



THE MATERNAL AND PERINATAL OUTCOME OF TRIAL OF LABOUR IN MOTHERS HAVING PREVIOUS ONE CAESAREAN SECTION- A PROSPECTIVE STUDY.

Obstetrics & Gynaecology

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ABSTRACT

Background:Offering a trial of labour (ToL) after previous caesarean section (CS) is an important strategy to reduce short- and long-term morbidity associated with repeated CS. The present study was undertaken to describe the maternal and perinatal outcome relating to trial of labour in previous one CS.**Methods:** Total 200 mothers with previous one CS with full term (>37weeks), singleton cephalic presentation delivering vaginally at our hospital and cases given trial of labour during the study period were included.**Results:** Out of 200 cases, successful VBAC were seen in 149(74.5%) cases. The commonest indications for previous caesarean done were malpresentation (breech) (39.5%). Commonest mode of delivery was vaginal (54.5%), forceps applied to 20%, 25.5% required repeat CS. Of 51 repeat CS, maximum (31;60.7%) were because failure to progress and commonest complications were intra-operative adhesions (25%). 89% babies with birth weight <3000gm underwent VBAC, compared to 74.5% in repeat caesarean group. The postpartum complications seen were PPH (4.5%), 4% required blood transfusion, 2.5% had febrile morbidity, 1.5% surgical site infection seen in CS, 1% patients required ICU admission due to rupture uterus. Out of 198 live birth 95% were having apgar score >7 and 5% having <7 out of which 10 babies required admission in NICU. 1% still birth present due to rupture uterus, 99% live birth, 2% had birth asphyxia, 2.5% had meconium aspiration, 0.5% had neonatal convulsion, 4.5% babies required intubation and 4.5% babies were on ventilator support. **Conclusion:** Gravid women with previous CS have willingness for trial of labor in second pregnancy though the mode of delivery may differ. With prior patient selection and facility for continuous electronic fetal monitoring women can be counselled for trial of VBAC and optimizing the maternal and perinatal outcome.

KEYWORDS

Trial of labour; Caesarean section; Morbidity; Malpresentation; Rupture uterus; Apgar score; VBAC

INTRODUCTION

Vaginal birth after caesarean section (VBAC) is the term applied to women who undergo vaginal delivery following caesarean delivery in a prior pregnancy. VBAC is the strongest modality to combat the rising caesarean section rate. VBAC rates soared in 80s and 90s, but more recently the rates of VBAC have dramatically dropped owing to medico legal restriction. As modern caesarean typically involves the horizontal incision along the muscle fibers in the lower portion of the uterus hence uterus can maintain its integrity and can tolerate the contraction of future childbirth. What should be emphasized in modern obstetrics care that decision should be mutual between doctor and mother after assessing the risk and benefits of each type of delivery.

Trial of labor after previous caesarean delivery provides women who desire a vaginal delivery with the possibility of achieving that goal—a VBAC [3, 4]. In addition to fulfilling a patient's preference for vaginal delivery, at an individual level VBAC is associated with decreased maternal morbidity and a decreased risk of complications in future pregnancies. Each year 1.5 million childbearing women have caesarean deliveries, and this population continues to increase. Therefore, after a CS, many women prefer a vaginal birth in order to reduce the consequences and complications of multiple CS especially for continuing fertility. However, the proportion of women who opt vaginal delivery globally after a prior caesarean delivery has decreased rapidly because of concern about safety

compared between women who had successful VBAC, and those who had failed VBAC (repeat caesarean). Categorical variables were compared using the chi-square test (or Fisher's exact test where appropriate). Descriptive and inferential statistical analysis has been carried out in the present study. Results on continuous measurements were presented on Mean SD (Min-Max) and results on categorical measurements were presented in Number (%). Significance was assessed at 5% level of significance (P-values less than or equal to 0.05 were considered significant). Data analysis was done by software using SPSS, IBM software version 16.

OBSERVATIONS AND RESULTS

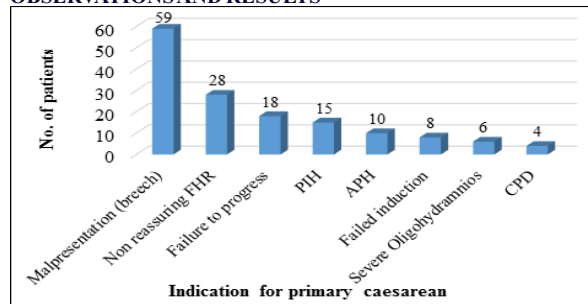


Figure 1: Vbac Success Rates With Indication Of Previous Caesarean.

Maximum mode of delivery, 54.5% was through vaginal, forceps applied to 20%, 25.5% required repeat CS.

The most common indication for repeat CS was failure to progress (31; 60.7%) while commonest complication during repeat CS was intraoperative adhesions (13; 25%) as shown in table 1. 41% didn't had any complications during surgery. None of the patients underwent obstetric hysterectomy. Total 40 outlet forceps were applied and 67.5% forceps were prophylactic application, 17.5% were for prolonged 2nd stage, least 15% were applied for fetal distress.

