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ORIGINAL ARTICLE

Feto-Maternal Outcome after Trial of Vaginal Delivery in Women Having the History of Previous Caesarean Section: A Cross-Sectional Study in Pakistan

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ABSTRACT

Aim: To determine the fetus and maternal outcome on the trial of vaginal delivery after a previous single Caesarean Section (CS).

Study design: A cross-sectional study

Place and Duration: This study was conducted at Bolan Medical Complex Hospital Quetta from January 2021 to December 2021

Methodology: A total of 108 cases were incorporated in the study who had a previous single CS. Patients' vital signs, fetal cardiac activity, pain and tenderness of the lower abdomen, and fetal distress were observed extensively during the labor. Data was collected with pre-designed Performa, and written informed consent was obtained on a consent form. The hospital committee was given authorization, and the data was analyzed for outcomes.

Results: A total of71 patients (65.7%) had a successful vaginal delivery, while 37 (34.3%) required a repeat emergency cesarean section. Out of 71 vaginal deliveries, 47 (66.2%) were between the ages of 19 and 30 years, while 24 (33.8%) were between 31 and 45 years. Out of 37 instances, 22 (59.5 %) were between the ages of 19 and 30 years, while 15 (40.5 %) were between 31 and 45 years. The distribution of cases according to fetal distress in emergency cesarean section patients showed that 8 cases (21.6%) experienced fetal distress, and 29 (78.4%) did not develop any fetal complication.

Conclusion: This study demonstrates the higher frequency of fetal distress in CS than vaginal delivery. Pregnant patients should be encouraged to have vaginal deliveries to reduce future morbidity related to CS.

Keywords: Caesarean Section, Emergency cesarean delivery, Feto-maternal, vaginal delivery

INTRODUCTION

Cesarean section (CS) rates are rising worldwide, and it is now the most common surgical procedure performed on women of reproductive age.(1)Several variables have contributed to the rising trend of cesarean sections (CS). Increased maternal age at first pregnancy is one of the proposed driving forces. Other contributing reasons include the idea that it is painless and safer, its accessibility for families and mothers, and hospital policies that encourage CS and discourage vaginal births after CS.(2) The CS is the most often performed obstetric procedure, and it has considerably improved obstetric care. CSs are no longer conducted according to guidelines, but they are still seen as a way to avoid labor discomfort by the general public.(3)Vaginal birth after cesarean delivery has become challenged. Both the patient and the care provider find it difficult to plan the mode of delivery for women who have had a previous cesarean delivery. (4)An increase in the likelihood of surgical complications and improper placentation in subsequent pregnancies is linked to an elective repeat cesarean delivery. Attempting a vaginal birth after cesarean delivery, on the other hand, is linked to an increased risk of uterine rupture and other maternal and newborn problems.(5) Furthermore, many women who attempt a vaginal birth following a cesarean delivery will need an emergency cesarean, increasing the risk of maternal and newborn problems. (6)

When compared to vaginal deliveries, it has a 3/4 incidence of fatality. Compared to normal delivery, the risk of maternal death related to CS delivery has increased three times. Fetal respiratory difficulties, Poor APGAR Scores such as pulse, grimace, poor appearance, activity, respiration, and childhood asthma, are the most common consequences for newborns delivered via CS.(7)The number of Caesarean Sections has risen alarmingly in the last three decades worldwide, and the fear of uterine rupture in a subsequent pregnancy and labor has led to a high proportion of repeat Caesarean Sections. More than 75% of patients who have had one Caesarean section for a non-recurrent reason can be delivered vaginally.(8)Furthermore, the World Health Organization (WHO) reports that CS use is rising globally, accounting for twenty-one percent of all births worldwide. According to estimates, this percentage is expected to rise 2030 by 29%. Altogether, the reported prevalence of CS is much greater than the WHO's recommended rate of fifteen percent or less to balance the related advantages and hazards. (2)

