



Vaginal Birth After One Previous Lower Segment Caesarean Section

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Abstract

To find out the incidence and factors favorable for vaginal delivery after previous one lower segment CS and to document maternal and fetal complications if any in these women. It was a three year study (two year retrospective and one year prospective) and a total of 205 women with previous one lower segment CS for non recurrent indication were included in the study. Case selection for trial of vaginal delivery was done as per the ACOG guidelines. Out of 205 women who were given trial of labor, 56.1% had a vaginal birth after Caesarean section (VBAC) and 43.9% required emergency repeat CS. There was no maternal or neonatal mortality and also no case of uterine rupture. A trial of vaginal delivery after previous one LSCS in selected patients can eliminate the need for a large proportion of repeat CS. This can significantly decrease the incidence of postpartum morbidity, anesthetic and operative risks and financial liabilities.

Key Words

Lower segment caesarean section , Vaginal birth after caesarean section, Caesarean section

Introduction

Vaginal Birth after Caesarean Section (VBAC) has always remained a domain of controversies and dilemma in Obstetrics. Nearly 100 years ago it was believed that 'once a C-Section, always a C-Section'. The reasons for increasing C-Section rates are multifactorial but a recent analysis of C-Birth epidemic concluded that a practice of elective repeat C-Section for women with previous C-Section has been the major contributor to the escalation in the total C-Section rate (1). However with improved maternity care, electronic fetal monitoring and institutional delivery for a previous caesarean section, VBAC is considered safer than repeat elective CS in a carefully selected population (2). Patients with successful trial of labor experience fewer blood transfusions, fewer postpartum infections and no increased perinatal mortality as compared to those with planned repeat caesarean delivery (3).

However in the event of a failed trial there is a definite increase in perinatal and maternal morbidity and mortality rates (4, 5). The most important risk of vaginal birth after Caesarean is rupture of uterine scar. In a study of more than 8000 women the rate of scar rupture or dehiscence was 0.5% (6). The common factors associated with rupture were excessive use of oxytocics, dysfunctional labour and more than one previous Caesarean section.

Material and Methods

It was a one year prospective and two year retrospective study carried out on 205 women in the department of Obstetrics & Gynecology, CMC Ludhiana. Sixty women with singleton pregnancy with history of previous one lower segment Caesarean section for non-recurrent indication were enrolled in the prospective study taking into consideration the ACOG guidelines (7).

Exclusion criteria

Malpresentations, cephalo pelvic disproportion, multiple pregnancy, IUGR, Placenta Praevia-Major degree, Scar tenderness (on admission), Extension of Previous Uterine Scar. Detailed history of these women was taken with special reference to indication for previous Caesarean section, post operative period and presence of any obstetrical and medical complications. Detailed general physical and abdominal examination was done in all these women. A Pelvic examination was done to know Bishop's Score and adequacy of pelvis. Labor was induced with Cerviprime gel (PGE₂ gel) under close monitoring if women did not go into spontaneous labor at 40 weeks. Oxytocin if indicated was used judiciously for augmentation of labor. Electronic fetal monitoring was done during labor. Pulse, B.P., scar tenderness, bleeding per vaginum was monitored one hourly. Labor progress was charted on a partograph. Second stage of labor was shortened by use of forceps if indicated. All women were

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Table.1 Relationship Between Indication of Previous Caesarean Section and Present Mode of Delivery

Indication for Previous Caesarean Section	Total Number		Mode of Delivery			
		%	CS	%	VD	%
Fetal Distress	79	38.52	32	40.50	47	59.49
Failed Progress of Labor	49	23.90	26	53.06	23	46.93
Breech	32	15.60	9	28.12	23	71.87
Placenta Prae via	9	4.39	2	22.22	7	77.77
Failed Induction	14	6.82	10	71.42	4	28.57
PIH	11	5.36	4	36.36	7	63.64
Transverse Lie	3	1.46	0	00.00	3	100%
IUGR	3	1.46	2	66.66	1	33.33
Twins	1	00.48	1	100	0	0
Others	4	1.93	1	0.25	3	0.75
P value			< 0.05		< 0.05	

Table. 2 Distribution of Patients According to Mode of Delivery (n=205)

Mode of Delivery	Number	%
NVD	72	35.12
Forceps	43	20.79
Outlet	26	12.68
LMCF	17	8.29
Caesarean	90	43.90

Table.4 Maternal and Neonatal Complications in relation to Mode of Delivery

Maternal				
Complications	CS	VD	Total	%
Scar Dehiscence	4	-	4	1.95
Wound Infection	1	-	1	0.48
Atonic PPH	1	1	2	0.97
Neonatal				
Apgar Score < 7 (5mins.)	2	1	3	1.46

kept ready for emergency CS if need arose. Trial of vaginal delivery was terminated in cases who developed indications like fetal distress, scar tenderness, non-progress of labor and emergency caesarean section was performed. Fetal outcome was assessed by Apgar score after one minute and five minutes. Any maternal complications in immediate post partum period were looked for.

