Volume : 5 | Issue : 1 | JANUARY 2016 • ISSN No 2277 - 8179

Research Paper

Changing Trends of Uterine Rupture in Patliputra Medical College & Hospital, Dhanbad

Medical Science

KEYWORDS : Uterine rupture, maternal mortality, Cesarean section, perinatal mortality, Trial of labor

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ABSTRACT

Objectives: *To determine the impact of improved obstetric care on the incidence, risk factors, management modalities and feto- maternal outcome of uterine rupture.*

Materials and methods: *Retrospective analysis of clinical records of uterine rupture cases at the department of Obstetrics and Gynecology, in our institute (PMCH, Dhanbad) from June 2011 to May 2012.*

Outcome measures: Maternal and perinatal morbidity and mortality.

Results: *Analysis showed 21 cases of uterine rupture among 3375 deliveries, the incidence being (0.62%). Majority of the cases (76%) were unbooked. Important risk factors were mishandling by unskilled birth attendant in previous caesarian scar (76.19%) for uterine rupture. Ages of the patients were in between 22-35 years.*

Frequency of complete rupture was more than incomplete uterine rupture 15 (71.42%) women underwent sub-total hysterectomy and 6 (28.42%) underwent repair and tube ligation. 2(9.5%) cases were associated with bladder injury & 2(9.5%) cases had vascular injury.Three (14.2%) were associated with hydrocephalus. There was no maternal mortality.

Conclusion: The absolute incidence of uterine rupture has not decreased inspite of the availability of ANC care and facilities for institutional deliveries. Only the etiological profile has changed. Our study found previous C-section as the most important emerging cause for uterine rupture. Reduction in C- section rate, awareness about the signs and symptoms of impending rupture, careful monitoring during induction in a scarred uterus on the part of caregivers and counseling about need for timely booking and importance of institutional delivery are important factors for reducing uterine rupture.

INTRODUCTION

Rupture of the uterus is an obstetric emergency threatening the life of both the mother and the fetus and increasing morbidity for both. Several direct and indirect factors have been identified which increase the risk of uterine rupture. These include low socioeconomic status, poor nutrition uncontrolled fertility, illiteracy, adolescent pregnancies, mismanagement of labor, injudicious use of oxytocics, home deliveries by untrained personnel and contracted pelvis. A new and emerging cause responsible for majority of the cases in modern obstetrics is rupture of uterine scar as the cesarean delivery rate rises all over the world. The incidence of uterine rupture in developing countries remains high because of grand multiparity, lack of antenatal care and unsupervised home deliveries. Uterine rupture is a rare event in primigravida. Improvement in antenatal care delivery, presence of skilled birth attendants and reduced cesarean section rates are important factors which can help in reducing uterine rupture. Early diagnosis and treatment results in improved maternal and fetal outcome. This study was designed to determine the impact of improved obstetric care on the incidence, risk factors, management modalities and feto-maternal outcome of uterine rupture and to make suggestions for improving the outcome in such cases.

MATERIALS AND METHODS

A retrospective analysis of hospital record of all uterine rupture cases between June 2011 to May 2012 admitted in the Department of Obstetrics and Gynecology, Patliputra Medical College, Dhanbad, Jharkhand was done. All cases presenting with rupture on admission or those who developed this complication after admission were included in the study. There were 21 cases included in the study. Age, gravidity, parity, number of deliveries in previous 5 years, surgical history and complications were noted. The signs and symptoms suggestive of uterine rupture like abdominal pain, scar tenderness, bleeding per vaginum, maternal tachycardia with hypotension, arrest of uterine contractions, loss of station, per abdomen findings were analyzed. The preoperative findings, complications and management details like need for blood transfusion were noted. Maternal and neonatal outcomes in terms of morbidity and mortality were studied.

Table 1:

Causes of Rupture Uterus	No.	(%)
Mishandled by unskilled birth attendant in scarred uterus	16	76.19
Obstructed labor	5	23.8
Previous caesarian scar	15	71.4
Congenital Anomaly	3 (Hydrocephalus)	14.2
Silent scar dehiscence	2	9.5
Malpresentation & malposition	2	9.5
Misoprost induced (IUFD in 32 weeks)	1	4.76

Table 2:

Parity	Rupture with scarred uterus	Rupture with unscarred uterus
Primigravida	-	1 IVD in 32 weeks
Multigravida	13	3
Grand multigravida	2	2

Table 3:

Type of surgery	No.	%
Subtotal hysterectomy	15	71.43
Repair & Ligation	6	28.57

Table 4:

Organ Injury	No.	%
Bladder	2	9.52
Vascular	1	4.76

RESULTS

Total number of deliveries during the period was 3375. There were 21 cases of uterine rupture with frequency of (0.62%). Age range was between 21 and 35 years. Almost half of the patients 15 (45%) were below 30 years and 18 (55 %) patients presented after the age of 30 years. Average age was 31 years. Parity ranged from 1 to 6. However, rupture was more common 14 (42%) between parity 4 and 6, suggesting multiparity as an important risk factor. Only one was primigravida with Intra uterine fetal death

of 32 weeks, Induction done by misoprost. Gestational age ranged from 30 to 41 weeks but majority 23 (70%) of pregnant women were full term. Only six (18%) cases were below 37 weeks gestation. (76%) patients were unbooked. Fifteen (71.4%) patients had previous cesarean scar. Of these, (44%) women were having previous one cesarean section, while (55%) patients had two previous cesarean sections. Only six (28.5%) cases had an unscarred uterus. Prolonged obstructed labor was observed in 5(23.8%) cases in which two were with unscarred uterus but had grand multiparity, while two cases were with previous one cesarean. One patient with an unscarred uterus who was induced with misoprost, developed uterine rupture during labor.

