



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

TRIAL OF LABOUR AFTER CAESAREAN DELIVERY AND IT'S OUTCOME IN TERTIARY CARE HOSPITAL

KEY WORDS:

Dr. Prathibha	Assistant Professor, Department Of Obstetrics And Gynaecology, Nri Medical College, Chinakakani.
Dr. Rama Lingam*	Professor, Department Of Obstetrics And Gynaecology, Nri Medical College, Chinakakani. *Corresponding Author
Dr. Venkata Anusha. P	2 nd Year PG, Department Of Obstetrics And Gynaecology, Nri Medical College, Chinakakani.

ABSTRACT
 Pregnancy with prior caesarean section is quite prevalent in present day obstetric practice due to liberalisation of primary caesarean with non recurrent indications. "ONCE A CAESAREAN ALWAYS A CAESAREAN" is being practised in many cases, but TOLAC with successful VBAC can save these women from risk of repeat caesarean in selected cases.
MATERIALS & METHODS: This observational study was carried out in NRIGH, a tertiary care teaching hospital from January 2016 to May 2018. 111 cases were selected based on inclusion & exclusion criteria such as details of previous caesarean, last child birth interval, present pregnancy characteristics, estimated fetal weight, maternal complications etc...
RESULTS: In this study, out of 111 cases, 72.1% had successful VBAC & 27.9% had repeat caesarean for failed TOLAC. Most common indication for failed TOLAC is fetal distress (35%). Only one case of scar rupture was seen.
CONCLUSION: Substantial reduction in caesarean rate can be achieved safely and efficiently by encouraging TOLAC in women with single previous caesarean.

INTRODUCTION:

Pregnancy with prior caesarean section is quite prevalent in present day obstetric practice due to liberalisation of primary caesarean with non recurrent indications.

"ONCE A CAESAREAN ALWAYS A CAESAREAN" is being practised in many cases (Cragin, 1916) but TOLAC with successful VBAC can save these women from risk of repeat caesarean in selected cases.

The dictum now is "ONCE A CAESAREAN ALWAYS AN INSTITUTIONAL DELIVEERY IN WELL EQUIPPED HOSPITAL" due to availability of assesment of scar integrity, fetalwell being & emergency caesarean, blood bank, anaesthesia facilities.

According to American college of obstetrics & gynaecology guidelines for TOLAC, this study was conducted. (1,2,7)

MATERIALS & METHODS:

This observational study was carried out in NRIGH, a tertiary care teaching hospital from January 2016 to June 2018.

A total of 111 cases with both booked & unbooked cases were selected. Booked cases were followed regularly during period. Unbooked cases came at time of onset of labour. Inclusion & exclusion criteria were considered as per ACOG giudelines. (1,2)

INCLUSION CRITERIA:

1. Single previous lower segment caesarean section
2. Average size baby
3. Previous non recurrent indication
4. Singleton pregnancy
5. Cephalic presentation
6. LCB > 18 months.

EXCLUSION CRITERIA:

1. Classical / Jshaped / inverted T incisions
2. H/o uterine rupture or myomectomy
3. Placenta previa / obstetric complications
4. Multiple pregnancy
5. Malpresentations
6. Contracted pelvis
7. two or more LSCS

Written & informed Consent taken. Risk of scar dehiscence or rupture and need for emergency caesarean, advantages of vaginal birth over caesarean explained. Booked cases were admitted at 39 weeks. VBAC decision was given by senior obstetrician. Cases were monitored by maternal vitals, WHO partogram, intermittent electronic fetal monitoring. Special attention was paid for any signs of scar rupture or dehiscence.

- 105 cases - spontaneous onset
- 6 cases - induced with oxytocin(3) and mechanical dilatation with foley's catheter(3)

Augmented with ARM/ oxytocin

Trial terminated by emergency caesarean in few cases due to various reasons like fetal distress, non progression of labour etc... successful VBAC cases were discharged after 3 days, repeat caesarean cases after suture removal.

STATISTICAL ANALYSIS:

Maternal and fetal parameters including age, parity, booked or unbooked, last child birth, indication, and outcome of previous CS, intra partum and post natal complications, mode of delivery in the present pregnancy, and maternal and perinatal outcome, NICU admissions, discharge in individual cases was collected in a structured pro-forma, entered in Microsoft Office Excel format, and statistical analysis was performed.

RESULTS:

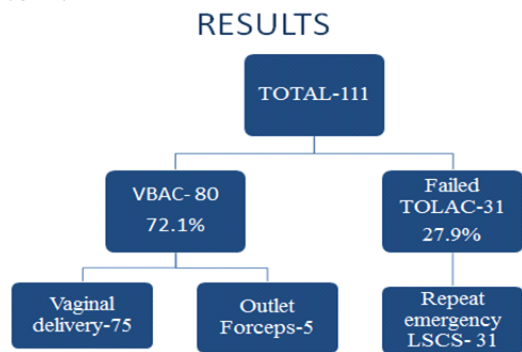


Fig.1

- Of 80 VBAC: 13-preterm, 5-IUD cases
- Most common indication for failed TOLAC was-fetal distress.
- Only one case of scar dehiscence.
- No significant difference in neonatal & maternal outcome in both
- no maternal & neonatal deaths.