Pakistan is among the top ten countries where CSs are responsible for 59% of maternal deaths worldwide. Pakistan's obstetric and newborn care services are objectionable. The maternal healthcare system in Pakistan has significant socioeconomic disparities.(9) In Pakistan, the rising rate of CS concerns and a major public health concern. The rising rate of CS in Pakistan's metropolitan regions, which is estimated to be around 25%, is causing alarm.(10) The vaginal birth after cesarean delivery policy could prevent several cesarean deliveries. Overall, newborn and maternal outcomes were better in women who had a trial of labor rather than an elective repeat cesarean delivery. The majority of the morbidity was linked to a failed labor trial. A better selection of women who are likely to have a successful vaginal birth following a previous cesarean would be predicted to reduce the risk of a trial of labor.(11) Patients who have previously had a CS but have previously delivered vaginally have a better likelihood of delivering vaginally than others. The scar tissue trial would be ineffective if past cesarean deliveries were due to poor obstetric history. The greatest outcome was related to a successful trial of labor after one CS, highlighting the importance of patient selection for a trial of labor.(12) This present study was conducted to focus on the results of a labor trial with a previous Caesarean section.

METHODOLOGY

Permission was taken from the ethical review committee of the institute. All women who previously had 1 cesarean delivery were included in the study. Patients between 19-45 years and a singleton delivery at 37 to 43 weeks gestation in the current pregnancy were included in the primary analysis. Patients who had previously undergone more than one CS, had been diagnosed with hypertension or diabetes or had any contraindications to a vaginal birth in the current pregnancy, such as Placenta Previa, mal-presentation, or a healthy baby as established by ultrasound, were excluded. We took 108 pregnant women who met the inclusion

and exclusion criteria, had a previous cesarean delivery, and had regular antenatal checkups reporting obstetric OPD. A voluntary informed consent was obtained. Name, age, and address are examples of demographic variables. At 37 weeks of pregnancy, the decision was made to try labor. An intravenous line was kept open, and blood group and cross-matching were already arranged for emergency use. Patients were permitted to go into labor on their own. Patients were constantly observed during the trial of labor by vital signs, fetal cardiac activity, lower abdomen pain and tenderness, and fetal distress. During the whole labor trial, an emergency CS facility was made available. Vaginal delivery and fetal discomfort were the fetal and maternal outcomes. All of the observations were recorded for further analysis. SPSS version 21 was used for data analysis. Parity, maternal outcome in normal vaginal delivery and fetal distress were provided as a frequency and percentage, respectively, and gestational age was calculated as a mean + SD.

RESULTS

The present study included pregnant patients who had had single CS previously. A total of 108 patients were incorporated into the study. A total of 71 pregnant women had a successful trial of vaginal delivery, whereas 37 pregnant women again had caesarian delivery after failed trial for normal delivery. Out of 71 vaginal deliveries, 47 (66.2%) were between the ages of 19 and 30 years, while 24 (33.8%) were between the ages of 31 and 45 years (Table 1). Out of 37 CS instances, 22 (59.5%) were between the ages of 19 and 30 years, whereas 15 (40.5%) were between the ages of 31 and 45 years (As shown in Table 2).

Out of 71 pregnant patients, 48 (67.6%) cases had 37 to 38 weeks of gestational pregnancy in this study. Whereas 23 (32.4%) patients had 39 to 40 weeks of gestational pregnancy (As shown in Table 3). In vaginal delivery, 1 (1.4%) cases faced fetal distress; however, 70 (98.6%) cases did not face any fetal complications and distress after delivery (As shown in Table 4). As compared to vaginal delivery, CS caused fetal distress in 8 (21.6%), and 29 (78.4%) did not face any distress cases (As shown in Table 5).

Table-1: Distribution of patients who had vaginal delivery after previous CS:

Age (Years)	Number	Percentage
19-30	47	66.2
31-45	24	33.8
Total	71	100

Table-2: Distribution of patients who had Cesarean delivery after previous CS:

Age (Years)	Number	Percentage
19-30	22	59.5
31-45	15	40.5
Total	37	100

Table-3: Distribution of patients by gestation week in cases of successful vaginal deliveries:

Gestational age (weeks)	Number	Percentage
37-38	48	67.6
39-40	23	32.4
Total	71	100

Table-4: Distribution of cases in terms of fetal distress with vaginal deliveries

