

A CLINICAL STUDY ON RUPTURE UTERUS

by

B. K. GOSWAMI,* D.G.O., M.S. (Cal.)

and

BEJOYLAKSHMI GOSWAMI,** D.G.O., M.D. (Cal.)

Rupture uterus is one of the most serious complications in obstetrics and a major cause of maternal mortality in our Parganas) during the period from January, 1973 to December, 1976, among 19,140 deliveries, an incidence of 1 in 580.

TABLE I

Incidence and Maternal Mortality in Different Series

Authors	Incidence	Years	Maternal Mortality	
Ferguson & Reid (Boston)	1958	1 : 1204	1935-55	5.9%
Patel & Parikh (Bombay)	1960	1 : 1257	1955-59	27.5%
Menon (Madras)	1964	1 : 415	1953-59	10%
Keifer	1964	1 : 3641	1943-62	
Mitra (Kanpur)	1973	1 : 319	1961-70	22.6%
Duttgupta & Duttgupta (Hooghly, W.B.)	1974	1 : 504	1967-72	34.44%
Indira Devi & Reddy (Visakhapatnam)	1975	1 : 270	1964-71	36.2%
Present Series		1 : 580	1973-76	21.21%

country. Efficient antenatal and intranatal cares have reduced its incidence very much in advanced countries but is still fairly high in our country as these are available only to a minority of the population.

This study comprises of 33 cases of uterine rupture treated in M. R. Bangur Hospital, Calcutta (District Hospital, 24-

Its incidence varies widely depending on socio-economic status of the population and standard of antenatal and intranatal care available in the area. Twenty-six cases (78.78%) came from peripheral subdivisional hospitals and health centres and only 7 from local areas. In 3 cases, rupture occurred in this hospital. Only 3 were booked and the rest unbooked.

Age: One was below 20, 7 between 21-25, 9 between 26-30, 12 between 31-35 and 4 between 36-40.

Parity: There were 2 primigravidae and 5 second gravidae in this series. The average parity was 3.88 as compared to 6.4 by Delfs and Eastman (1945) and 4.6

*Resident Medical Officer.

**Medical Officer, Dept. of Obst. & Gynaecology, M. R. Bangur Hospital, Calcutta.
Present Posting

*Resident Surgeon, Eden Hospital, Medical College, Calcutta.

**Clinical Tutor, Dept. of Obst. & Gynaecology, Calcutta National Medical College.

Accepted for publication on 5-2-1979.

by Menon (1962). All agree that multiparity is an important causative factor.

Causes of Rupture: Table—II shows that the usual causes are spontaneous due to obstruction, traumatic due to manipulations or misuse of oxytocics and scar rupture. Here 8 cases had traumatic factors due to internal podalic version in 5 and misuse of oxytocics in 3.

rent, 2" x 1½" was found on anterior wall of upper segment.

Site of Rupture: Incomplete rupture was noted in only 3 cases (9.10%) and the rest had complete rupture. It was in the upper segment in 2 cases. Indiradevi and Reddy (1975) found incomplete rupture in 7.5%. Broad ligament haematoma was seen on both sides in 4 cases and on

TABLE II
Causes of Rupture in Different Studies

Authors	Year	Spontaneous	Traumatic	Scar rupture
Menon	1962	57.8%	18.8%	23.1%
Jacob & Bhargava	1971	92.3%	9.2%	0.5%
Indiradevi & Reddy	1975	78.8%	8.7%	12.5%
Present series		72.72% (24)	24.24% (8)	3.03% (1)

Causative factors: Malpresentations were responsible in 36.36%. Of these, shoulder presentation was the main factor. Syntocinon drip used in 2 cases of I.U.D. including one with face presentation caused this catastrophe. In another, syntocinon in 2nd twin with transverse lie followed by internal podalic version was responsible.

Three cases deserve special mention. In a case of hand prolapse the overenthusiastic doctor in a Primary Health Centre divided the arm, brought out the other and amputated it. Reducing size of the baby, thus, he tried internal podalic version, delivered it but, to his astonishment found the omentum peeping through introitus. In another case, dying soon after admission, one arm was found missing on post-mortem section.

Another case aged 35 years, P5 + 0, carrying 30 weeks, was hit by a cow. To her utter surprise, she found the umbilical cord hanging through a rent below her umbilicus. On laparotomy a lacerated

left side in 5. Mitra (1973) found it in 34 out of 86 cases of lower segment rupture.