Statistical Analysis

Incidence of vaginal delivery and associated 95% confidence interval was reported. All qualitative group

Table.3 Distribution of Patients According to Indication of Caesarean Section during Current Pregnancy

Mode of Delivery	Number	%
Failed Progress of Labor	45	50.00
Fetal Distress	22	24.44
Failed Induction	11	12.22
Scar Tenderness	12	13.33

comparisons were carried out with the help of Chi-square or Fisher's Extract.

Results

This was a three year study which included two year retrospective (145 patients) and one year prospective study (60 patients). Total 205 patients with previous one lower segment caesarean section who were given trial of labor were studied. The results of the study are summarized below: The age of patients ranged from 21-40 years. Mean age of the patients was 28.33 years. The mean gravidity was 2.55 and it ranged from gravida 2 to gravida 6 and the mean parity was 1.25 and ranged from para 1 to para 3. Mean gestational age at the time of delivery was 38.25 weeks. Fetal distress was the most common indication for previous caesarean section (38.52%) and failed progress of labor in 23.90%. Success of vaginal delivery was related to the indication of previous caesarean section as shown in the above table. As shown in the table, out of 205 patients, 72 patients (35.12%) delivered by normal vaginal delivery. Outlet forceps were applied in 26 (12.68%) patients and LMCF in 17 patients (8.29%). 90 patients (43.90%) delivered by caesarean section. Most common indication for caesarean section in current pregnancy was failed progress of labor 50%



fetal distress in 24.44%, failed induction in 12.22% and scar tenderness in 13.33% of the patients. In our study 12 (13.33%) patients were noticed to have scar tenderness. All these patients had either induction with PGE2 gel or augmentation with oxytocin. They were all taken up for cesarean section - of these 4 (1.95%) had scar dehiscence. So the rate of scar dehiscence was 1.95%. 0.48% patients had wound infection and 0.97% had atonic PPH. There was no maternal mortality. Apgar score <7 at 5 minutes was present in 1.46% babies. There was no neonatal mortality.

Discussion

In our study the success rate of vaginal delivery was 56.10% which is comparable to several studies in literature, the range being between 60-80% (8-10). The most common indication of repeat caesarean section in our study was failure to progress in 50% followed by fetal distress in 24.44%. Fetal distress was the commonest indication in some of the recent studies (11, 12). We found the most important predictor of successful VBAC to be a favorable bishop score. Out of 21 patients (10.24%) with a Bishop Score of 7 on admission 17 (80.95%) had successful VBAC and this was statistically significant as also found in a previous study (1). Prior successful VBAC was the second most significant predictor, as (80.76%) of these patients delivered vaginally again. Similar conclusions were drawn in other studies (1, 13, 14).

Augmentation with oxytocin did not have a significant role in the outcome of trial of labour in our study. Other factors favoring successful VBAC were patients in spontaneous labor, those with non recurring indications for previous CS like malpresentation, placenta previa etc. Factors which were unfavorable for VBAC were increased maternal age (15) gestational age >40 wks and macrosomia (16). In our study there was no maternal or neonatal mortality. Emergency CS was done in 12 patients due to scar tenderness but intra operative only 4 (1.95%) were found to have scar dehiscence. There was no case of uterine rupture in our study. The incidence of wound infection was 0.48% and of atonic PPH was 0.9%. The incidence of scar dehiscence has varied from 0.7% to 2.6% in various studies (17, 18). In our study an Apgar score <7 at 5min was found in 3 (1.46%) infants which was comparable to other studies (17, 19, 20).

Conclusion

Trial of labor after one caesarean section should be undertaken in selected patients in well equipped hospitals where facilities to deal with emergencies are available. The significance of vaginal delivery is emphasized because of its minimum post partum morbidity, anesthetic and operative risks, financial liabilities, emotional and psychological satisfaction to the mother. Thus, it seems

appropriate to encourage a trial of labor in almost all patients with a prior lower segment transverse uterine incision unless there is a strong physician or patient-derived contraindication to such an undertaking. Proper selection, appropriate timing, suitable method by competent staff are the key factors to achieve greater degree of success.

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