Fetal Distress	Number	Percentage
Yes	1	1.4
No	70	98.6
Total	71	100

Table-5: Distribution of cases in terms of fetal distress with Cesarean deliveries

Fetal Distress	Number	Percentage
Yes	8	21.6
No	29	78.4
Total	37	100

DISCUSSION

Cesarean sections are becoming more common in both developed and underdeveloped countries, and they are associated with a three-fourth increase in mortality compared to vaginal deliveries. Cesarean births have increased dramatically among Pakistani women, from 3.2 % in 1990 to 19.6 % in 2018. Further research in Pakistan has revealed that fetal distress, extended labor pain, wound infections, previous cesarean history, and placenta rupture are the most common medical reasons for CS in Pakistani hospitals. There is a need to minimize the high CS rate since it has a negative impact on maternal health and obstetric care costs. The rate of CS can be lowered by lowering the main Caesarean rate or sending patients who have had one Caesarean to a trial of labor following extensive examination and counseling. The goal of this study was to see how feto-maternal outcomes changed following a trial of labor in individuals who had already had one Caesarean section. Successful vaginal births are more common in younger women than in older women.

In the present study, we observed 71 (65.7%) cases had successful vaginal deliveries after previous CS, which shows more than half of pregnant females were able to deliver normally. Kiwan et al. (2018) showed in their study that the success rate of inducing labor after Cs was 50% and 66.6 %. (13) Another study reported that the trial of labor was observed in 297 cases, out of which successful vaginal deliveries were observed in 134 (45.1%) cases. (14)In our study, vaginal deliveries after CS were mostly observed in women younger than 30 years. The possible reason could be their health status. In Asian countries, CS cost is very high compared to vaginal deliveries, after surgery care is also an important added perspective. Comparable results were seen in other studies. (15, 16)Cesarean birth may be influenced by gestational age, as very preterm singletons and multiples have a higher risk of CS, whereas singletons at 39 and 40 weeks have a lower risk. (17) Present study observed that 67.6% of cases had vaginal deliveries at 37-38 weeks of gestation. Rasool et al. (2021) observed that early preterm <37 and late-term >40 were associated with an increased risk of CS. (18) Another study found that the successful TOLAC group had a considerably lower mean gestational age than the unsuccessful group. The number of women hospitalized in labor with a gestation of fewer than 40 weeks was much greater in the unsuccessful group. (19)

The majority of women referred to CS had multiple complications, including obstetric hemorrhage, infection, fetal distress, prolonged membrane rupture, extended labor, etc. The present study observed fetal distress in 21.6% of neonates of the women who went through caesarian sections, which was very high compared to those who delivered vaginally. Similar findings were presented in other studies. (1, 13, 20)No mortality was observed in the present study.

CONCLUSION

According to this study, patients who have had a previous CS for a non-recurrent reason can be successfully delivered vaginally. Successful maternal and perinatal outcomes can be achieved through antenatal booking and follow-up, judicious case selection for scar trial, and attentive observation during labor. Previous Two Caesarean Sections are now an indication for elective Caesarean Section in our setting, so try to achieve vaginal delivery to prevent any future CS. Vaginal delivery should be encouraged to minimize the rate of cesarean sections. Early booking, prenatal visits, and hospitalization should all be encouraged.

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REFERENCES

1. Young CB, Liu S, Muraca GM, Sabr Y, Pressey T, Liston RM, et al. mode of delivery after a previous cesarean birth, and associated maternal and neonatal morbidity. CMAJ : Canadian Medical