Diagnosis: Four cases came from outside with diagnosis, in 2 cases it was detected during caesarean section and in 1 following internal podalic version. Of the rest 26 cases, 20 had typical clinical features and in 6, undue abdominal tenderness with mild shock aroused suspicion.

Management: Fifteen cases were in severe shock and 2 grossly infected. After resuscitation, laparotomy was done in 32 cases. The foetus was found extruded completely outside the uterus in 6 cases.

Subtotal hysterectomy was performed in 21 cases including repair of bladder in 2. Of 9 cases having repair of rent, 4 were aged 25 years. One of them was Para-1; another Para-2 and the rest of higher parity including a 15th gravida. The type of operation depended on individual surgeons choice. In 1

case peritoneal cavity was full of pus. In another subseptate uterus was detected. Twenty-eight cases received blood (1-5 bottles) and for 5 it was not available.

cases and that too in 1 after amputation of both arms. Oxytocics were used in presence of face presentation and transverse lie (2nd twin). One primigravida

TABLE III
Postoperative Complications

Complications	Number	Complications	Number
Paralytic ileus	7	Urinary tract infection	3
Peritonitis	2	Haematuria, Oliguria	1
Burst abdomen	2	V.V.F.	1
Wound sepsis	4	High temperature	4
T.O. mass	1	Pulmonary oedema	1

Maternal morbidity: Table-III shows different types of complications. Seven cases (21.21%) had paralytic ileus. All of them had history of prolonged labour (48-72 hours). Fortunately all of them survived.

Maternal mortality: Seven cases (21.21%) died, 1 before operation, 5 within 24 hours of operation due to profound shock and 1 after 5 days from sepsis and burst abdomen. The incidence of maternal mortality in our series as compared to that of other authors has been shown in Table-1, mortality rate was higher following repair than in subtotal hysterectomy. Foetal loss was 100%.

Discussion

With few exceptions, this hazardous complication is preventable and the proper time to treat rupture uterus is before it occurs (Davis, 1951). But the quality of antenatal and intranatal care in rural and urban areas outside cities is evident from the fact that 26 cases (78.78%) came from rural hospitals. Transverse lie was allowed to drift into a stage of neglected or impacted shoulder presentation. Internal podalic version was tried in unsuitable

lost her uterus due to internal podalic version.

Malpresentation alone was responsible for 36.36% of ruptures. Menon (1962) found it in 18%, Jacob and Bhargava (1971) 41.6%, Shastrakar (1962)—30% and Mitra (1973) in 19.8%. Incidence of traumatic rupture in this series was 24.24%. Fenney and Barry (1956) observed it in 22%, O'Driscoll (1966) in 69.9% and Duttgupta and Duttgupta (1974) in 68.8%.

Misuse of oxytocics was the causative factor in 9.10% in this series. Morrison and Douglas (1950) found it in 11.5% but Duttgupta and Duttgupta in 61.2%. Incidence of scar rupture was 3.03%. Jacob and Bhargava (1971) noted it to be 0.5%, Shastrakar (1962) 20.9% and Mitra (1973) 2.83%.

Internal podalic version caused 15.15% of this catastrophe. Duttgupta and Duttgupta found it in 19.3%. Though Pedowitz and Perrel (1958) among others have denounced this procedure, other (Borgoin and Ballon, 1964; Duttgupta and Duttgupta, 1974) opined that it cannot be avoided in under privileged countries.

As regards management, subtotal hysterectomy was done in 63.63%. Major-

ity came from far away places after long hours in labour, in shock. Total hysterectomy was avoided so that they could withstand the operation. Mitra (1973) advocates minimum surgery and Duttagupta and Duttagupta prefer subtotal hysterectomy unless one is forced to do total in odd cases. Mokgokong and Marivate (1976) observed that total hysterectomy is the treatment of choice particularly in longitudinal lateral tears. They advocate gauze packing of broad ligament if extensive separation have occurred and intraperitoneal drain to detect subsequent haemorrhage if any. We are not in favour of repair except in selected cases. Haemostasis can be better achieved by hysterectomy in presence of broad ligament haematoma and it is better to remove a potentially infected organ. In a condition where mortality is still high, one should not bother much to preserve menstrual function.

Summary

(1) Thirty-three cases of rupture uterus treated in a District Hospital have been analysed. Its incidence was 1 in 580.