Table 2: Comparison of maternal parameters with mode of delivery

Maternal Parameters		Mode of Delivery			Total
		VBAC (n=149)	Caesarean (n=51)	P value	
Age group (years)	20-25	69	16	0.001	85 (42.5%)
	26-30	71	20		91 (45.5%)
	31-35	08	10		18 (9.0%)
	36-40	01	05		06 (3.0%)

MATERIALS AND METHODS

This prospective study was conducted in the Department of Obstetrics and Gynaecology at tertiary care hospital during a period of 2 years. A total of 200 mothers with previous one CS with full term (>37weeks), singleton cephalic presentation delivering vaginally at our hospital, irrespective of age and parity and cases given trial of labour during the study period were included after taking informed consent. Ethical clearance for this study was obtained from the hospital's ethics committee. All women included in the study were followed through delivery till discharge from hospital. The main outcome measure was the delivery outcome in the index pregnancy. Secondary outcome measures included perinatal complications and maternal complications as well. Each labor was monitored closely using a partogram and regular auscultation of the fetal heart at least once every 30 minutes. For the single case of induction of labor, cervical ripening was done by prostaglandins (dinoprostone gel 0.5mg) and the entire process of induction was physically monitored by an obstetrician. Oxytocin was used for the labor augmentation and also for the few patients who required induction.

Statistical Methods

All data collected were Maternal and perinatal outcomes were

GA(Weeks)	37 to 40	145	42	0.0002	187(93.5%)
	>40 to ≤42	04	09		13(6.5%)
Bishop Score	0-5	43	31	0.0001	74(37%)
	6-12	106	20		126(63%)
Cervical Ripening	No	144	36	<0.0001	180(90%)
	Yes	05	15		20(10%)
Augmentation of labour	No	18	04	0.404	22(11%)
	Yes	131	47		178(89%)
Maternal morbidity (Post partum complications)	Rupture uterus	00	02	0.052	02 (1.0%)
	PPH	03	06	0.005	09 (4.5%)
	Blood Transfusion	02	06	0.004	08 (4.0%)
	Febrile morbidity	00	05	0.0009	05 (2.5%)
	Surgical site infection	00	03	0.012	03 (1.5%)
	ICU admission	00	02	0.052	02 (1.0%)
Length of Hospital stay (days)	<6	134	35	0.001	169(84.5%)
	6-12	11	09		20 (10%)
	12-18	04	07		11 (5.5%)

Table 3: Comparison Of Neonatal Parameters With Mode Of Delivery

Neonatal Parameters		Mode of Delivery			Total
		VBAC(n=149)	Caesarean n(n=51)	P value	
Birth weight(gm)	<3000	133	38	0.0098	171(85.5%)
	≥3000	16	13		29(14.5%)
Apgar score at 5min	<7	03	07	0.001	10(5.1%)
	≥7	146	42		188(94.9%)
Neonatal morbidity (Neonatal complications)	Birth asphyxia	01	03	0.052	04 (2.0%)
	MAS	02	03	0.106	05 (2.5%)
	Neonatal convulsion	00	01	-	01 (0.5%)
	Intubation required	03	06	0.005	09 (4.5%)
	Ventilatory support	03	06	0.005	09 (4.5%)
	NICU admission	04	06	0.019	10(5%)

DISCUSSION

In the present study, VBAC was successfully implemented in 149 cases (74.5%) out of 200 cases, rest 51 cases underwent repeat CS which is comparable to the study done by Rossi et al and Chiniwar MA et al. VBAC was maximally successful in patients who were operated previously for non-recurrent indications such as malpresentation, fetal distress (non-reassuring FHR), failure to progress, antepartum hemorrhage etc. . The significantly higher success rates were observed for VBAC in women with prior caesarean for nonrecurrent indications- 39.5% for breech, 18.8% for fetal distress, 12% for dystocia, 10% for PIH, 6% for APH, 2.6% for CPD. These findings are correlated with the previous studies. In current study, women with neonatal weights exceeding 3kg had less chances (11%) of successful VBAC compared to those having neonatal weights equal to less than 3kg (89%). A similar result was obtained by another study by Iyer S et al. Post partum complications were PPH 9(4.5%), 4% required blood transfusion, 2.5% had febrile morbidity following repeat CS, 1.5% surgical site infection seen in CS, 1% patients required intensive care admission due to rupture uterus.

1% still birth present due to rupture uterus, 99% live birth. 5% required NICU admission. Out of 198 live birth 98% VBAC babies have apgar score equal to or more than 7 as compared to 85.7% babies delivered by repeat caesarean. 14.2% babies of repeat caesarean section have apgar score less than 7, as compared to 2% babies delivered by VBAC. Birth asphyxias were more common in failed VBAC (11.8%, 5.9%) than successful VBAC (2.6%, 0.7%) respectively and the difference was significance. Other morbidities like MAS, neonatal convulsion, stillbirth was more common in failed VBAC (5.9%, 2.5%, 0.5%) than successful VBAC (1.3%, 0%, 0%) respectively and difference was not significant. Similar findings are

reported in Agrawal A et al and Guise J-M et al study.

CONCLUSION

It remains a challenge to strike a balance between concern for safety and the need to decrease caesarean section rates. Gravid women with previous caesarean section have willingness for trial of labor in second pregnancy though the mode of delivery may differ. With prior patient selection and facility for continuous electronic fetal monitoring women can be counseled for trial of VBAC and optimizing the maternal and perinatal outcome.

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