

Original Article

Uterine Rupture in Previous One vs Previous Two Caesarean Sections: Incidence and Consequences

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Abstract

Objective: To evaluate the uterine rupture in previous one vs previous two caesarean sections: Incidence and Consequences.

Methodology: This study was a prospective descriptive study carried out in obstetric and gynaecology department of Abbas Institute Of Medical Sciences, Muzaffarabad, affiliated with Azad Jammu and Kashmir Medical College from 1st June 2016 to 31st May 2018. All patients with history of previous one and previous two caesarean sections of any parity, gestation of 28 weeks and onwards in labour were included. All the data including age, booking status of the patient, period of gestation, number of previous caesarean sections and maternal and fetal complications were recorded on predesigned performa.

Results: A total of 116 women in labour were enrolled in this study. 48 (41.38%) had one previous lower segment caesarean section and 68 (58.62%) had two previous caesarean section. 21 (18.1%) patients had uterine rupture and 95 (81.9%) had intact uterus. Out of 21 patients, 6(12.5%) had uterine rupture with one previous caesarean section and 15 (22%) patients had uterine rupture with two previous caesarean section. Mean age of the sample was 27.3 ± 4.4 years. Uterine rupture with two previous caesarean sections were more in older age group. On grouping the patients into booked and unbooked status, we found that booked cases contributed 31 (26.72 %) while unbooked cases contributed as 85 (73.28%) of total sample of 116 patients.

Conclusion: Uterine rupture in one population is still very high and is commonly seen in older women and women with a lack of antenatal care. Antenatal education is vital to reduce this lethal complication. Proper antenatal care, health education and utilization of health facilities is needed.

Keywords: Uterine Rupture, Pregnancy, Outcome, Caesarean section.

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Introduction

Uterine rupture is now a days a rare obstetric emergency in Western Countries, it is still alarmingly common in developing countries, where it remains a major cause of maternal mortality and morbidity.¹ 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 and patients without antenatal care.² Uterine rupture is a true obstetrical emergency³, with maternal mortality of 15.5% and perinatal mortality of 42.42%.⁴

Uterine rupture is commonly associated with vaginal birth after caesarean section especially with two previous caesarean section⁵, although the absolute risk varies according to previous obstetrical history, gestational age, and previous caesarean section. Most cases present with maternal tachycardia, signs of fetal distress and bleeding. Treatment for intrapartum uterine rupture includes blood transfusion and emergency laparotomy.³ Maternal and fetal outcome can be optimized by awareness of the risk factors, recognition

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of clinical signs and symptoms and availability of ultrasound to assist in establishing the diagnosis and enabling prompt surgical intervention.⁵

Uterine rupture is a lethal obstetrical emergency, and it is important to know the magnitude of the problem in our setup by concentrating on those women who have scarred uteruses especially two previous caesarean section, because patients with two previous had more complications such as more blood transfusion, hysterectomy, bladder trauma and more time to repair ragged and irregular tears.^{7,8} Maternal complications such as vesico – vaginal fistula and maternal death were not observed in our study.^{9,10}

Methodology

This study was a prospective descriptive study from 1st June 2016 to 31st May 2018, carried out in the department of obstetrics and gynaecology of Abbas Institute of Medical Sciences, Muzaffarabad, affiliated with Azad Jammu and Kashmir Medical College. All patients with previous one and two caesarean section of any parity, at gestation of 28 weeks and onwards in labour were included. Exclusion criteria included patients with ruptured uterus due to injudicious use of oxytocin, patients in labour without previous caesarean section, rupture of previous myomectomy scar. Ethical approval was obtained from Hospital Ethical Committee. All the data including age, booking status, period of gestation, number of previous sections and maternal complications were recorded on predesigned performa. Data was analyzed using SPSS – 17. Mean and standard deviation were calculated for age, a period of gestation and obstetrical history.

