Original Article

Fetomaternal Outcome of Vaginal Birth After C Section in DHQ Hospital Dera Ismail Khan

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Abstract

Objective To determine the frequency of fetomaternal outcomes of vaginal birth after C-section in DHQ hospital Dera Ismail Khan.
Methodology: This descriptive Case Series study was conducted at Department of Obstetrics and Gynaecology, DHQ hospital Dera Ismail Khan from 10th September 2022 to 10th March 2023. A total of 157 women planned for trial of labour were included in the study. After delivery patient was kept in labour room for 24 hours. Data was collected for fetomaternal outcomes (Postpartum Hemorrhage, Infection, Scar Dehiscence and Low Apgar Score).
Results: Age range in this study was from 18 to 40 years with mean age of 28.197±2.63 years, mean gestational age 38.700±1.07 weeks and mean parity was 1.808±0.96. Postpartum hemorrhage was observed in 10.8% patients, infection 8.3%, scar dehiscence 4.5% and low Apgar score was 10.2%.
Conclusion: Trial of vaginal birth after cesarean section should be encouraged for appropriate cases.
Keywords: Pregnancy, Vaginal birth, Outcomes. Fetus, Maternal

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Introduction

Vaginal birth after cesarean section (VBAC) trial is an alternative to repeated Caesarean sections (CS). This practice was peaked during the mid-1990s to lower the rate of repeat CS.[1] This decline has been a response to new evidence on VBAC's risks and clinician's fear of professional liability.[1] In 1916, Cragin popularized the dictum “once a cesarean section, always a cesarean section.” That was the era of classical CS.[2,3] The dictum now is “once a cesarean section, always an institutional delivery in a well-equipped hospital.” The reasons that led to the reversal of the old dictum are based on the scar integrity, fetal well-being, and improved emergency CS facilities.[4,5]

Vaginal Birth After Cesarean section is associated with shorter maternal hospitalizations, less blood loss and fewer transfusions, fewer infections and fewer thromboembolic events than cesarean delivery.[6] Several reports have indicated that the absolute risk of uterine rupture attributable to a trial of labor is about 1 per 1000.[7] A 60% to 80% success rate of vaginal birth after previous caesarean section has been reported by many authors if the primary caesarean was done for nonrecurring indications.[7]

Some of the non-recurring indications for caesarean section are: poor labor progress, fetal distress, placenta previa, transverse lie, breech presentation, oblique lie, pregnancy induced hypertension and twins.[8]

Both, attempting a vaginal birth and opting for an Elective Repeat Cesarean Section (ERCS) are associated with different risks for the mother and newborn and deciding a delivery plan involves a difficult weighing of those cases.[9] For years, researchers have maintained an interest in the

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effective prediction or identification of factors, which can influence the outcome of a trial of scarred uterus. The ability to predict the outcome of an attempted trial of vaginal delivery plays an important role in initial counseling of pregnant women with previous one cesarean delivery.[9]

The common fetomaternal outcomes observed in a study conducted in Ethiopia by Siraneh Y found frequency of postpartum hemorrhage by 3.8%, Infection 4.8%, Scar dehiscence 4.6% and low Apgar score was 7.7%.[10]

Studies on fetomaternal outcome are few and mostly conducted in developed countries which are difficult to generalize for resource limited setting like ours. Hence, the objective of this study was to determine the frequency of fetomaternal outcomes of vaginal birth after C-section in local population in DHQ hospital Dera Ismail Khan

Methodology

This descriptive study was conducted in Department of Obstetrics and Gynaecology, DHQ hospital Dera Ismail Khan from 10th September 2022 to 10th March 2023. Sample size was 157 which was calculated using WHO sample size software with 95% confidence interval and 3% margin of error and expected frequency of postpartum hemorrhage by 3.8%.[10] Sampling technique was Non-probability consecutive sampling.

Women age 18 to 40 years with Singleton pregnancy on ultrasound with Gestational age > 36 week on LMP, Parity ≥ 1, Previous delivery by C-section for non recurring indication, planned for trial of labour were included in study while women with Malpresentation on ultrasound, Placenta previa on ultrasound, Intra-uterine growth restriction (fetal abdominal circumference below the 10th percentile and fetal weight below the 10th percentile on ultrasound) were excluded from study.

Patients fulfilling the inclusion criteria from indoor Department of Obstetrics and Gynaecology, DHQ hospital Dera Ismail Khan were included in the study after permission from ethical committee. A detailed explanation about the participation in the study was given to the patient and a written informed consent was obtained explaining the risk and benefits of the study. Basic demographics like age, gestational age, parity were recorded.

An abdominal and pelvic examination was done in every patient and findings were plotted on partogram. During their stay in labor room, scar tenderness and continuous cardiotocography (CTG) in all patients was monitored with great care and as per protocol for High Risk Pregnancy until vaginal delivery. In case of failure of vaginal birth (prolonged labour > 16 hours, fetal distress), immediate cesarean section was performed as per protocol. Decision of emergency caesarean section was taken by consultant gynecologist of 3 years post fellowship experience. After delivery patient was kept in labour room for 24 hours. If remained stable then she was shifted to postnatal ward. Data was collected for fetomaternal outcomes (Postpartum Hemorrhage, Infection, Scar Dehiscence and Low Apgar Score) as per operational definition. All this data was noted by on especially designed proforma .

