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ASSOCIATED FACTORS AND OUTCOME OF UTERINE RUPTURE AT A TERTIARY CARE CENTRE

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ABSTRACT **OBJECTIVE:** To find risk factors and causes of uterine rupture, treatment modalities and maternal and foetal outcome of uterine rupture in a tertiary care centre.

METHOD: A 2-year retrospective study of 24 cases of uterine rupture was done. These cases were analysed for demographic profile, risk factors, management and maternal and foetal outcome.

RESULTS: Our study shows that most cases of uterine rupture found in women of low socioeconomic status (79.1%), 91.6% cases were unbooked and 95.7% were multiparous. 50% cases were due to obstructed labour and 41.6% were due to rupture of scarred uterus. Repair was done in 12.5% cases while hysterectomy was done in 87.5% cases maternal mortality was only 8.3% but neonatal mortality was very high (100%).

CONCLUSION: Uterine rupture is a major cause of maternal morbidity and neonatal mortality. Obstructed labour, prior caesarean section and grand multipara were the major contributing factors. Identification of these highrisk women, early referral and optimal management needs to reduce maternal morbidity and perinatal mortality.

KEYWORDS : Scarred Uterus. Hysterectomy. Obstructed Labour. Perinatal Outcome

INTRODUCTION

Uterine rupture is one of the most feared obstetric complication affecting the pregnant women and foetus. This occurs mostly in woman attempting a vaginal delivery after a prior caesarean section. Various factors associated with increased risk of uterine rupture include obstructed labour, scarred uterus, grand multiparity, foetal macrosomia, uterine instrumentation and uterine trauma. Other associated factors include poverty, illiteracy, no antenatal check-up and home delivery.

Uterine rupture is a preventable condition. Proper antenatal care, appropriate counselling for hospital delivery, training of skilled birth attendant can reduce morbidity and mortality due to uterine rupture. In order to reduce maternal morbidity and perinatal mortality it is essential to determine the risk factors for uterine rupture. The aim of our study is to identify the risk factors, treatment modalities maternal and foetal outcome of uterine rupture.

MATERIALS AND METHOD

This retrospective study was conducted over a period of 2 years from March 2017 to April 2019 on 24 women admitted in department of obstetrics and gynaecology S.R.N. hospital, Prayagraj, UP, India. Out of 24 cases 20 cases were reported with ruptured uterus and in 4 cases rupture occurred after admission. Cases were analysed for demographiccharacteristic, clinical, risk factors, management modalities, maternal and foetal outcome all cases had full thickness uterine wall rupture requiring surgical interventions. Asymptomatic uterine dehiscences were excluded from the study.

OBSERVATIONS

An analysis of 24 cases of uterine rupture was done.

Table 1: Distribution of cases according to socioeconomic status, antenatal care and residence.

	Socioeconomic Status n=24		Antenatal Care		Residence	
No. of cases	19	5	22	2	20	4
Perecentage %	79.1%	20.8%	91.6%	8.3%	83.3%	16.6%

Table 1 shows that 79.1% cases were of low socioeconomic status and 91.65 cases were unbooked and 83.3% women belonged to rural area.

Table 2: Distribution of cases according to age and parity.

S.no.	Age Group (years)	No. of cases (n=24)	Percentage	Parity	No. of cases (n=24)	Percentage
1.	20-25	3	12.5%	P0	1	4.1%
2.	26-30	12	50%	P1-2	7	29.1%
3.	31-35	8	33.3%	P3-4	13	54.1%
4.	36-40	1	4.1%	P>4	3	12.5%

Table 2 shows that maximum cases belonged to age group 26-30 years(50%) and were multipara(95.7%).

Table 3: Distribution of cases according to etiological factors

S.No.	Etiological Factors	No. of cases(n=24)	percentage
1.	Scar Rupture • Previous 1 LSCS • Previous 2 LSCS	10 3 7	41.6% 12.5% 29.1%
2.	Obstructed labour • Cephalopelvic disproportion • Malpresentation	12 10 2	50% 41.6% 8.3%
3.	Intervention by traditional health workers	2	8.3%

Table 3 shows uterine rupture due to obstructed labour was in 50%cases while scarrupture was the cause in 41.6% cases.

Table 4: Distribution of cases according to the mode of treatment given in the hospital.

S.no.	Mode of Treatment	No. of Cases (n=24)	Percentage
1.	Subtotal Hysterectomy	14	58.33%
2.	Total Abdominal Hysterectomy	6	25%
3.	TAH with bladder repair	1	4.1%
4	Rupture repair	3	12.5%

Table 4 shows hysterectomy was done in 87.5 % cases and rupture was repaired in 12.5% cases.

Table 5: Maternal and Fetal Outcome.

n=24	Maternal mortality	Fetal
No. of cases	2	24

Percentage	8.3%	100%

Table 5 shows maternal mortality was 8.3% while neonatal mortality was very high (100%).

DISCUSSION

Uterine rupture is an unexpected but life threating complications in obstetrics. Majority of uterine rupture cases were emergency admission (91.6%), most of the women were of low socioeconomic status (79.1%) and 83.3% cases were from rural area. Smith JG (2008) reported risk factors for uterine rupture.

Obstructed labour, scar rupture and grand multiparity were the common aetiological factor of uterine rupture. In our study obstructed labour was present in 50% cases and scar rupture was present in 41.6 % cases. These findings were supported by study of Mukherjee and J Roychowdhury (1995). Therefore, a great degree of caution should be taken while managing woman with prior caesarean section. Hamilton et al (2001) reported that with labour dystocia caesarean delivery prevents > 42.1 % cases of uterine rupture.

Once the uterine rupture diagnosed prompt management is essential. If the women is in shock immediate resuscitation and surgical intervention is needed. The choice of surgical procedure depends on the type, location and the extent of uterine scar. In our study repair was done in 12.5% cases and hysterectomy was done in 87.5% cases. This view was supported by study of Mahbuba D, Alam (2012) Maternal mortality occurred in 2 cases in our study. Other studies reporting maternal mortality ranging from 0-13% (Hamilton et al 2001, Leung As 1993). Majority of our patient were unbooked and were transferred to the hospital in emergency. Delay between onset of rupture and delivery contributed to high neonatal mortality (100%). This view was supported by study of holmgren et al (2012) Therefore early identification of at risk women for uterine rupture and early referral to a tertiary care centre is mandatory.

CONCLUSION

Uterine rupture is a tragic event responsible for high degree of maternal morbidity and neonatal mortality. Uterine rupture is totally preventable complication in obstetrics. Associated factors for uterine rupture include lack of proper antenatal care, poverty, delivery conducted by traditional birth attendants in high risk women and increasing rate of caesarean section which results in scarring of uterus. Identification of these high risk factors, prompt diagnosis, early referral and optimal management is needed to avoid adverse fetomaternal outcome. Proper availability of obstetric services, prompt referral system with good transportation service is necessary to avoid this life threatening complication.

It is also recommended that all the women with prior caesarean delivery and malpresentation should be delivered in hospital and observed closely for progression of labour.Hence maternaland neonatal mortality due to uterine rupture can be decreased with proper antenatal care, early diagnosis and immediate surgical intervention.

COMPLIANCE WITH ETHICAL STANDARDS

CONFLICT OF INTEREST: None.

DISCLAIMER: nil

INFORMED CONSENT:
informed written consent was received from all the participants.

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