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Research Article

Frequency of Fetomaternal Outcome of Ruptured Gravid Uterus

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ABSTRACT

OBJECTIVE: to frequency of fetomaternal outcome of ruptured gravid uterus.
METHODOLOGY: In this case series, we included 120 cases during 2017 from *BHU Pai Khel* with ruptured uterus (abdominal pain, vaginal bleeding, hypotension (B.P < 90/60 mm Hg) and fetal bradycardia(heart rate <100 beats per minute)). It is a tear in the wall of the gravid (> 20 weeks of gestation) uterus diagnosed during laparotomy, the age range was 20-45 years whereas cases having history of antepartum hemorrhage, placenta previa, and those with preeclampsia or eclampsia were excluded from the study. The management of these cases was done following departmental protocols under supervision of senior gynaecologist (consultant). Continuous or intermittent electronic fetal monitoring was also done till the delivery of the baby. We recorded fetal outcome in terms of mortality (intrauterine death of fetus): maternal outcome was measured in terms of wound infection (presence of pus on wound after 1 week of surgery) and mortality (death of mother during or after surgery). **RESULTS:** In this study, out of 120 cases, 65%(n=78) were between 20-30 years of age whereas 35%(n=42) were between 31-45 years of age, mean$\pm$sd was calculated as 27.96$\pm$7.11 years, parity distribution shows that 32.5%(n=39) had 1-3 parity and 67.5%(n=81) had >3 parity, fetomaternal outcome of the patients was recorded as 19.17%(n=23) for wound infection, 9.17%(n=11) for maternal mortality and 56.67%(n=68) for fetal mortality. **CONCLUSION:** the rate of fetal mortality is higher in ruptured gravid uterus in patients coming to our healthcare center.
Key Words: ***ruptured gravid uterus, fetomaternal outcome, fetal mortality, wound infection, maternal mortality***

INTRODUCTION

Uterine rupture is considered as a serious medical condition which may be life threatening. The rate of this morbidity varies between 1: 250 to 1: 5000.[1] The incidence varies according to regions as well which reflects the standard of care of the region. Low educational status, widespread poverty, cultural constraints, poor transport system, inadequate health and substandard and poor communication facilities are potential risk factors in the developing world.[2]

Other etiological factors include 31–35 years of age, multipartiy, breech extraction, obstetrical trauma from neglected or prolonged labour, manual cervical dilatation, internal and external podalic version, and injudicious use of oxytocin, prostaglandins by untrained paramedics and previous unknown corporeal scar.[3]

It is important to diagnosis this morbidity on early stage while clinical signs may be subtle, [4] the common signs include vaginal bleeding, tenderness, sharp lower abdominal pain during contraction, fetal bradycardia and hypotension. Uterine rupture is responsible for adverse outcome like bladder rupture, anemia, uterine atony, wound complications(infection) and late developing complications like infertility, foot drop, and vasicovaginal fistula.[5] This situation may further leads to peripartum hystectomy, maternal and fetal mortality.[1] To reduce the infertility rate and decrease in uterine rupture, repair with suture is done, however, recurrence chances may not

overlook.[6] Early diagnosis and management may be helpful for decreasing morbidity and mortality.[7] Previous data is evidence that the rate of wound infection is 8.2%[1] in these cases, whereas another study recorded 36.6%.[8] The variation is recorded in the rate of maternal mortality in different studies by recordeding (0%)[1] and 9.8%,[8] 17.5%[2] and 20%.[9] Fetal mortality was found 41%,[1] 73.3%,[9] 88.4%[10] and 93%.[5]

It shows a great controversy in literature, which requires re-evaluation, and by knowing the exact incidence of morbidity and mortality in cases with ruptured gravid uterus the results of this study will provide some evidence to health professionals and to reduce the unpleasant fetomaternal outcomes in terms of fetal and maternal mortality and wound infection in our local population.

