RUPTURE UTERUS : A 10 YEARS REVIEW

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SUMMARY

A total of 145 cases of rupture uterus over a period of 10 year were reviewed from headquarters hospital, Bellary, from January 1986 to December 1995 to find out incidence, etiological factors, profile of maternal deaths and preventable, if any.

Total number of deliveries during this period was 26,442 and maternal death were 463, giving a maternal mortality rate of 1751 Out of 145 cases, 16 mothers died due to rupture uterus (11.03%) majority were between the age group of 26-30 (42 cases) 28.96% and 99.31% (144 cases) were emergency admissions, coming from both rural and urban areas.

Wound sepsis was the commonest post-operative morbidity and vvf was another grave complication.

INTRODUCTION

Rupture Uterus is the most dreaded complication in obstetric practic. Although the deaths can be preventable, the incidence is not declining in developing countries. This can be preventable at grass root level by identifying the high risk pregnancies and their timely referral Blood donation and good transport also play a vital role.

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MATERIALS AND METHODS

A retrospective analysis was carried out in headquaters hospital, Bellary from January 1986 to December 1995. A total 145 cases were critically analysed regarding etiological factors, site of rupture

and their management, morbidity and mortality.

OBSERVATIONS AND ANALYSIS

Associated injuries :

1 Broad ligament haemoatoma 12
2 Colporrhexis 5
3 Cervicaltear 2
4 Bladder injury 3

The etiology of rupture in primigravidas was CPD, breech, bicornuate uterus, obstructed labour and one case of hand prolapse.

In multiparas, commonest cause of

Table I

	Booked	Unbooked	Total	Urban	Rural	Total
Number of cases	1	144	145	37	108	145
Percentage	0.68	99.31	99.99	25.5	74.48	99.98

Majority of our patients were from rural areas and almost all patients were admitted as emergency including some from urban areas. There was only one booked case.

TABLE II
AGE DISTRIBUTION

Years	Number of cases	Percentage
15-20 years	22	15.17
21-25 years	40	28.96
26-30 years	42	27.58
31-35 years	31	21.37
36-40 years	09	06.20
41-45 years	01	00.68
Total	145	99.96

Majority were below the age of 30 years and maximum were between the age of 26-30 years : youngest patient was 18 years old; and oldest was 45 years.

TABLE III
PARITY

	Cases	Percentage
Primipara	04	02.75%
Multipara	61	42.06%
Grand multipara	80	55.17%
Total	145	99.98%

There were only 4 young primigravidas and 55.17% (80 cases) were grand multiparas. Amongst grand multies, 19 were gravida 6 and above, and the highest gravida was 9.

TABLE IV
GESTATIONAL AGE

Gestional age	Cases	Percentage
< 37 weeks	4	02.75
> 37 weeks	141	97.24
Total	145	99.99

The above table shows that matured babies were more than premature babies.

rupture was spontaneous rupture due to multipaity (20.68%) 30 cases, and CPD (28.27%) 41 cases. Amongst congenital malformation, only hydrocephalus was responsible. There was only one case of hydrocephalus with menigomycolocele. In malpresentation, hand prolapse (15), brow (3), face (1), breech (3) and posterior position (1) were responsible in that order.

There were totally 9 cases which were handled outside and they were given oxytocin intramuscularly. In one case, forceps was tried, patient had broad ligament haematoma and cervical tear. All referred from outside cases, except one, resulted in hysterectomy.

TABLE V
ETIOLOGY OF RUPTURE

Out of 145 cases, 4 were primigravidas and 114 multigravidas.

		Cases	Percentage
Spontaneous rupture		104	71.72
(a) CPD	41		
(b) Multiparity	30		
(c) Malpresentations	15		
(d) Congenital malformations	10		
Traumatic rupture		14	09.65
(a) Oxytocin	10		
(b) Obstetric manipulations	03		
(c) Direct trauma	01		
Scar rupture		27	18.62
(a) Previous LSCS	23		
(b) Classical section	03		
(c) Hysterotomy	01		
Total		145	99.99

One patient who was gravida 8 had a fall from a height which resulted in rupture both upper and lower segment.

There were 3 cases of obstetric manipulation. In two cases, craniotomy was done for hydrocephalus and brow presentation and evisceration for transverse lie. All of these patients ended in hysterectomy.

There were 3 cases of classical section and one case of hysterotomy, ended as rupture uterus. All of them had come with classical signs of rupture. 3 of them had ruptured uterus during labour and one during 8th month of pregnancy. Out of 4 cases, in 3 subtotal hysterectomy was done and in one repair with tubal ligation was done.

Only one patient died due to rupture before taking up the case for laparotomy, and this patient is excluded from the study. There were 3 cases of bladder injury, which were

TABLE VI

Type of rupture	Cases	Percentage
Complete	79	54.86
Incomplete	65	44.82
Total	144	99.68

Site of rupture

Site	Cases	Percentage
Upper segment	18	12.50
Lower segment	26	86.89
Total	144	99.39

Complete rupture is more and involvement of lower segment was also more as seen by Table 6. In a few cases, there was rupture of posterior wall of the uterus.

2 cases, who had parts outside were admitted as rupture uterus, showed rupture in lower segment at laparotomy.

seen in (1) forceps delivery, (2) rupture of bicornuate uterus, and in (3) hand prolapse. All the three were handled outside.

Broad ligament haematoma was seen in 12 cases along with previous LSCS in 2 and in others in spontaneous labour.

There were 23 cases of previous LSCS. The number is increasing because of increased indication of section. There was a delay in diagnosing in the institution a case of IUD with breech presentation who had previous 2 normal deliveries.

