

RUPTURE UTERUS - A CLINICAL STUDY OF 70 CASES

JOYDEV MUKHERJEE ● JOYDEB ROYCHOWDHURY

SUMMARY

Seventy cases of Rupture uterus admitted at Eden Hospital, Calcutta Medical College, Calcutta during the period from October '88 to March '93 were critically analysed to find out incidence, aetiological factors, profile of maternal deaths and any preventable factors underlying them. Total number of deliveries during this period was 34,285 and maternal deaths was 383. Of the 70 cases of rupture uterus, 13 died. Obstructed labour accounted for 47% of rupture cases while scar rupture (40%) and traumatic rupture (10%) were also important.

INTRODUCTION

Rupture uterus is one of the worst complications in obstetric practice. It is responsible for 5-10% of all maternal deaths (Rao, 1932, Jayaram, 1992). Although majority of cases are preventable, the incidence of rupture uterus is not declining in developing countries. In India, incidence still ranges from 1 in 100 to 1 in 500 (Rao, 1992) whereas in developed countries, it varies from 1 in 1650 deliveries (Rodriguez, 1989) to 1 in 3000

deliveries (Rachagan, 1991).

MATERIALS & METHODS

70 cases of Ruptures uterus (excluding scar Dehiscence) were studied at Eden Hospital, Calcutta Medical College during the period from October 1988 to March, 1993.

OBSERVATIONS & ANALYSIS

70 cases of Ruptures uterus were found over the 4½ year period during which 34,285 deliveries occurred giving an incidence of 1 in 490.

Table 1 shows that 43% were booked

Dept. of Obs. & Gyn. NRS Medical College, Calcutta.

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Table 1
Observation & Analysis

	Socio-econ. Status		Antenatal Care		Area of Residence		Mode of Admission	
	Middle	Poor	Unbooked	Booked	Rural	Urban	Refd.	Direct
No. of Cases	27	43	40	30	47	53	51	19
Percentage	31	69	57	43	67	33	73	27

cases (3 or more antenatal visits) and middle class comprised 31%. Almost 2/3rd of patients were referred from outside hospitals.

Out of 70 cases, 52 (74%) had Rupture outside; but in 18 cases, rupture occurred after admission. Of the 52 cases with rupture outside, there was institutional delay in diagnosis of rupture in 15 case. Birth

of 19 macerated Stillbirths is a reflection of late diagnosis.

Table 2 shows commonest cause of Rupture was obstructed labour (47.1%) with scar rupture (40%) a close second. CPD was the commonest cause of obstructed labour. Every sixth case of scar rupture is a classical section rupture. Internal version heads the list of traumatic causes.

Table 2
Aetiological factors in Rupture uterus

Aetiological factors	No. of cases	Percentage
I. Obstructed labour (CPD - 19, Malpresentations-12, Hydrocephalus-2)	33	47.1
II. Scar Rupture (Lower segment C. S. -18, Classical-5, Previous MTP-5)	28	40
III. Traumatic (Int. version-3, Destructive Operation-2, Forceps-2)	7	10
IV. Spontaneous Rupture with no apparent cause	2	2.9

Table 3
Sites of Rupture

Sites of Rupture	No. of cases	Percentage
Upper Segment	14	20
Lower Segment		
a) Anterior Wall	51	72.8
b) Posterior Wall	3	4.3
Only lateral wall	2	2.9

Table IV

Aetiological Factors	Cases	Deaths	Mortality (%)
1. Scar Rupture	28	4	14.3
2. Obstructed Rupture	33	6	18
3. Traumatic	7	2	28.5
4. Spontaneous	2	1	50

Table 3 reveals 72.8% cases had rupture in Anterior wall of lower uterine segment whereas 20% cases had rupture in upper segment. Obstructed labour and Caesarean scar rupture both commonly involve the lower segment anteriorly.

13 maternal deaths in 70 cases of Rupture uterus gives a mortality of 18.5%. Of 383 maternal deaths over the 4 1/2 year period, 13 deaths (3.4%) were in rupture uterus cases. The mortality vis-a-vis aetiology of rupture is depicted in Table 4 which shows 4 out of 28 scar rupture cases died mainly due to delay in diagnosis. 3 cases

out of 4 scar rupture deaths had upper segment scars involved following previous history of MTP Perforation repair.

The treatment of rupture included 30 (43%) subtotal and 19(27%) total hysterectomies. Scar repair was done in 15 cases (21.4%) 6 patients (8.6%) died before laparotomy could be performed.

DISCUSSION

Incidence of Rupture uterus (including Dehiscence cases) from Eden Hospital, Calcutta over the period from 1949 to 1958 and 1977 to 1986 was 1 in 1375 and 1

in 720 (Sengupta et al 1991). The incidence of 1 in 490 in the present series which excludes scar dehiscence cases indicates a rising trend. Rao (1992) reported rupture incidence from Madurai over the periods (1960-'72) reported rupture incidence from Madurai over the periods (1960-'72) and (1983-'87) as 1 in 95 and 1 in 90 respectively.