Total blood loss ranged from 800 to 4000 ml with an average of 1848 ml. Average blood transfusion given was 4.65 unit. Hospital stay ranged between 8 and 22 days, with average of 11 days. However, there was no maternal death. Complications like bladder injuries occurred in two patients and development of vesicovaginal fistula did not occurred in any patient.

DISCUSSION

Etiology and Incidence: Rupture of the uterus is a serious obstetric emergency associated with high perinatal mortality. The commonest cause described has been obstructed labor with the patient presenting with classical sign and symptoms. With access to antenatal care and institutional deliveries, a dramatic reduction in the incidence of obstructed labor and its sequelae were expected. However our results show that uterine rupture may still contribute toward significant maternal and perinatal morbidity and mortality. The frequency of uterine rupture in our study was (0.62%). This was higher to the study done by Rouzi AA in KSA that reported an incidence of 1 in 1,011 deliveries. Incidence reported from Sudan is one in 246 deliveries. Other developing countries, like Nigeria, Pakistan and Ethiopia, show his incidence to be higher at 0.83, 0.74 and 0.03% respectively. The high incidence in developing countries is attributed to no access to antenatal care, inadequate provision of health services and lower socioeconomic status. The most common risk factor in the developed world is previous uterine surgery especially cesarean section. The mean age of women with uterine rupture was 31 years in our study, which is consistent with Rouzi's study. Maternal age was not found to be an important risk factor for this obstetric problem. Multiparity was an important factor especially in patients who had uterine rupture in the absence of scarred uterus in our country. The assumption that multiparity with a scarred uterus is at a higher risk of uterine rupture when undergoing trial of labor. Majority of the patients (76.2%) were unbooked as also confirmed by Ekpo but different from Jahan's report. In modern obstetrics, the single most important risk factor is the presence of previous scar on uterus. Our study confirmed this as previous cesarean was the single most important risk factor representing (71.4%) of our patients. This is in accordance with many other reports. The view that multiple cesarean sections is a high-risk factor for rupture may not be true. In our study, majority (63.6%) patients, who had rupture, had only one previous CS. Though it is difficult to either confirm or refute, this view as the number of patients is small. This finding underscored the importance of providing antenatal care for each pregnant woman, counseling her about risks of home delivery, scar rupture and delayed admission in labor.

Clinical Features

The clinical picture seen in our patients was abdominal pain accompanied with scar tenderness and fetal heart rate abnormalities and fetal death in labor, which is in keeping with other studies. The classical symptoms and signs of rupture of uterus like bleeding per vaginum, easily felt fetal parts and arrest of contractions were common in our study like to the study from Sudan.

Maternal Morbidity

In our series is significant. In addition to the patient requiring surgical intervention, blood transfusion, ICU admission, there were complications like bladder injuries in two patients. Fortunately, there was no maternal mortality in our study. This is comparable with other studies from KSA but different from Ofer et al and Ahmed et al observations.

Perinatal Mortality

Perinatal Mortality was 100%.

Management

Management of uterine rupture depends upon the type, location and extent of rupture as well as the hemodynamic status of patient. Although subtotal abdominal hysterectomy is the procedure of choice, repair was performed in 28.57% of our cases. In rest of the patient repair was combined with bilateral tubal ligation (BTL) to reduce the risk of recurrent rupture.

CONCLUSION

1. Absolute rates of uterine rupture have not decreased even in developed countries with good ANC care and institutional deliveries.
2. Only the etiological profile has changed from obstructed labor to scarred uterus which is now the leading cause of uterine rupture.
3. We should aim to decrease the absolute rate of cesarean section by using a more cautious approach in choosing indications for abdominal deliveries.
4. Women with previous scar and multiparity opting for trial of labor should be carefully chosen and continuously monitored by CTG during labor for fetal heart rate abnormalities and for scar tenderness. Injudicious use of oxytocin and prostaglandins should be avoided.
5. The commonest presentation in uterine rupture of a scarred uterus is not as classically described maternal signs and symptoms but as fetal heart rate abnormalities and fetal death.
6. Early diagnosis based on awareness about signs and symptoms, high index of suspicion, good anesthetic care, blood bank and availability of an experienced surgeon on floor, lesser diagnosis to delivery interval can help in decreasing the associated maternal and perinatal morbidity and mortality to a large extent.
7. Improvements are needed in antenatal care and counseling of patients for institutional deliveries especially after previous cesarean section.

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