

Original article

Evaluation of Rupture Uterus among Pregnant Women: A Retrospective Analysis

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Abstract:

Introduction: Uterine rupture is tearing of the uterine wall either partially or completely during pregnancy or delivery. Hence; the present study was undertaken for assessing rupture uterus among pregnant women.

Materials & Methods: Data of a total of 750 subjects were analyzed. A master chart was made and detail of the clinical history and medical history was recorded in it. Among these 750 patients, incidence of uterine rupture was recorded. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Results: Overall incidence of uterine rupture was 3.33 percent. Various risk factors of uterine rupture in the present study included scarred uterus, previous cesarean, insidious use of oxytocin, prolonged second stage of labor etc. In majority of the patients with uterine rupture, most of the rupture occurred during intrapartum period.

Conclusion: Although uterine rupture is preventable condition, it has also been one of the leading causes of maternal mortality. Therefore; we recommend further studies in future.

Keywords: Pregnancy, Delivery, Uterine.

Introduction

Uterine rupture is tearing of the uterine wall either partially or completely during pregnancy or delivery. This leads to extrusion of the fetus and /or placenta into the maternal abdomen and massive hemorrhage especially when the rupture is of unscarred uterus; uterine rupture contributes significantly to both fetal and maternal mortality, serious morbidities and loss of fertility from hysterectomy. The severity of fetal and maternal morbidity depends on the extent of uterine rupture.¹⁻³ There is wide variation in incidence between developed and developing countries. Uterine rupture is a complication that can be eliminated under conditions of best obstetric practice. To attain this objective, use of misoprostol in primary health facilities should be stopped or proper management of the medication instituted. The survival of patients after uterine rupture depends on the time interval between rupture and intervention, and the availability of blood products for transfusion.⁴⁻⁶ Hence; the present study was undertaken for assessing rupture uterus among pregnant women.

Materials & methods

The present study was conducted in the Department of Obstetrics & Gynaecology, Government Medical College, Pali, Rajasthan, India. It included retrospective assessment of rupture uterus among pregnant women. Ethical approval was obtained from institutional ethical committee in written after explaining in detail the entire research protocol. Data of a total of 750 subjects were analyzed. A master chart was made and detail of the clinical history and medical history was recorded in it.

Exclusion Criteria

- Diabetic patients
- Women in which complete data record was unavailable
- Patients with history of any malignant neoplasm

Among these 750 patients, incidence of uterine rupture was recorded. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Results

In the present study, overall incidence of uterine rupture was 3.33 percent. Various risk factors of uterine rupture in the present study included scarred uterus, previous cesarean, insidious use of oxytocin, prolonged second stage of labor etc. In majority of the patients with uterine rupture, most of the rupture occurred during intrapartum period.

Table 1: Incidence of uterine rupture (n=750)

Parameter	Number of patients	Percentage
Uterine rupture	25	3.33

Table 2: Risk factors

Risk factors	Number of patients	Percentage of patients
Scarred uterus	8	32
Unscarred uterus	7	28
Insidious use of oxytocin	2	8
Vacuum delivery	3	12
Previous Cesarean	5	20
Prolonged second stage of labor	3	12
Multiparity	2	8

Table 3: Time of rupture

Time of rupture	Number of patients	Percentage of patients
Antenatal period	7	28
Intrapartum	16	64
Immediate postpartum	2	8

Discussion

Rupture of pregnant uterus is one of the most serious obstetrical emergencies necessitating prompt diagnosis and management, as it endangers the life of both mother and fetus. Rupture of pregnant uterus (scarred/unscarred) may occur at any stage of gestation. It continues to be a common obstetrical hazard in developing countries. In developed countries, with good antenatal care and good supervision during labour, rupture of uterus has become rare except by dehiscence of a caesarean scar.⁵⁻⁷

Gupta A et al assessed the incidence, risk factors, maternal and fetal outcome of uterine rupture. The cases of uterine rupture whether booked or unbooked that were received and managed in the hospital over a period of 5 years from January 2002 to December 2006, were included in the study. The total number of uterine rupture cases was 57 out of 33,394 deliveries. The incidence of uterine rupture was 0.17%. Majority of the patients belonged to age group 30-34 years and were multiparas. Most of the cases were due to obstructed and neglected labor (52.63%), 35.08% due to scar rupture and 8.77% were due to uterine trauma. The bladder injuries were found in 8.77%. Repair of the uterine rent was possible in 70.18% (40/57) cases. Hysterectomy was done in 29.82% cases. Stillbirths were observed in 94.74% of women with uterine rupture. There was no maternal mortality. The leading cause of uterine rupture was found to be neglected and obstructed labor due to mismanagement by local untrained birth attendants.⁸

Ahmed DM et al assessed the incidence and factors associated with outcomes of uterine rupture among laboring mothers at Felegehiwot Referral Hospital in Bahir Dar City, Northwest Ethiopia. All pregnant women who were managed for ruptured uterus at Felegehiwot referral hospital from September 11 2012 to August 30 2017 were included. The chart numbers of the women collected from operation theatre registers. Their case folders retrieved from the medical records room for analysis. They studied 239 cases of uterine rupture in the 5 years period. Mothers without previous cesarean delivery including eight primigravidas took 87% of the cases. From all study participants, 54 of mothers (22.6%) developed undesired outcomes whereas 185(77.4%) discharged without major sequel. More than half (56.9%) arrived in hypovolemic shock. Total abdominal hysterectomy was the commonest procedure accounting for 61.5%. Duration of surgery was less than 2 h in 67.8% of the procedures. Anemia is the commonest complication (80.3%) followed by wound infection and VVF (11.7% each). There were 5 maternal deaths (2.1%). Mothers who had prolonged operation time (> 2 h) (AOR: 2.2, 95% CI: 1.10, 4.63) were significantly associated with undesired maternal outcomes after management of uterine rupture. Incidence of ruptured uterus and its complications were high in the study area.⁹

Previous caesarean section had been one of the leading causes of uterine rupture in developed countries, while uterine rupture from unscarred uterus is more prevalent in less and least developed countries. Studies conducted in the developing world give strong evidence that uterine rupture is a major health problem in these countries with the rate being high in rural areas. A major factor in uterine rupture in developing countries is obstructed labour due to inadequate access to medical care.^{10,11}

Conclusion

From the above results, the authors conclude that although uterine rupture is preventable condition, it has also been one of the leading causes of maternal mortality. Therefore; we recommend further studies in future.

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