Obstructed labour still stands out as the number one cause. The absolute number of obstructed labour rupture cases vis-a-vis total deliveries has gone up substantially in Eden Hospital. It was nearly 1 in 6999 in 1949-'58 and 1 in 2179 in 1977-'86. In our series, it was nearly 1 in 1039 deliveries.

The relative proportions of obstructed labour and scar rupture has shown an increase in the latter. Asha & Rathamma (1990) reports 31% scar rupture compared to 48% obstructed labour. Dhar et al, (1989) in a larger series, found spontaneous rupture mostly obstructed labour in 68%, Scar rupture in 21.4% and Traumatic rupture in 10.5% cases. Our figures of 47% obstructed labour, 40% scar Rupture (excluding dehiscence) & 10% traumatic ruptures show relatively increased scar ruptures.

Majority of rupture uterus cases are emergency admissions. Asha & Rathamma (1990) reported 95% emergency admissions. In our series, 73% were emergency admissions & 43% were booked cases reflecting a larger number of booked cases mostly Post Caesarean pregnancies.

symptoms and physical findings of rupture uterus may appear bizarre unless possibility of rupture uterus is kept in mind (Cunningham et al 1993). Delay in diagnosis was evident in 23% cases in our series.

Obstructed labour rupture most often involves the thinned out lower uterine segment anteriorly. In our series, lower segment rupture occurred in 54 cases, 3 of which involved the posterior wall. Posterior wall rupture in obstructed labour has been described by Donald (1979). Upper segment was involved in 5 cases of classical cs scar ruptures indicating that this operation is still not obsolete.

Treatment largely involves either hysterectomy (total or subtotal) or a repair of scar. Mokgokong & Marivate 1976 considered merits of Hysterectomy over repair of scar amongst 535 cases. Cunningham et al (1993) advocates total hysterectomy as the surgical procedure of choice, though transverse lower segment lacerations may be dealt adequately with repair of rent. In our series, 70% cases underwent Hysterectomy whereas 21% had repair of scar done.

Maternal mortality in rupture uterus cases varies from 8-15% (Rao, 1992). In our series, it was 18.5% but it excluded scar dehiscence cases. The largest mortality was understandably in obstructed labour cases but 4 deaths out of 28 scar rupture cases is also high. 3 of the 4 scar rupture deaths had upper segment following previous history of MTP & had delayed diagnosis. In Western countries, maternal mortality is rare following previous lower segment scar rupture (Rodriguez et al 1989). Menon (1989) reported maternal mortality of 5.6% following classical scar with none following lower segment scar rupture.

CONCLUSION

The present trend of high incidence and mortality for rupture uterus, a largely

preventable condition is a grim reality to be faced. Until such time that this accident can be prevented; establishment of First referral units' with facilities for laparotomy is the only way to bring down the mortality. Apart from improving transport and availability of blood, delay in diagnosis is a preventable factor that can be corrected only by better index of suspicion.

REFERENCES

1. Asha D. Rathnamma P., *J. Obstet. & Gynec. Ind* 40:223, 1990
2. Cunningham F.G., MacDonald P.C., Gant N.F., Leveno K.J., Gilstrap L. C.: *William's Obstetrics* 19th Edition, 1993, Pg 543., Appleton & Lange, Connecticut.
3. Dhar G. : *Postgraduate Obstetrics & Gynaecology* 4th Edition, 1989, Pg. 192, Orient Longman, Madras.
4. Donald I. *Practical Obstetric Problems*, 5th Edition, 1979, Pg 563, Lloyd Luke (Medical books) Ltd., London.
5. Jayaram K.V. : *J. of Obstet Gynae. of India* : 42; 781, 1992
6. Menon M.K.K., : *Post graduate Obstetrics & Gynaecology* 4th Edition, 1989, Pg. 1, Orient Longman, Madras.
7. Rachagan S. P., Raman S., Balasundram G, Balakrishnan S. : *Aug NZJ. Obstet Gynec* 31; 37, 1991.
8. Rao K. B., - *Obstetrics & Gynaecology for post Graduates* 1st Edition. 1992 Pg 127, Orient Longman, Madras
9. Rao K. B. , *Post Graduate Obstetrics & Gynaecology*, 2nd Edition, 1982, Pg. 126, Orient Longman, Madras.
10. Rodriguez, M. H., Masaki D.I., Phelan J. P., Diaz. F.G., : *Am. J. Obstet & Gynec.* : 161, 666, 1989.
11. Sengupta A., Haldar N., Kundu S., : *J Obstet & Gynec India*, 41; 627, 1991.-