MATERIAL AND METHODS

In this case series, we included 120 cases during 2017 from *BHU Pai Khel* with ruptured uterus (abdominal pain, vaginal bleeding, hypotension (B.P < 90/60 mm Hg) and fetal bradycardia(heart rate <100 beats per minute)). It is a tear in the wall of the gravid (> 20 weeks of gestation) uterus diagnosed during laparotomy, the age range was 20-45 years whereas cases having history of antepartum hemorrhage, placenta previa, and those with preeclampsia or eclampsia were excluded from the study. The management of these cases was done following departmental protocols under supervision of senior gynaecologist (consultant). Continuous or intermittent electronic fetal monitoring was also done till the delivery of the baby. We recorded fetal outcome in terms of mortality (intrauterine death of fetus): maternal outcome was measured in terms of wound infection (presence of pus on wound after 1 week of surgery) and mortality (death of mother during or after surgery). SPSS V17 was used to analyze the data.

RESULTS

In this study, out of 120 cases, 65%(n=78) were between 20-30 years of age whereas 35%(n=42) were between 31-45 years of age, mean±sd was calculated as 27.96±7.11 years. (Table No. 1)Parity distribution shows that 32.5%(n=39) had 1-3 parity and 67.5%(n=81) had >3 parity. (Table No. 2)

Fetomaternal outcome of the patients was recorded as 19.17%(n=23) for wound infection, 9.17%(n=11) for maternal mortality and 56.67%(n=68) for fetal mortality. (Table No. 3)

Table 1: Age Distribution (N=120)

Age(in years)	No. of patients	%
20-30	78	65
31-45	42	35
Total	**120**	**100**
Mean±SD	**27.96±7.11**	

Table 2: Parity Of The Cases (N=120)

Parity	No. of patients	%
1-3	39	32.5
>3	81	67.5
Total	**120**	**100**

Table 3: Fetomaternal Outcome of The Patients (N=120)

Fetomaternal outcome	No. of patients	%
Wound infection	23	19.17
Maternal mortality	11	9.17
Fetal mortality	68	56.67

DISCUSSION

Our results are higher than the study showing recorded wound infection in 8.2%[1] cases and lower than recorded in another as 36.6%,[8] however, our results i.e. 19.17% are between these two studies.[1,8]

Our results are comparable with Fofie C[8] who revealed 9.8% of the females having maternal mortality and 9.17% in our study. This incidence was higher in other studies i.e. 17.5%[2] and 20%,[9] which is higher than our study.

Our findings for fetal mortality are in agreement with Turgut A[1] who recorded 41%,[1] cases with fetal mortality while other studies showing 73.3%,[9] 88.4%[10] and 93%[5] are in contrast with our findings.

Regions well equipped with modern medical facilities are likely to have lower rate of adverse fetomaternal outcome. No deaths among 32 mothers who experienced rupture of a scarred

uterus compared with 9 deaths among 61 women with an intact uterus (15%). In a study from Los Angeles in which Leung et al[11] reported on 99 patients with uterine ruptures, 1 woman (1%) died.

Mokgokong and Marivate[12] noted that the maternal mortality rate associated with uterine rupture largely depends on whether the diagnosis is established before or after delivery; these rates were 4.5% and 10.4%, respectively.

In studies reported before 1978, the fetal mortality rate associated with uterine rupture was high. In a review of 33 studies by Schrinsky and Benson, 960 cases of uterine rupture resulted in 620 infant deaths, yielding a perinatal mortality rate of 65%. Blanchette et al[13] reported that 2 neonates (17%) died among 12 women who had uterine rupture and that 1 of these neonates died after a decision-to-delivery time of only 26 minutes after the acute onset of fetal bradycardia, lower abdominal pain, and vaginal bleeding, which signaled the acute uterine rupture.

Leung et al[11] reported that 6 perinatal deaths (6%) occurred among 99 patients who had uterine rupture. In a study by Lydon-Rochelle et al,[14] the perinatal death rate among fetuses in 91 cases of uterine rupture was 5.5% compared with 0.5% in control subjects. Landon et al[4] reported a perinatal death rate from uterine rupture of 2% (2 of 124) among 19 academic centers in the United States. These studies indicate that the incidence of perinatal death associated with uterine rupture is decreasing in the modern era, but unfortunately in our setup the fetal mortality was higher.

We are of the view that uterine rupture may be diagnosed earlier and best possible resources may be deployed to save the fetus and avoid further complications. Antenatal care is having a pivotal role for pregnant women in prevention of UR which may be ensured.

CONCLUSION:

- The rate of fetal mortality is higher in ruptured gravid uterus in patients coming to our healthcare center. Better health care facilities and early diagnosis of the patients may reduce the risk of adverse outcome.

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