(2) 72.72% of the ruptures were spontaneous, 24.24% traumatic and 3.03% scar rupture. It was complete in 90.90%.

(3) Malpresentation was responsible for 36.36% and grand multiparity alone for 39.39%. The literature has been reviewed.

(4) Subtotal hysterectomy was done in 63.63% and repair in 27.27%. Overall maternal loss was 21.21%.

Conclusions

Our utmost effort should be on the preventive aspect. The spectrum of proper and efficient antenatal and

intranatal care should be widened. Public education through different media for making use of services of trained personnel, early admission in hospital of cases with history of previous operation, malpresentation and limiting parity will go a long way. Internal podalic version should be taught to the younger generation properly and one must be aware of its scope and limitations.

Acknowledgements

We are thankful to Dr. A. K. Dutta, Superintendent, M. R. Bangur Hospital, Calcutta, for his kind permission to publish the hospital records. We are also grateful to Prof. (Mrs.) M. Konar, F.R.C.O.G. (Lond.), Head of the Deptt. of Obst. & Gynaecology, Medical College, Calcutta for her valuable advices while preparing this paper.

References

1. Borgoin, P., Ballon, C., Breton, P. and Benoit, D.: Bull. Soc. Med. Afrique Novie. 9: 145, 1964.
2. Davis, W. W.: J. Internal Coll. Surgeons. 16: 706, 1951.
3. Delfs, E. and Eastman, N. J.: Canad. Med. Ass. J. 52: 376, 1945.
4. Duttagupta, A. and Duttagupta, H.: J. Obstet. Gynec. India. 24: 252, 1974.
5. Feeney, K. and Barry, A.: Brit. Med. J. 67: 1, 1956.
6. Ferguson, R. F. and Reid, D. E.: Am. J. Obstet. Gynec. 76: 172, 1958.
7. Indira Devi, A. and Reddy, R. S.: J. Obstet. Gynec. India. 25: 508, 1975.
8. Jacob, I. S. and Bhargava, H.: J. Obstet. Gynec. India. 21: 22, 1971.
9. Keifer, W. S.: Am. J. Obstet. Gynec. 89: 335, 1964.
10. Menon, M. K. K.: J. Obstet. Gynec. Brit. C^Welth. 69: 18, 1962.
11. Mitra, R.: J. Obstet. Gynec. India. 23: 474, 1973.

- 12. Mokgokong, E. T. and Marivate, M.: South. Afr. Med. J. 50: 1621, 1976.
- 13. Morrison, J. H. and Douglas, L. M.: Am. J. Obstet. Gynec. 50: 330, 1950.
- 14. O'Driscoll, K. C.: Proc. Roy. Soc. Med. 59: 65, 1966.
- 15. Patel, D. and Parikh, M. N.: J. Obstet. Gynec. India. 11: 74, 1960.
- 16. Pedowitz, P. and Perrel, A.: Am. J. Obstet. Gynec. 74: 161, 1958.
- 17. Shastrakar, V. D.: J. Obstet Gynec. India. 12: 391, 1962.

We are thankful to Dr. K. R. Datta, Superintendent, St. Xavier's Hospital, Calcutta, for his kind permission to peruse the hospital records. We are also grateful to Prof. (Mrs) M. K. Das, V.R.C.G. (Gynaecology) Head of the Dept. of Obst. & Gynaecology, Medical College, Calcutta for his valuable advice while preparing this paper.

References

1. Bhatnagar, S., Bhatnagar, G., Bhatnagar, S. and Bhatnagar, D.: Bull. Soc. Med. Ind. Calcutta. 1975.
2. Datta, K. R.: J. Obstet. Gynec. India. 1975.
3. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.
4. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.
5. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.
6. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.
7. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.
8. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.
9. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.
10. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.
11. Datta, K. R. and Bhatnagar, G.: J. Obstet. Gynec. India. 1975.

(1) This series of reports are treated in a Indian Hospital have been analysed. The incidence was 1 in 2000.

(2) 22.7% of the reported cases were treated by hysterectomy and 77.3% were treated by conservative surgery.

(3) Hysterectomy was recommended for 50.0% and conservative surgery for 50.0%. The incidence was 1 in 2000.

(4) Subtotal hysterectomy was done in 22.7% and repair in 77.3% overall incidence was 22.7%.

Conclusions

Our present study should be on the preventive aspect. The spectrum of proper and efficient antenatal and