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"Rupture Uterus-An Obstetric Emergency": Study of 30 Cases

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ABSTRACT

Background: Rupture of uterus is a dire emergency where the life of the mother as well as that of the fetus is in danger. This study aims to help in planning preventive methods and line of management of rupture of uterus.

Objective: To evaluate the risk factors associated with type and site of rupture uterus, different modes of management maternal and fetal outcome and to study risk factors for implementation of preventive strategies.

Method: A prospective study for two and half years was done to describe the frequency, causes, treatment, complications, and maternal & fetal mortality associated with ruptured uterus. Detailed history was taken and thorough examination was done.

Results: A total of 30 cases of ruptured uterus were studied over two and half years span at our Institute (V. S. General Hospital, Ahmadabad, Gujarat). The most common cause of rupture uterus was rupture of previous LSCS scar (66.6%) cases. Abdominal pain was most common (80%) presenting feature. In majority, lower uterine segment was affected and 83.3% cases were of complete type. Bladder injury was present in 3.3% cases. Rent repair was done in 63.3% of cases. There were no maternal deaths while fetal mortality was 63.3%.

Conclusion: Recent advance in obstetrics, availability of broad spectrum antibiotics, advances in anesthesia and availability of blood transfusion have given major surgical procedures a great degree of safety, hence reduced maternal mortality in cases with rupture uterus to a considerable extent.

KEYWORDS : Previous LSCS, Ruptured Uterus

INTRODUCTION:

Uterine rupture is a life threatening condition for both mother and fetus. The hospital based incidence of uterine rupture varies from 1 in 100-500 deliveries in developing countries to 1 in 3000-5000 in hospital with well-developed health services. In India it still accounts for 5-10% of all the maternal deaths. The perinatal mortality ranges from 80-95%. As there is increase in the incidence of previous caesarean section deliveries in teaching and referral hospitals, the commonly seen uterine rupture in these centers are those involving a previous uterine scar. Different modes of management are practiced namely repair of the uterine tear, total abdominal hysterectomy, subtotal hysterectomy, Bladder repair. The preference of management and outcome varies in different centers.

METHODOLOGY:

A study on 30 patients of uterine rupture over a period ranging for two and half years admitted in our hospital was done.

Following definitions were used to classify diagnosis of cases:

- Incomplete uterine rupture was defined as the separation of the uterine wall without extension through the entire thickness and its peritoneal cover.
- Complete uterine rupture was defined when the whole uterine thickness including the peritoneal cover was involved
- Grand Multipara was defined as five or more previous deliveries after 28 completed weeks of gestation
- Patients were said to be booked if they had visited a health institute at least twice during their antenatal period.
- Spontaneous uterine rupture was defined as rupture without any iatrogenic manipulation, trauma or oxytocic drugs use or without any previous scar on the uterus
- Traumatic rupture was defined as following obstetric manipulation, violence/ trauma or use of oxytocic drugs.

Detailed history was taken and routine investigations were done A structured questionnaire was used to collect patient information .Observation recorded in systematic way. The data were grouped, analyzed and compared with other series.

RESULTS:

In our study of two and half years span at V. S. General Hospital, following results were derived.

43.3% were from age group of 26 to 30 years followed by 26.6% in 21-25 years; only 13.3% were greater than 35 years, which was comparable to study by mukasa et al in which 75.3% of the cases were in the 20–34 age range[2]

66.6% patients were emergency patients and 33.3% patients were registered patients taking antenatal visits comparable to study at faridpur medical college where 60% patients had not taken any antenatal care[4].

Majority of patients were multiparous 63.3%

Rupture of the previous LSCS scar site was the most common etiological factor associated with uterine rupture (66.6%), this may be due to increase in rate of LSCS.

Use of oxytocics and trauma accounting for 10% each, congenital anomaly of uterus accounting for 3.3% of cases, improper implantation in 3.3% of cases. (Table 1). Similar to our study induction was associated with an increased risk of uterine rupture among women with and without a history of caesarean delivery in study by Kaczmarczyk M[1] .

