

Uterine Rupture after Vaginal Birth in Patients with Previous Caesarean Section

AYESHA MANZOOR, FAIZA SATTAR, ASIM ZAHOOR, UMER ZAHOOR, HAFIZ ALI ZAHOOR

¹Postgraduate trainee Obstetrics and gynecology, Bahawal Victoria Hospital, Bahawalpur.

²MBBS

³Final Year MBBS

⁴Postgraduate trainee Pediatric Medicine, Sheikh Zayed Medical College/Hospital Rahim Yar Khan.

⁵Postgraduate trainee Radiology, Lahore General Hospital, Lahore.

Correspondence to: Dr. Faiza Sattar, Cell: 0331-7075910, Email: faizaumer721@gmail.com

ABSTRACT

Aim: To determine the frequency of uterine rupture after one successful vaginal birth after caesarean section.

Methods: This cross-sectional study containing 135 pregnant patients with singleton pregnancies of age 16-45 years admitted for 2nd vaginal birth after C-Section having gestational age \geq 28 was conducted from Jan-2019 to Feb-2020. Baseline data such as age, gestational age and parity status was noted. Frequency of uterine rupture after vaginal delivery was noted.

Results: Mean age was 29.96 \pm 5.12 years. Mean Body Mass Index (BMI) was 25.17 \pm 4.88kg/m². Mean gestational age at the time of delivery was 39.21 \pm 1.98 weeks. There were 76(50.7%) women having parity status 2, 50(33.3%) were having parity status 3 and only 24(16%) females were having parity status 4. Uterine rupture after vaginal birth occurred in 2 (1.33%) patients in our study. While in remaining 148(98.7%) patients there was no incidence of uterine rupture.

Conclusion: The frequency of uterine rupture in patients after vaginal birth for patients having last delivery through caesarean section is 1.48%, which is very low so it is safe to plan vaginal birth in patients having previous C-section.

Keywords: Caesarean Section, Vaginal Delivery, Uterine Rupture.

INTRODUCTION

Cesarean section is the commonest procedure in gynecology practice to deliver baby when vaginal delivery is not possible¹. Vaginal delivery after C-section is a terminology used to deliver baby through vaginal routine among women who previously underwent C-section delivery². Previously, it was a common myth that "C-section always a C-section" and it was used as a rule of thumb in clinical practice³. In recent years, researchers have reported that many of the women who underwent C-section can have normal delivery in subsequent pregnancies in up to 70 to 80% cases⁴. Even researches have reported lower rate complications in vaginal birth as compared to repeated C-section⁵.

Uterine rupture is the dreadful complication of vaginal birth in women having previous C-section.^{5,6} Vaginal birth in women with previous C-sections is now considered a safe approach but its effect on cesarean scar is not clear either it weakens the scar or strengthens it.⁷ Studies have reported a very low incidence of uterine rupture after vaginal delivery in these women^{8,9}.

In this study, we determined the frequency of uterine rupture in women undergoing vaginal delivery after previous C-section. As still un-clarity is there regarding the number of vaginal deliveries after first C-section and subsequent uterine rupture. Moreover, it is also unclear that successful births after caesarean increase the chance of weakening of uterine scar and the risk of rupture in subsequent pregnancy. This provides a good reason for determining the frequency of uterine rupture after the

successful vaginal birth in pregnant women with previous C-section in our population.

METHODS

A total of 135 pregnant women with singleton pregnancies of age 16-45 Years admitted for 2nd Vagina Birth after C-Section having gestational age \geq 38 weeks were included in study. Women with history of uterine surgery other than C-section, known cases of gestational diabetes, eclampsia or twin pregnancy were excluded. Written consent was taken from patients.

All patients were followed till delivery time. Successful vaginal birth was defined as delivery through vaginal without using any extraction tools. All patients were monitored for uterine rupture. Rupture was defined as disruption or tear of the uterine muscle and visceral peritoneum or as separation of the uterine muscle with extension to the bladder or broads ligament and it was diagnosed during and immediately after delivery.

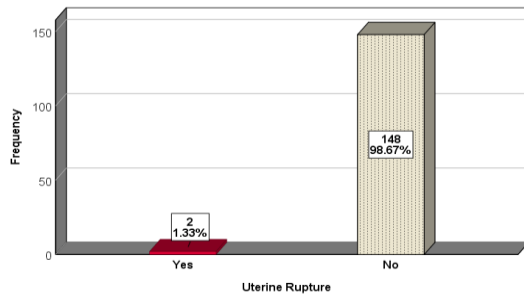
RESULTS

Mean age was 29.96 \pm 5.12 years. Mean BMI was 25.17 \pm 4.88kg/m². Mean gestational age at the time of delivery was 39.21 \pm 1.98 weeks. There were 76(50.7%) women having parity status 2, 50(33.3%) were having parity status 3 and only 24(16%) females were having parity status 4. Uterine rupture after vaginal birth occurred in 2(1.33%) patients in our study. While in remaining 148(98.7%) patients there was no incidence of uterine rupture (Figure 1).

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Figure 1: Frequency of Uterine Rupture.



DISCUSSION

Uterine rupture though is a very rare but is a very life threatening complication and is considered the most serious emergency in the labour rooms. Despite advances in care, it's still associated with evil health consequences of both the fetus and mother.¹⁰

According to a systematic review by the WHO to determine the prevalence of uterine rupture, WHO reported it's more communal in developing countries than in developed countries and have serious consequences¹¹. Obstructed labour, the great versatility, the ridiculously careful intervention/manipulation, the lack of premature SC care, the lack of book status, the right of access to emergency nursing care and the poor economy associated with the financial situation. However, uterine rupture after a previous CS becomes more common as the availability of CS increases in these parameters¹². According to a review of the literature on the development of uterine rupture in developing countries, the proportion of women with pre-CS or cervical rupture is 64%¹³.

In the present study, the frequency of cervical fractures in patients with vaginal birth tests after cesarean was 1.33%. A study in India found that the incidence of uterine rupture in women with pre-CS increased by 1.69%¹³. Other previous studies reported the incidences of uterine rupture in women with prior FCS from 0.22% to 1.69%^{14,15} and these were similar to the results of this study.

Uterine rupture is highest in countries with low KHDI (1.0%), and multivariate analysis identifies childbirth in countries with low HDI as a factor associated with uterine rupture. However, it should be noted that the number of cervical ruptures is very low in some countries (for example, 14 countries have 3 or fewer cases of cervical rupture), which can affect the reliability of calculated events¹⁶.

According to a recent multicenter study published by the WHO, the incidence of uterine rupture in women with premature CS varies from country to country, from 29 to 29 countries. WHO reports that women with uterine rupture are at a significant risk of maternal and childbearing problems. The authors found that women with low maternal CS education had an independent risk of uterine rupture. In other words, women who are underrepresented may be a risk factor for uterine rupture in a subpopulation, possibly due to other major associations, such as social inequality and health inequality. The authors found a significant

association between gestational age less than 37 weeks and uterine rupture in women with anterior CS (AOR 3.52-95; CI 2.14-5.77). Cause; Delivery up to 37 weeks can lead to uterine rupture. Most gestational ages are often referred to as a risk factor for uterine rupture¹⁷.

CONCLUSION

The frequency of uterine rupture in patients after vaginal birth for patients having last delivery through caesarean section is 1.33%, which is very low so it is safe to plan vaginal birth in patients having previous C-section.

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