

## Study of Uterine Rupture



### Medical Science

**KEYWORDS :** Uterine rupture, Maternal mortality, Perinatal mortality

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### ABSTRACT

*To determine the impact of improved obstetric care on the incidence, risk factor, management modalities & fetomaternal outcome of uterine rupture.*

*Material and Methods – Retrospective analysis of clinical record of cases of uterine rupture at tertiary care center over a period of 2YRS (JAN2012 –DEC2013)*

*Results – Analysis showed 10 cases of uterine rupture among 18,900 deliveries, the incidence being [0.05%]. Majority of cases [90%] were unbooked. Important risk factors were previous cesarean section [70%] and multiparity [90%].Rent repair [60%] and subtotal hysterectomy [40%] was done. 20% cases were associated with bladder repair. There was no maternal mortality while 90% cases were associated with neonatal mortality.*

*Conclusion- Reduction in cesarean section rate - awareness about the signs and symptoms of impending rupture, careful monitoring during induction in a scarred uterus and counseling about need for booking and importance of institutional deliveries are important factor for reducing uterine rupture.*

### INTRODUCTION

Uterine rupture is tearing of uterine wall during pregnancy or delivery. Rupture of a previously scarred uterus is usually a catastrophic event resulting in death of fetus, extensive damage to the uterus and some time even maternal death from blood loss. The damage to the uterus is sometimes beyond repair and hysterectomy is required. Several direct and indirect factor have been identified which increases the risk of uterine rupture. This include low socio-economic status, poor nutrition, uncontrolled fertility, illiteracy, adolescent pregnancies, mismanagement of labour, injudicious use of oxytocics, home deliveries by untrained personnel and contracted pelvis. A new & emerging cause responsible for majority of case in modern obstetrics is rupture of uterine scar as the cesarean delivery rate rises all over the world. In India it still account for

5-10% for all maternal deaths, the perinatal mortality ranges 80-95%. Improvement in antenatal care delivery, presence of skill birth attendants and reduced cesarean section rates are important factor 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 of risk factor, management modalities and fetomaternal outcome of uterine rupture and to make improvement of outcome in such cases.

### MATERIAL AND METHODS-

A retrospective analysis of clinical record of all uterine rupture case between

JAN-2012 to DEC 2013 admitted in tertiary care centre was done.

All cases presenting with rupture on admission or those who developed this complication after admission were included in this study. There were 10 cases reported. Patient's data were collected regards to age and parity, etiological factor, mode of presentation, site of rupture, post operative complications. Maternal and neonatal outcomes in terms of morbidity and mortality were studied.

**RESULTS-** Total no of deliveries during the period was 18,900. There were 10 cases of uterine rupture with frequency of 0.05%.

Age range was between 25 to 40 years. Average was 31 year. Parity ranged from 3 to 4 suggesting multiparity as an important risk factor.

**TABLE -1 DISTRIBUTION ACCORDING TO AGE & PARITY**

AGE	NO OF CASES	PARITY	NO OF CASES
20-25	1[10%]	2	2[20%]
25-30	7[70%]	3	5[50%]
30-35	1[10%]	4	2[20%]
>35	1[10%]	>4	1[10%]

**TABLE -2 EMERGENCY V/S REGISTERD CASES**

STUDY	EMERGENCY	REGISTERED
Shumaila Zia et al[zopi]	24[73%]	9[27%]
Present study	9[90%]	1[10%]

-In present study 90% cases were unbooked which is quite comparable with study of Shumaila Zia et al.

**TABLE -3 CLINICAL PRESENTATION[SIGNS AND SYMPTOMS]**

SIGNS & SYMPTOMS	NO OF CASES
Abdominal pain	9[90%]
Scar tenderness	6[60%]
Bleeding per vaginum	3[30%]
Loss of fetal movement	2[20%]
Giving way sensation	1[10%]

-Most common clinical presentation was abdominal pain [90%] followed by scar tenderness [60%] as a major clinical presentation more than one signs and symptoms were presented in most cases.