Table 1: Distribution according to Etiological factor

Etiology	No. of Cases	Percentage (%)
Pre. LSCS	20	66.6
Obstructed Labour	-	-
Oxytocics	3	10
Malpresentations	2	6.6
Grandmultipara	1	3.3
Congenital anomaly of uterus	1	3.3
Trauma	3	10

Version	1	3.3
Congenital anomaly of fetus	-	-
Not known	2	6.6
Improper Implantation (i.e cornual pregnancy)	1	3.3

Table 2: Mode of Presentation

Clinical features	No. of cases	Percentage (%)
Abdominal Pain	24	80
Bleeding p/v	9	30
Absent FHS	18	60
Easily palpable fetal parts	6	20
Absent uterine contractions	15	50
Tonically contracted uterus	1	3.3
Scar Tenderness	15	50
Giving way sensation	5	16.6
Gap felt in uterine wall (p/v)	1	3.3
Loss of fetal movement	1	3.3

The most common clinical feature was abdominal pain seen in 80% of cases followed by bleeding per vaginum in 30% of cases, only 3.3% of cases with loss of fetal movement. (Table 2)

Table 3: Site of Rupture:

	No. of cases	Percentage (%)
Lower Segment		
Ant. Transverse	15	50
Ant. Transverse with Lt. extension	2	6.6
Ant. Transverse with Rt. Extension	-	-
Ant. Transverse with bilateral extension	1	3.3
Anterolateral on Lt. wall	3	10
Anterolateral on Rt. Wall	1	3.3
Vertical tear on lower segment	1	3.3
Post. Wall	2	6.6
Downward Extension	1	3.3
Upper Segment	4	13.3

Lower segment was most commonly affected in our study. Only in 13.3% of cases of upper segment of uterus was involved. In 4 cases of upper uterine segment involvement, 2 were extension of the tear from the lower segment. In other 2 cases, in one there was cornual pregnancy and in other there was pregnancy in rudimentary horn of the uterus.83.3% of cases were of complete variety and 16.6% were of incomplete type of uterine rupture, out of which 66.6% were scar rupture, spontaneous rupture in 6.6%, traumatic in 26.6% of cases. Bladder injury was present in 3.3% cases, broad ligament hematoma in 16.6% of cases. (Table 3)

In our study, rent repair performed in 63.3% of cases, subtotal hysterectomy in 16.6% of cases, total hysterectomy in 10% cases. Majority of patients had previous LSCS scar rupture which was avascular and it was simple to repair rent, and effective in such cases. While in the study by mukasa et al[2] hysterectomy was the preferred mode of management accounting for 66.3%. In the study at Faridpur Medical college also most of the patients 19(63.33%) underwent subtotal hysterectomy, one had total hysterectomy and 5(16.66%) had repair of rupture[4].

In this study, 6.6% of patient had wound gap, 3.3% had paralytic ileus in post-operative period. Fever was most common in 16.6% of patients and there was no maternal mortality while fetal mortality was 63.3%.

DISCUSSION:

Rupture of uterus is a very serious obstetrical event and emphasizes the fact that, although much has been accomplished in prevention and treatment of rupture uterus the ultimate goal has yet not been achieved. In developing countries the incidence is high due to a greater number of unbooked obstetric emergencies[4], often originating from rural areas with poor antenatal care. As there is increase in the incidence of previous cesarean section deliveries in teaching and referral hospitals, the commonly seen uterine rupture in these centers are those involving a previous uterine scar. Rupture of unscarred uterus may be either traumatic or spontaneous. Traumatic factors include Abdominal Trauma, Labour induction and in particular uses of Oxytocics and Prostaglandins[3]. Internal podalic version, assisted breech delivery and instrumental delivery also have been linked to traumatic rupture of uterus.

Spontaneous rupture is observed with cephalo-pelvic disproportion, malpresentation, delivery of macrosomic or grossly anomalous fetus, congenital anomaly of uterus which lack in the normal uterine ability to expand. The common presenting feature was abdominal pain in our study but 16.6% of cases were diagnosed only after laparotomy. This shows that presentation can be vague and diagnosis depends on high degree of suspicion and awareness.

In majority, there was complete uterine rupture and commonest site were the lower and left lateral uterine segments. Bladder rupture was associated with cases of rupture of lower uterine segment.

The type of surgical intervention depended in various factors like whether patient was in shock, availability of blood transfusion and experience of surgeon for total hysterectomy. Rent repair was most common procedure done in our study and fever as most common post-operative complication. Maternal mortality was not noted in our study but fetal demise was 63.3% of cases.

CONCLUSION:

Proper antenatal and intra-natal care, identification of high risk cases and education of people about supervised pregnancy and delivery will reduce the occurrence of uterine rupture.

Recent advances in obstetrics, availability of wide range of antibiotics and blood transfusion, advances in anesthesia have given to major surgical procedure, a degree of safety never achieved before. As a result the maternal mortality has been reduced to considerable extent and conservation of uterus has also become possible.

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