Results

Out of 10,000 deliveries, 21 patients had uterine rupture, the frequency of rupture was 0.18%. A total of 116 women in labour were enrolled in the study. 48 (41.38%) had one previous lower segment caesarean section and 68 (58.62%) had two previous caesarean section. 21 (18.1%) patients had uterine rupture and 95 (81.9) had an intact uterus. Out of 21 patients, 6 (12.5%) had uterine rupture with one previous caesarean section and 15 (22%) patients had uterine rupture with two previous caesarean section as shown in Table I. Mean age of the sample was 27.3 ± 4.4 years. We divided them in three different age groups, 18 years to less than 23 years were 55 (47.4%), >23 to less than 28 years were 35 (30.2%) and >28 to less than 33 years were 26 (22.4%). When we divided uterine rupture in different age groups, we

found that out of 55 women in the age group of 18 to less than 23 years were 5 (9%) had uterine rupture and 61 patients in the age group of 23 to less than 33 years, 16 (53.5%) had uterine rupture. We found that uterine rupture were more in patients with two previous caesarean sections and in older age group. This is shown in Table II.

Table I: Number of Caesarean Section Wise Distribution of Uterine Rupture (n = 21)

No. of caesarean section	No. of patients	Uterine rupture %
Previous one caesarean section	48	6 (12.5)
Previous two caesarean section	68	15 (22)

Table II: Age Wise Distribution of The Uterine Rupture

AGE GROUP	No. of patients	Uterine rupture %
18 to less than 23 years	55	5 (9%)
> 23 to less than 33	61	16 (30.7%)

As far as period of gestation was concerned, 19 patients had gestation of 28<37 weeks, 67 patients from 37 – 40 weeks and 30 patients were in the range of > 40 – 42 weeks pregnant. On grouping the patients into booked and unbooked status, we found that booked cases contributed 31 (26.2), while unbooked contributed as 85 (73.27%) of total sample of 116 patients. Out of six patients who had ruptured uterus and had one previous caesarean section, two patients had 3 units of blood during laparotomy and out of 15 patients who had two previous caesarean section, 10 patients had six units of blood each during repair of uterus. Uterus was saved in all 6 patients who had one previous caesarean section. 68 patients had two previous caesarean section, out of which 15 patients had uterine rupture and 5 patients had sub – total hysterectomy due to ragged, irregular tears and haemorrhage. Bladder injury was observed solely in 3 patients with two previous caesarean section. No difference was observed in other complications such as abdominal infection and deep venous thrombosis. Perinatal mortality was 90%. There were no maternal death and no readmission.

Discussion

The frequency of uterine rupture in our study was 0.18%. The incidence was lower than the incidence reported in other studies (0.8%) in Ghana¹¹ and (0.74%) in Pakistan.¹²

Uterine rupture is an uncommon obstetric event. It is important because it continues to be associated with maternal mortality, especially in developing countries,

and with major maternal morbidity, particularly peripartum hysterectomy. It is also associated with a high incidence of very high perinatal mortality and morbidity worldwide.

In our study, the frequency of uterine rupture showed an increase in previous two caesarean sections as compared to previous one caesarean section. In our study, the frequency of uterine rupture among women with previous one caesarean section was 12.5% but it raised to 22% among women who had previous two caesarean sections. This was also supported by evidence from literature like Caughey AB et al who reported women with one prior caesarean delivery had a rate of uterine rupture of 0.8% whereas women with two prior caesarean deliveries had a rate of uterine rupture of 3.7% ($P = 0.001$). They concluded that women with a history of two prior caesarean deliveries have an almost 5 fold greater risk of uterine rupture than those with only one prior caesarean delivery.¹⁴

In our study, mean age of the patient was 27.3 ± 4.4 years and uterine rupture occurred in older age group and with two previous caesarean section. In other studies, the most common affected age group was 26 – 30 years.¹⁵ Our study showed that 73.27% of the patients were unbooked which is comparable to other studies.^{16,17} Urinary bladder injury was observed in three patients with one previous caesarean section. Higher rate of urinary bladder injury was found in other study, such as 18.5% reported from Ethiopia.⁷ Subtotal hysterectomy was done in five patients, similar to other study conducted in other parts of the world.¹⁸

There were no maternal mortality in our study in contrast to other studies (2.76%)¹⁹, (17.5%)²⁰, (3.3%)²¹ and (7.7%).²² Perinatal mortality in our study was 90% which was almost same in study done by Sahu et al, (83%)¹⁹, (91.2%)²² and (17.6%).²³

Conclusion

Uterine rupture in our population is still very high and is commonly seen in older women and women with lack of antenatal care. Antenatal education is vital to reduce this lethal complication. Proper antenatal care, health education and utilization of health facilities is needed. Proper selection and intensive monitoring should be done in patients having trial of labour after one previous caesarean section. No trial of labour should be attempted after two previous caesarean section.

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