	Incidence
Madurai	7550	73	1 in 130
Tirunelveli	2044	31	1 in 66
Thanjavur	4826	27	1 in 178

## Place of Occurrence

About 80% of our cases were unbooked. There were 93 cases of rupture in an intact uterus out of 104 cases. Eleven were in the scarred uterus. Fifteen out of 93 cases of rupture in an intact uterus occurred in the hospital and 4 out of 11

\*Assistant Professor.

\*\*Professor and Head.

Department of Obstetrics and Gynaecology,  
Thanjavur Medical College, Thanjavur, Tamil Nadu.

\*\*\*Senior House Officer.

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cases of rupture of the scarred uterus occurred in the hospital. The reason is discussed later.

#### Age and Parity Distribution

The age ranged from 20 to 40 years but, 26 to 30 year group is the commonest age in our series.

Maximum incidence was in the para II that is the third pregnancy. Five cases of rupture uterus occurred in the first pregnancy. 86.5% rupture occurred in the less parous women. Although grand multipara is an accepted cause for rupture, only 13.5% of rupture uterus occurred in grand multiparous women in our series. (Table II).

#### Etiology

It is a good old custom to classify the etiological factors into spontaneous, traumatic and rupture of previous scar.

Spontaneous	83 cases	79.5%
Traumatic	10 cases	9.9%
Rupture of previous scar	11 cases	10.6%

#### Spontaneous Rupture

In modern practice, most ruptures of the intact uterus or unscarred uterus in labour are of the spontaneous type. It is mainly due to prolonged obstructed labour. The cause of prolonged obstruction may vary and given in the Table III.

TABLE II  
Age and Parity

Age group	Parity									Total	
	0	I	II	III	IV	V	VI	VII	VIII		IX
20-25	3	9	7	1	1	-	-	-	-	-	21
26-30	2	13	21	8	7	5	1	1	-	-	58
31-35	-	2	5	5	4	2	-	-	1	-	19
36-40	-	-	-	-	2	2	-	-	1	1	6
Total	5	24	33	14	14	9	1	1	2	1	104
	90 cases 86.5% Less Parous					14 cases 13.5% Grand Multiparous					

TABLE III  
Causes of Spontaneous Rupture

Cause	Total No. of cases	Outside	Hospital
CPD and contracted pelvis	6	6	-
Hydrocephalous	2	2	-
Neglected shoulder presentation	10	10	-
Brow presentation	2	2	-
Compound presentation	1	1	-
Grand multipara	9	8	1
Prolonged labour	15	9	6
Previous D and C and induced abortion	3	2	1
Previous manual removal of placenta	2	2	-
Unknown	33	33	-
Total	83	75	8

Seventy-five out of 83 cases rupture occurred outside. The rest occurred in the hospital, in 4 cases, even though rupture had occurred in the hospital, they were actually admitted as threatened rupture which gave way while waiting for caesarean section. There were 2 cases of silent rupture, 1 at the eighth month, misdiagnosed as secondary abdominal pregnancy, but later proved to be rupture on laparotomy. The other case of silent rupture occurred at full term diagnosed first as accidental haemorrhage and as lateral rupture at caesarean section. The rest of the 2 were due to prolonged labour of probably missed CPD.

#### Traumatic Rupture

Traumatic rupture of the uterus is fortunately becoming rare. The majority are attributed to instrumental delivery or intrauterine manipulation or pitocin drips. Ten cases of traumatic rupture occurred in this series giving an incidence of 9.9%. The type of trauma in them shown in the Table IV.

TABLE IV  
Causes of Traumatic Rupture

Type of trauma	Hospital	Outside	Total
Forceps	2	2	4
Vacuum	1	-	1
Craniotomy	1	-	1
Pitocin drip	2	-	2
Manual removal of placenta	1	1	2
I.P. Version	-	-	-
	7	3	10

There were 2 cases of rupture due to pitocin drip, 1 as a result of concentrated drip given for intrauterine death and in another the drip was given for a short time only. Rupture was diagnosed as there was suprapubic tenderness.

#### Previous Scar Rupture

There were 11 cases of previous scar rupture, constituting 10.6% of total uterine rupture in this series. Out of 4 hospital cases of scarred uterine rupture, 2 were dehiscence of lower segment caesarean section scar, 1 is of classical caesarean section scar rupture, and the fourth one, an unbooked case, admitted with labour pains and membranes ruptured outside. Rupture occurred in the hospital while waiting for caesarean section (Table V).

