



Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/15705

DOI URL: <http://dx.doi.org/10.21474/IJAR01/15705>



RESEARCH ARTICLE

“A PROSPECTIVE STUDY ON THE PERINATAL OUTCOME IN CASES OF PREVIOUS ONE CESAREAN SECTION”

Dr. Bharti Sahu¹, Dr. Rohini² and Dr. Bhoomika Tantuway³

1. Associate Professor, Department of Obstetrics and Gynaecology.
2. Senior Resident, Department of Obstetrics and Gynaecology.
3. Assistant Professor, Department of Obstetrics and Gynaecology, N.S.C.B Medical College, Jabalpur Madhya Pradesh, India.

Manuscript Info

Manuscript History

Received: 15 September 2022

Final Accepted: 19 October 2022

Published: November 2022

Key words:-

Trial of Labor After Cesarean (TOLAC), Vaginal Birth After Cesarean (VBAC), Cesarean Section (CS), Elective Repeat Cesarean Section (ERCS), Neonatal Intensive Care Unit (NICU)

Abstract

Background and Objectives: Women with previous cesarean sections constitute a high-risk group in obstetrics. The objective of study was to compare Perinatal outcome in TOLAC and Repeat CS group.

Method: The study was a prospective observational study conducted in The NSCB Medical College, Jabalpur from January 2020 to June 2021. Cases with previous one cesarean section for outcome in present pregnancy were taken and Cases with gestation before 28 weeks and previous section > 2 were excluded.

Result: A total of 384 cases presented with the previous one CS, NICU admission were higher in Failed TOLAC (24.52%) compared to Repeat CS (17.81%) and VBAC (12.50%). Also stillbirth were higher in Failed TOLAC (15.09%) compared to Repeat CS (7.27%) and VBAC (7.51%).

Conclusion: The risk of perinatal morbidity and mortality observed in TOLAC after CS compared to non-TOLAC warrants caution in planning and delivery care. Thus to increase TOLAC safety, we do stress that TOLAC should take place at facilities with 24-hour surgery services, and under continuous labor and fetal monitoring by a skilled professional.

Copy Right, IJAR, 2022.. All rights reserved.

Introduction:-

CS is among the essential comprehensive intrapartum services. CS can be a life-saving intervention for the fetus, the mother, or both in certain circumstances including obstructed labor, distressed fetus, obstetric hemorrhage, abnormal presentation, and other emergency obstetric conditions. The planned VBAC exposes the woman to a very low (0.25%) additional risk for experiencing perinatal mortality or serious neonatal morbidity and an additional 1.5% risk of any significant morbidity compared with opting for ERCS from 39+0 weeks of gestation. Nevertheless, it may be helpful to emphasise to women that the absolute risk of delivery-related perinatal death associated with VBAC is extremely low (4 per 10000 [0.04%]) and comparable to the risk for nulliparous women in labour.^[1,2] Cochrane reviews^[3-5] suggest that there are benefits and risks associated with planned ERCS and planned induction of labour in women with a prior caesarean delivery. The neonatal intensive care unit admission, neonatal acidosis, birth trauma, neonatal sepsis, neonatal seizures, HIE, perinatal mortality are various adverse perinatal

Corresponding Author:- Dr. Bharti Sahu

Address:- Associate Professor, Department of Obstetrics and Gynaecology.

outcomes associated with three-fold risk for women attempting VBAC^[6]. Hence, the results and conclusions should be interpreted with caution and the uncertainties should be discussed with women.

Aims And Objectives:-

To study and evaluate perinatal outcomes in previous one Cesarean Section

Methods:-

A prospective observational study was conducted in the department of Obstetrics and Gynaecology, NSCB Medical College Jabalpur during one year period from 1st JAN 2020–31st JUNE 2021.

Sample Size:

384

Inclusion Criteria:

Women presenting with

1. previous one LSCS
2. Mean Gestational age beyond 28 weeks in previous one section

Exclusion Criteria

1. Gestation age <28 weeks
2. Multiple prior LSCS >1

Data Collection And Methods:

Pre-structured proforma was used to record the demographic variables of the patients. Subjects were assessed for gestational age, adequacy of the pelvis, whether or not in labor, associated risk factor, and consent for trial for vaginal birth. Labor was strictly monitored by partogram. Termination of the vaginal birth trial was based on signs of fetal distress, suspected scar dehiscence/rupture, undue prolongation of labor, and patient demand. In subjects taken up for repeat cesarean section/laparotomy, intraoperative findings were recorded and analyzed. Perinatal outcomes were measured in terms of APGAR score at birth, Term-Preterm, NICU admission, stillbirth.