Data was analyzed with statistical analysis program (IBM-SPSS-version25). Mean ±SD was presented for quantitative variables like age, gestational age, parity. Frequencies and percentages were computed for qualitative variables like Postpartum Hemorrhage, Infection, Scar Dehiscence and Low Apgar Score. Stratification was done with regard to age, gestational age and parity to see their effect on fetomaternal outcomes. Post stratification chi square test was applied and p ≤0.05 was considered statistically significant.

Results

Age range in this study was from 18 to 40 years with mean age of 28.197±2.63 years, mean gestational age 38.700±1.07 weeks and mean parity was 1.808±0.96 as shown in Table-I.

Postpartum hemorrhage was observed in 10.8% patients, infection 8.3%, scar dehiscence 4.5% and low Apgar score was 10.2% as shown in table I.

Stratification of fetomaternal outcomes with respect to age, gestational age and parity are shown in Tables I II and III

Discussion

A total of 157 women with a previous lower segment cesarean section (LSCS) were eligible for vaginal birth after cesarean (VBAC) per hospital protocol and enrolled in this prospective study after providing informed consent. In this study postpartum hemorrhage was observed in 10.8% patients, infection 8.3%, scar dehiscence 4.5% and low Apgar score was 10.2%.

Table I: Stratification of PPH with respect to gestational age, parity and age in years.

Gestational age (weeks)	PH		p-value
	Yes	No	
37-39	14(11.2%)	111(88.8%)	0.767
>39	3(9.4%)	29(90.6%)	
Total	17(10.8%)	140(89.2%)	
Parity	**Infection**		**p-value**
	Yes	No	
1-3	11(7.4%)	138(92.6%)	0.078
>3	2(25%)	6(75%)	
Total	13(8.3%)	144(91.7%)	
Age (years)	**Scar Dehiscence**		**p-value**
	Yes	No	
18-30	0(0%)	126(100%)	0.000
>30	7(22.6%)	24(77.4%)	

Table- II: Stratification of Scar Dehiscence with respect to parity.

Parity	Scar Dehiscence		p-value
	Yes	No	
1-3	0(0%)	149(100%)	0.000
>3	7(87.5%)	1(12.5%)	
Total	7(4.5%)	150(95.5%)	

Table III: Stratification of Low Apgar score with respect to gestational age.

Gestational age (weeks)	Low Apgar Score		p-value
	Yes	No	
37-39	11(8.8%)	114(91.2%)	0.255
>39	5(15.6%)	27(84.4%)	
Total	16(10.2%)	141(89.8%)	

In a retrospective cross-sectional study at Attat Catholic Hospital, Ethiopia by Siraneh Y, et al using sample size of 169 mothers with pervious one cesarean scar who gave birth in Attat Catholic hospital has shown that frequency of postpartum hemorrhage by 3.8%, Infection 4.8%, Scar dehiscence 4.6% and low Apgar score was 7.7%.[10]

Comparable VBAC success rates were found in other studies by Balachandran et al. (83.47%), Ugwu et al. (50%), and Durnwald and Mercer (66%).[11-13]

Raja et al. developed a scoring system to predict VBAC success based on age, gestational age, prior cesarean indication, history of vaginal birth, Bishop score, and BMI.[52] Higher scores correlated with greater VBAC success, ranging from 38% with scores of 0-3 to 86% with scores of 10-12.[14]

Other studies also found associations between trial of VBAC and post partum haemorrage, scar dehiscence and post partum infections..[15-17]

NICU admission was significantly higher in the VBAC failure versus success group, consistent with prior studies showing higher neonatal morbidity with failed VBAC.[18,20] Reported uterine rupture risk with VBAC is 0.2-0.7%.[20] Careful patient selection and allowing spontaneous labor onset improve VBAC success. [21] Among women attempting trial of labor for VBAC in this study, the incidence of scar dehiscence was similar to rates of 2% reported in Tanzania and India.[22,23] There were also 3 perinatal deaths and no maternal deaths, comparable to findings from Malaysia.[24] The major shortterm complications were infection and postpartum hemorrhage. However, complication rates were higher compared to those occurring with successful vaginal birth. No difference was found in 1st and 5th minute APGAR scores between groups.

VBAC is not appropriate for every woman and careful consideration should be made in consultation with medical providers when weighing the benefits and risks. Women with previous uterine surgery may be at higher risk for complications and should be monitored closely during labor. Further research is needed to identify optimal candidates for VBAC and develop protocols to minimize adverse events. With thoughtful patient selection and appropriate intrapartum care, VBAC can often be offered as a reasonable alternative to repeat cesarean delivery for eligible women wishing to pursue a trial of labor after a prior cesarean birth The limitations of this study are generalizability may be limited due to the single-centre setting and non-probability sampling. However, strengths include the moderately large sample size, comparative analysis between VBAC outcomes, and investigation of an important clinical issue to inform practice. Further multi-center studies using stronger designs are warranted to build on these initial findings.

Conclusion

Our study has concluded that while vaginal birth after cesarean (VBAC) can be a safe option for many women; it does carry risks including postpartum hemorrhage, infection, scar dehiscence, and low Apgar scores. Overall, the outcomes after VBAC in this study were relatively favorable, with most women and infants avoiding major complications.

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