**TABLE- 4 DISTRIBUTION ACCORDING TO ETIOLOGICAL FACTOR.**

ETIOLOGY	NO OF CASES
Previous LSCS	7[70%]
Obstructed labour	1[10%]
Oxytocics [MTP Pills]	1[10%]
Other surgery on uterus	1[10%]

The cause of rupture uterus was previous cesarean in 80% cases while oxytocics with 10% and obstructed labour 10%.

Now a days increased rate of cesarean section has become more common cause of rupture. This shows changing trend in etiology of rupture uterus.

**TABLE- 5 TYPE OF RUPTURE**

TYPE	NO OF CASES
Complete	90%
Incomplete	10%

**TABLE -6 SITE OF RUPTURE**

SITE OF RUPTURE	
LOWER SEGMENT	
Anterior transverse	4[40%]
Anterior transverse with unilateral	3[30%]
Anterior transverse with bilateral	2[20%]
UPPER SEGMENT	1[10%]

-90% rupture were in lower uterine segment because of rarity of classical cesarean section.

One case of rupture in upper segment because of previous history of hysteroscopic septal resection 1.5 year before for the treatment of primary infertility which led to fundal rupture. Patient was treated with suturing of rent.

**TABLE -7 TYPE OF SURGERY**

TYPE OF SURGERY	NO OF CASES
Rent repair	5[50%]
Rent repair+bladder repair	1[10%]
Subtotal hysterectomy	3[30%]
Subtotal hysterectomy+bladder repair	1[10%]

-In 50% cases the rent of ruptured site was repaired. In 30% case subtotal hysterectomy was done. The bladder was injured in 20% cases in which all the cases were of previous cesarean section with advancement of bladder.

**TABLE-8 POST OPERATIVE COMPLICATIONS**

COMPLICATION	NO OF CASES
Paralytic ileus	0
Wound infection	1[20%]
Fever	2[20%]

-The complication rate was quite low. 20% patients developed post operative fever and 10% had wound infection requiring dressing and resuturing.

**TABLE -9 MATERNAL & FETAL MORTALITY**

MORTALITY	Present study	Shumaila Zia et al
MATERNAL	No	No
FETAL	90%	85%

-There was no maternal mortality in study. Fetal mortality was 90% because cases are complete rupture and presented late.

**DISCUSSION-**

Rupture of uterus is a serious obstetric emergency associated with high perinatal morbidity and mortality. With access to antenatal care and institutional deliveries a dramatic reduction in the incidence of obstructed labour and its sequel is expected. The incidence of uterine rupture in our study was 0.05%. This was similar to Shumaila Zia et al [2011]. The high incidence was attributed to no access to antenatal care, inadequate provision of health services and low socio-economic status. The most common risk factor is previous uterine surgery especially cesarean section. The mean age of women with uterine rupture was 31 year which is consistent with Rouziis study. Due to early surgical intervention, blood transfusion, ICU facility, there was no maternal mortality. Majority of cases presented late with complete rupture hence there was higher incidence of neonatal mortality.

**CONCLUSION-**

-Absolute rate of uterine rupture have not decreased even with good ANC care and institutional deliveries. Only the etiological profile has changed from obstructed labour to scarred uterus which is now the leading cause of uterine rupture.

-We should aim to decrease the absolute rate of cesarean section by using a more cautious approach in choosing indication for abdominal deliveries.

-Women with previous scar and multiparity opting for trial of labour should be carefully chosen and continuously monitored. Injudicious use of oxytocin and prostaglandins should be avoided.

-Early diagnosis based on awareness about signs and symptoms, high index of suspicion, good anesthetic care, well equipped ICU, blood bank & NICU availability, laser diagnosis to delivery interval can help in decreasing the associated maternal & perinatal morbidity & mortality to a large extent.

-Improvements are needed in antenatal care and counseling of patients for institutional deliveries especially after previous cesarean section.

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