Statistical Analysis:

Data was entered on a Microsoft excel worksheet. Observation tables prepared using the data were analyzed by Graph pad software.

Result:-

Perinatal Outcome

CHARACTERISTIC			VBAC GROUP (56)		FAILED TOLAC (53)		REPEAT CS (275)		TOTAL(384)	
			N	%	N	%	N	%	N	%
AS PER APGAR SCORE AT BIRTH (N=384)	APGAR SCORE >6 AT BIRTH	45	80.35%	32	60.37%	206	74.90%	283	73.69	
	NICU ADMISSION	7	12.50%	13	24.52%	49	17.81%	69	17.96	
	STILLBIRTH	4	7.51%	8	15.09%	20	7.27%	32	8.33	
AS PER MATURITY AT BIRTH (N=384)	TERM	38	67.85%	32	60.37%	186	67.63%	256	66.67	
	PRETERM	18	32.14%	21	39.62%	89	32.36%	128	33.33	

Perinatal Morbidity And Mortality

CHARACTERISTIC			VBAC GROUP (56)		FAILED TOLAC (53)		REPEAT CS (275)		TOTAL (384)	
			N	%	N	%	N	%	N	%
CAUSE OF NICU	PREMATURITY AND LBW	0	0.00%	3	5.66%	10	3.63%	13	3.38	

ADMISSION	BIRTH ASPHYXIA	2	3.57%	9	16.98%	32	11.63%	43	11.19
	PREMATURITY, LBW, BIRTH ASPHYXIA	5	8.92%	2	3.77%	6	2.18%	13	3.38

Perinatal Outcome In NICU

OUTCOME	VBAC GROUP (56)		FAILED TOLAC (53)		EMERGENCY REPEAT CS (275)		TOTAL (384)	
	N	%	N	%	N	%	N	%
HEALTHY ON DISCHARGE FROM NICU	2	3.57%	7	13.20%	33	12.00%	42	10.93
NEAR MISS	0	0.00%	4	7.54%	7	2.54%	11	2.86
DEATH WITHIN 24HRS OF BIRTH	5	8.92%	0	0.00%	1	0.36%	6	1.56
DEATH AFTER 24HRS OF BIRTH	0	0.00%	3	5.66%	7	2.54%	10	2.60

Discussion:-

In recent years there is a significant increase in the primary cesarean section for various indications, thus increasing the proportion of pregnant women with previous one cesarean section.

During this study period, Total number of Women fulfilling inclusion criterion = 384

In our study, NICU admission rate was 17.96% (69 cases out of 384). Various studies showing NICU admission rate as **Singh S et al. 2016** (12.95%)^[10], **Siddesh Mahadev Iyer et al 2016** (6%)^[12], **Patel S et al. 2016** (6.66%)^[12].

Comparing overall Perinatal morbidity among 3 groups, Perinatal morbidity was higher in (24.52%) failed TOLAC followed by (17.81%) Repeat CS and then (12.50%) VBAC. In a study of **Patel S et al., 2016**^[12] NICU admission (17.64% vs. 3.89%) was higher in failed TOLAC compared to successful VBAC. **Kshama V et al 2020**^[11] also showed (9.40% vs 2.65%) NICU admission were higher in failed TOLAC compared to successful VBAC.

Studies have shown that during a trial of labor in a woman the condition of the fetus may get compromised. Complications arising out of ERCS as the trial of labor is given only to cases that are uncomplicated or less complicated and the complicated cases were directly taken for LSCS without any trial of labor. This makes the neonates delivered by LSCS more likely to be admitted to NICU due to high-risk factors associated with pregnancy (example: HDP, severe oligohydramnios, fetal distress due to meconium or cord around neck, APH). Most of the neonates, who were delivered by emergency CS, were taken to NICU for observation, as most of the emergency CS was done in view of fetal distress and failure to progress. NICU admission in VBAC was due to prolonged labor and instrumental deliveries.

Our study was well comparable with studies of **Kshama V et al 2020**^[11], **Siddesh Mahadev Iyer et al 2016**^[12], **Singh S et al. 2016**^[10], **Najma K P et al 2015**^[8] who concluded that infants born after successful VBAC had the lowest rates of NICU admission and those born by failed VBAC had highest NICU admission.

In the current study, it was found that stillbirth or IUD rate was 8.33% (32 cases out of 384) which were attributed to rupture uterus accounting for 50% of stillbirth (16 cases out of 32), and the remaining 50% were due to following causes APH (6 cases), HDP (6 cases), Meconium-Stained Liquor (4 cases). Also, term stillbirth was 18 cases and preterm stillbirth was 14 cases in our study.