Association journal = journal de l'Association medicale canadienne. 2018;190(18):E556-E64.
2. Rasool MF, Akhtar S, Hussain I, Majeed A, Imran I, Saeed H, et al. A cross-sectional study to assess the frequency and risk factors associated with cesarean section in Southern Punjab, Pakistan. International journal of environmental research and public health. 2021;18(16):8812.
3. Odunvbun W, Nwachi A, Oyeye L, Ojeogwu C. Impact of Free Maternity Service on Caesarean Acceptance and Perception in Delta State. South-South Nigeria. African Journal of Tropical Medicine and Biomedical Research. 2019;4(2):44-50.
4. Qamoos R, Shahida A, Ruquiya A. Outcome of trial of labour with previous one cesarean section. 2014.
5. Sandall J, Tribe RM, Avery L, Mola G, Visser GH, Homer CS, et al. Short-term and long-term effects of cesarean section on the health of women and children. The Lancet. 2018;392(10155):1349-57.
6. Dodd JM, Crowther CA, Huertas E, Guise JM, Horey D. Planned elective repeat cesarean section versus planned vaginal birth for women with a previous cesarean birth. Cochrane Database of Systematic Reviews. 2013(12).
7. Aljohani AA, Al-Jifree HM, Jamjoom RH, Albalawi RS, Alosaimi AM. Common Complications of Cesarean Section During the Year 2017 in King Abdulaziz Medical City, Jeddah, Saudi Arabia. Cureus. 2021;13(1).
8. Khatri RA, Chand A, Thapa M, Thapa S, Khadka S. Acceptance of vaginal birth after caesarean section trial in Shree Birendra Hospital, Kathmandu, Nepal: a descriptive cross-sectional study. JNMA: Journal of the Nepal Medical Association. 2021;59(233):1.
9. Amjad A, Imran A, Shahram N, Zakar R, Usman A, Zakar MZ, et al. Trends of cesarean section deliveries in Pakistan: secondary data analysis from Demographic and Health Surveys, 1990-2018. BMC pregnancy and childbirth. 2020;20(1):753.
10. Kanwal Aslam S, Zaheer S, Qureshi MS, Aslam SN, Shafique K. Socio-Economic Disparities in Use of Family Planning Methods among Pakistani Women: Findings from Pakistan Demographic and Health Surveys. PloS one. 2016;11(4):e0153313.
11. Li Y-X, Bai Z, Long D-J, Wang H-B, Wu Y-F, Reilly KH, et al. Predicting the success of vaginal birth after cesarean delivery: a retrospective cohort study in China. BMJ Open. 2019;9(5):e027807.
12. Tanos V, Toney ZA. Uterine scar rupture - Prediction, prevention, diagnosis, and management. Best practice & research Clinical obstetrics & gynaecology. 2019;59:115-31.
13. Kiwan R, Al Qahtani N. Outcome of vaginal birth after cesarean section: A retrospective comparative analysis of spontaneous versus induced labor in women with one previous cesarean section. Annals of African medicine. 2018;17(3):145-50.
14. Kalisa R, Rulisa S, van Roosmalen J, van den Akker T. Maternal and perinatal outcome after previous caesarean section in rural Rwanda. BMC pregnancy and childbirth. 2017;17(1):272.
15. Fagerberg MC, Marsal K, Kallen K. Predicting the chance of vaginal delivery after one cesarean section: validation and elaboration of a published prediction model. European journal of obstetrics, gynecology, and reproductive biology. 2015;188:88-94.
16. Madaan M, Agrawal S, Nigam A, Aggarwal R, Trivedi SS. Trial of labour after previous caesarean section: the predictive factors affecting outcome. Journal of obstetrics and gynaecology : the journal of the Institute of Obstetrics and Gynaecology. 2011;31(3):224-8.
17. Delnord M, Blondel B, Drewniak N, Klungsoyr K, Bolumar F, Mohangoo A, et al. Varying gestational age patterns in cesarean delivery: an international comparison. BMC pregnancy and childbirth. 2014;14:321.
18. Rasool MF, Akhtar S, Hussain I, Majeed A, Imran I, Saeed H, et al. A Cross-Sectional Study to Assess the Frequency and Risk Factors Associated with Cesarean Section in Southern Punjab, Pakistan. International journal of environmental research and public health. 2021;18(16).
19. Abdelazim IA, Elbiaa AA, Al-Kadi M, Yehia AH, Sami Nusair BM, Faza MA. Maternal and obstetrical factors associated with a successful trial of vaginal birth after cesarean section. Journal of the Turkish German Gynecological Association. 2014;15(4):245-9.
20. Lazarou A, Oestergaard M, Netzl J, Siedentopf JP, Henrich W. Vaginal birth after cesarean (VBAC): fear it or dare it? An evaluation of potential risk factors. Journal of perinatal medicine. 2021;49(7):773-82.