Colporrhexis was seen along with hand prolapse, forceps delivery (handled outside) and oxytocin (Im injection) in grandmulties. In only one case, repair was done and all others ended in hysterectomy.

Associated injuries :
Bladder 03
Vault 05

TABLE VII
MANAGEMENT OF RUPTURE

	Cases	Percentage
Rent repair with or without tubal ligation	46	31.94
Hysterectomy	98	68.75
Subtotal 69		
Total 29		
Total	144	100.69

Associated injuries :

Bladder 03
Vault 05

TABLE VIII
BABY WEIGHT

Weight	Cases	Percentage
<2 kgs.	4	02.75
2-3 kgs.	120	83.33
> 3 kgs.	21	14.50
Total	145	100.58

120 babies weighed between 2-3 kgs The highest weight was 4 kgs lowest weight was 1.5 kgs. There was another case with previous LSCS and twins, which also ended as rupture.

Number of hysterectomies done are more than the repair. Hysterectomy was done mostly in cases of rupture where edges were necrosed, friable and

TABLE IX

	Cases	Percentage
Live	11	07.58
Dead	128	88.88
Macerated	06	04.10
Total	145	100.56

Though one case was excluded from the study, the number of babies were 145 as one of the patient delivered twins. Out of 145 babies, only 11 babies could be saved where there was incomplete rupture and babies were in utero. All 6 macerated still born were seen where there was rupture in lower segment.

TABLE X

Sex	Cases	Percentage
Male	96	66.20
Female	49	34.02
Total	145	100.22

associated with broad ligament haematomas. All those handled outside, oxytocin induced, destructive operations done and rupture in the upper and posterior segment underwent hysterotomy, total or subtotal depending upon their general condition. Only one primipara underwent hysterectomy.

Rent repair was done whenever it was posible in both primigravida and multi with or without tubal ligation. Bladder repair was done in 3 cases. Rent in bicornuate uterus was repaired and simultaneously bladder was also repaired.

Totally 16 patients died due to rupture of uterus out of 145 cases. Leading cause of death were hypovolaemia and sepsis. Out of 3 cases of bladder repair, 2 resulted in V.V.F. One case had paralytic ileus. Many patients had long hospital stay for wound sepsis and urinary tract infection.

DISCUSSION

Incidence of rupture uterus is less in developed countries. The incidence is 2.3% in planned trial of labour in LSCS (Chaur Dong et al 1992) and 1:1650 in normal deliveries (Rodriguez et al, 1989).

In India, it is 1:244 (Naik, et al 1996) and 1:470 (Mukharjee et al 1995). In the present series, it is 1:157.

Almost all (99%) of our patients were emergency admissions which correlates with the findings Asha et al (1990). Late admission of previous LSCS and grand multies was for the fear of operation and tubectomy. Spontaneous rupture (72.62%) is more in grand multiparas as compared to scar rupture (18.62%) as grand multies were more than previous LSCS in the present series.

There was no delay in diagnosing rupture uterus as most patients were admitted with classical book description. Spontaneous rupture most often involves the thinned out lower segment in prolonged obstructed labour, especially in grand multiparas. Incidence of scar rupture is in 18.62% in our series as compared to 31% (Asha et al 1990) and 21.4% Dhar (1989). Traumatic rupture is 9.65% in our series. Colporrhexis, cervical tear, rupture of bladder and extension of broad ligament haematoma were seen in patients who were handled outside except in 3 cases of previous LSCS. The damage done to the patient was directly proportional to the distance away from the hospital where untrained persons play a major role in obstetrics and they were responsible for hysterectomy.

Premature babies (2.75%) and very small babies (2.08%) also contributed by presenting in transverse position. Most of the patients had rupture in last trimester of pregnancy either due to scar rupture or due to intramuscular oxytocin.

Incidence of hysterectomy is 68.75% in the present series as compared to 70% (Mukherjee et al 1995) and 57.14% (Naik, et al. 1996). Involvement of upper segment, posterior rupture in thinned out uterus in obstructed labour ended in hysterectomy. Previous history of MTP also contributes, especially in grand multies.

Rupture in 3 cases of destructive operation is an eye-opener for novice to curb his/her enthusiasm, to control his emotions to do the operation but to cure the patient.

Maternal mortality in rupture uterus in the present series is 11.03% as compared to 8.33% (Naik, et al 1996) and 18.5% (Mukharjee et al 1995).

Hypovolaemia due to blood loss and sepsis were the leading cause of death. The highest mortality was seen in grand multies due to obstructed labour. Loss of previous children due to poverty leads insecurity to the mother to produce more and more children. Malnourished grand multi feels secure in untrained personnel as there is no operative intervention. Pregnancy is considered only fruitful when the male babies are born to them.

CONCLUSION

The present trend of high incidence of rupture uterus and mortality is preventable, though an unpleasant reality to be faced.

Ignorance for blood donation, insecurity for small family, under-developed, malnourished physic of the woman make her prey for rupture uterus. Childhood marriage due to poverty, illiteracy, ignorance and desire to have a male baby forces the woman to ascend to the throne of great grand multiparity.

Untrained personnel play a major role in contributing morbidity and mortality. A high degree of suspicion for rupture, utmost care during destructive operation, judicious use of oxytocin is necessary.

Apart from transport facilities, training at grassroot level to identify high risk patient and also to educate them about hygiene, small but healthy family and removing fear for operation, blood donation and tubectomy play a pivotal role in reducing mortality and morbidity.

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