In our study, 3.38% (13 cases out of 384) newborns were admitted to NICU due to prematurity with low birth weight, and NICU admissions due to prematurity with LBW (5.66% vs 3.63%) were higher in failed TOLAC compared to repeat CS. 11.19% were admitted to NICU due to Asphyxia at birth, and comparatively NICU admissions due to birth asphyxia (16.98% vs 11.63% vs 3.57%) were higher in failed TOLAC followed by repeat CS Group and VBAC group. In **Kshama V et al 2020**^[11] study, birth asphyxia was one of the major causes leading to NICU admission at birth and post-delivery. **Kalisa et al 2017**^[7] also showed that the majority of NICU admissions were

due to perinatal asphyxia that occurred more often in infants whose mothers underwent TOLAC (13.4%) compared to those who delivered by Repeat CS (10.9%).

Also in our study, perinatal mortality within 24 hrs of birth was 1.56% of newborns and 2.60 % after 24hrs of birth. While overall perinatal mortality in the present study was 4.16%. Perinatal mortality in various studies was found as Siddesh Mahadev Iyer et al 2016 (1%)^[12], Patel S et al. 2016 (2.95%)^[9].

In the present study, causes for perinatal mortality found as 11 newborns (out of 16) died due to birth asphyxia (68.75%) while 5 newborns died due to Prematurity with LBW with sepsis (31.25%).

Conclusion:-

The risk of perinatal morbidity and mortality observed in TOLAC after CS compared to non-TOLAC warrants caution in planning and delivery care. Successful VBAC has turned out as a boon for many women in terms of benefits of shorter hospital stay, lesser expenditure, and lower short term- long term morbidity, and as a bane in failed TOLAC resulting in repeat CS, where maternal-fetal morbidity is likely. But to increase its safety, we do stress that TOLAC should take place at facilities with 24-hour surgery services, and under continuous labor and fetal monitoring by a skilled professional.

The risk of perinatal death with ERCS is extremely low, but there is a small increase in neonatal respiratory morbidity when ERCS is performed before 39+0 weeks of gestation. The risk of respiratory morbidity can be reduced with a preoperative course of antenatal corticosteroids.

Women should be advised that planned VBAC should be conducted in a suitably staffed and well-equipped delivery suite with continuous intrapartum care and monitoring with resources available for immediate caesarean delivery and advanced neonatal resuscitation with an aim to reduce perinatal morbidity and mortality.

Conflicts of interest:

There are none conflicts of interest.

References:-

1. Smith GC, Pell JP, Cameron AD, Dobbie R. Risk of perinatal death associated with labor after previous cesarean delivery in uncomplicated term pregnancies. *JAMA* 2002;287:2684–90.
2. Smith GC. Life-table analysis of the risk of perinatal death at term and post term in singleton pregnancies. *Am J ObstetGynecol* 2001;184:489–96.
3. Dodd JM, Crowther CA, Grivell RM, Deussen AR. Elective repeat caesarean section versus induction of labour for women with a previous caesarean birth. *Cochrane Database Syst Rev* 2014;(12):CD004906.
4. Dodd JM, Crowther CA, Huertas E, Guise JM, Horey D. Planned elective repeat caesarean section versus planned vaginal birth for women with a previous caesarean birth. *Cochrane Database Syst Rev* 2013;(12):CD004224.
5. Horey D, Kealy M, Davey MA, Small R, Crowther CA. Interventions for supporting pregnant women's decisionmaking about mode of birth after a caesarean. *Cochrane Database Syst Rev* 2013;(7):CD010041.
6. Crowther CA, Dodd JM, Hiller JE, Haslam RR, Robinson JS; Birth After Caesarean Study Group. Planned vaginal birth or elective repeat caesarean: patient preference restricted cohort with nested randomised trial. *PLoS Med* 2012;9:e1001192.
7. Kalisa et al. *BMC Pregnancy and Childbirth* (2017) 17:272
8. DR.NAJMA K P;DR. SMITHA B RAO:Volume : 4 | Issue : 1 | January 2015 • ISSN No 2277 – 8179
9. Patel S, Kansara V, Patel R, Anand N. Obstetric and perinatal outcome in previous one cesarean section. *Int J Reprod Contracept ObstetGynecol* 2016;5:3141-6.
10. Singh S, Dhama V, Chaudhary R, Karya U, Nanda K. Maternal and fetal outcome in pregnant women with previous one lower segment cesarean section. *Int J Reprod Contracept ObstetGynecol* 2016;5:3815-9.
11. Vishwakarma K, Yadav G, Waddar P. Maternal and perinatal outcomes of delivery after previous one or two cesarean section. *Indian J ObstetGynecol Res* 2020;7(3):308-314
12. Dr Siddesh Mahadev Iyer et al *JMSCR* Volume 04 Issue 01 January.