TABLE V

	Hospital	Outside	Total
L.S.C.S.	3	6	9
Classical section	1	1	2
Other scars	-	-	-
	4	7	11

#### Duration of Labour

In about two third of the cases, the duration of labour was not known. Fifteen cases gave the history of prolonged labour. Five cases out of 15 had prolonged labour of more than 36 hours, and in 1 case it was 72 hours.

#### Site of Rupture

Majority of cases the rupture were in the lower uterine segment, next frequent being the left lateral tear with or without broad ligament hamatomas. There were 2 cases of fundal rupture, 2 of posterior wall rupture, 2 of anterior vertical tear (classical section scar) and 1 involving the bladder in this series.

#### Condition on Admission

The condition of the patients on admission varied from normal to varying degree of shock. In 4 cases, the patients were moribund, and died soon after admission. In 59 cases, the patients were in

shock of varying degree and in the remaining 41 cases, they were in good condition.

#### Management

Among 104 cases, 4 died soon after admission even before the start of the resuscitative measures. Hysterectomy was performed in 74 cases (total 18 and sub total 56). Out of 26 cases of rent repair, in 16 cases sterilization was done simultaneously. Either unilateral or bilateral salphingo-oophorectomy was performed along with hysterectomy in 11 cases.

#### Post Operative Complications and End Result

Postoperative complications occurred in 57%, ranging from wound sepsis to death, Table V. More than one complication was present in the same patient in some cases.

#### Mortality

Among 30 deaths out of 104, 4 died soon after admission. In the rest, the cause of death is shown in the Table VI. Shock

TABLE VI  
Complications

Complications	No. of cases	No. of death
1. Sepsis	30	3
2. Shock	59	10
3. Urinary infection	17	-
4. Uraemia	6	4
5. Thrombophlebitis	6	-
6. Paralytic Ileus & peritonitis	4	4
7. V.V.F.	4	-
8. Resp. complication	4	1
9. Burst abdomen	2	1
10. Hematomoesis	2	2
11. Fecal fistula	2	-
12. Jaundice	1	1

and irreversible shock was the major cause of death. Uraemia and paralytic

ileus was the second most common cause of death. In former years, infection was a significant factor in the mortality. Eventhough there were 30 cases of post-operative sepsis out of 100 cases the mortality among them was low.

During the period of study, the total maternal mortality was 11.5/1000 (168 cases of maternal death among 14,608 cases of delivery). Mortality due to rupture was 17.8% among the total mortality.

The foetal mortality was almost 100%.

#### Discussion

Instances of rupture following caesarean section and myomectomy are uncommon in developed countries and in our big cities, but not so in the mofussil. The incidence is 1 in 102 in the three years. The commonest age group is 26-30 years, similarly reported by several authors.

Grand multiparas is an accepted cause for spontaneous rupture. However, there are several reports in which rupture uterus has been observed in less parous women (Menon 1962; Rendle-short 1962; Keyer 1964; Sheth 1969). Rendle-short (1962) have observed that 2nd, 3rd and 4th pregnancies seemed to be most dangerous. We have similar results in this study. Third pregnancy is the commonest one similar to that of Keyer (1964). There were 5 cases of rupture in nulliparous women. Several other authors have also reported equal number of cases recently. (Palanichamy 1976; Asha and Nayak 1979). Menon (1962) reported 2 cases out of 164 cases in five years.

The distribution of spontaneous, traumatic and previous rupture were similar to that of older reports. (Rendle-short, 1962; Menon, 1962; Akashah, 1968; Mitra, 1973 and Asha and Nayak, 1979). Incid-

ence of traumatic ruptures is much reduced now, than in the older series. Menon 18.8%; Rendle-short 13.5%). Incidence in this study was 9.9%. This may be due to reduction in the destructive operations and manipulations.

There was a recent report of scar rupture in rural obstetric practice by Dutta (1979) and it constituted 8.11% of uterine rupture. In our series, which is also a similar set up, it was 10.6%.

Complete ruptures are easy to diagnose, while incomplete and threatened rupture give considerable difficulty in diagnosis. Thus there is possibility of rupture uterus occurring in the hospital during the waiting period.

—Even though our observations show that the mortality rate is lower in rent repair than in hysterectomy cases, the morbidity is high in the cases of rent repair. These cases had a very stormy post-operative period and required a longer stay in the hospital. The other authors quoted a better performance with hysterectomy (Prabhavathi and Mukerjee, 1963; Louson and Stewart, 1967; Mitra, 1973; and Asha *et al*, 1979).

The immediate post-operative mortality is high in cases of hysterectomy which have been performed in poor risk cases.

It is distressing to note so many mothers were lost due to rupture uterus. Expansion of obstetric care to the mothers in the remote villages will bring down this dreadful problem.

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