Indications of failed TOLAC-

1. Fetal distress- 14 (45%)
2. Non progress of labor- 14 (45%)
3. Scar rupture- 1(3.2%)
4. 2nd stage arrest- 1(3.2%)
5. PPROM & unfavourable cervix- 1(3.2%)

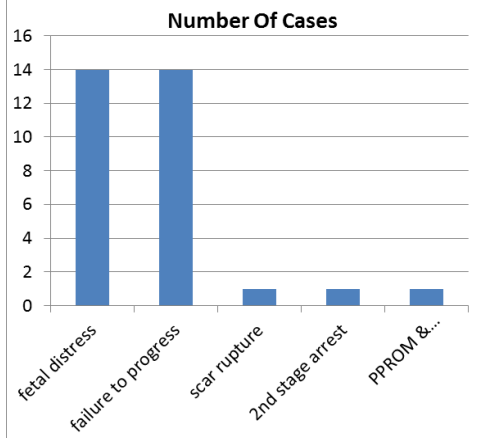


Figure.2 various indications of repeat caesarean

NICU admission- 24 cases. Most common indication- preterm (13), fetal distress (7), delayed cry (2), birth asphyxia (2). No cases of maternal or neonatal mortality.

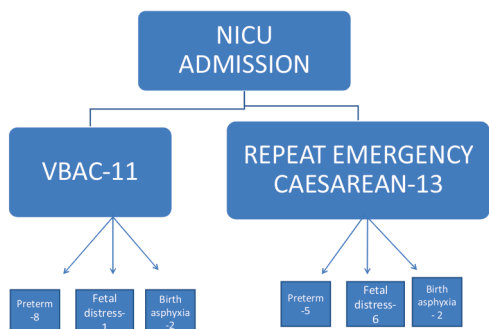


figure.3 various causes of NICU admission

PREVIOUS CEASAREAN INDICATIONS AND PRESENT OUTCOME

PREVIOUS INDICATION	NO.OF CASES	VBAC	LSCS
Non progress of labour	33	20 (61%)	13
Fetal distress	29	20 (69%)	9
Failed induction	18	14(77.7%)	4
Breech	11	9 (81%)	2
Severe oligohydramnios	5	5 (100%)	
unknown	4	2 (50%)	2
others	11	10 (91%)	1

Figure 4. comparison of outcome in previous and present pregnancy

In cases with spontaneous onset success of TOLAC is 71%, repeat CS rate is 29%

SPONTANEOUS ONSET VS INDUCED

TYPE	TOTAL	VBAC(%)	LSCS(%)
Spontaneous onset	105	75 (71%)	30 (29%)
Induced Labour	6	5 (83%)	1 (17%)

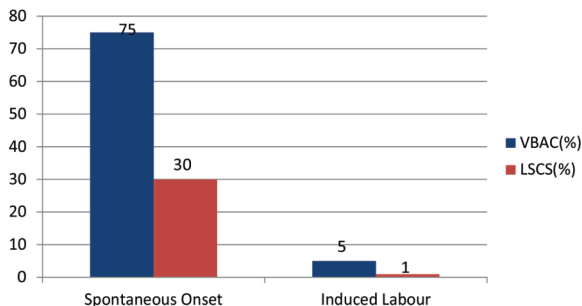


Figure.5. comparison between spontaneous onset and induced cases

It was seen that the women with cervical dilatation of more than 4 cm at the time of admission in the hospital had a better chance (87%) of vaginal delivery than women with a dilatation of less than 4 cm (68%).

CERVIX DILATATION <4 CM & >4 CM

TYPE	TOTAL	VBAC (%)	LSCS (%)
Dilatation < 4cm	88	60 (68%)	28 (32%)
Dilatation >4 cm	23	20 (87%)	3 (13%)

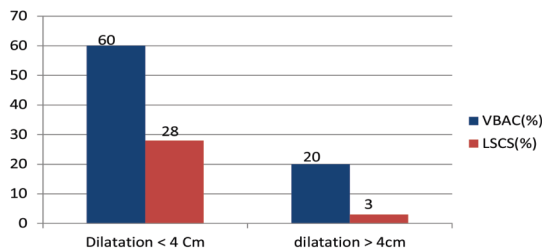


Figure.6 comparison of cervical dilatation with outcome

The success rate of vaginal birth after a previous CS done for nonrecurrent indications like fetal distress, breech was in the range of 80 to 90%.

It was observed that women with a previous vaginal delivery or VBAC had a better chance (75%) of a successful VBAC as compared to women who did not have a previous vaginal delivery (72%).

PREVIOUS NVD/VBAC	TOTAL	VBAC (%)	LSCS (%)
YES	8	6 (75)	2 (25)
NO	101	74 (72)	29 (28)

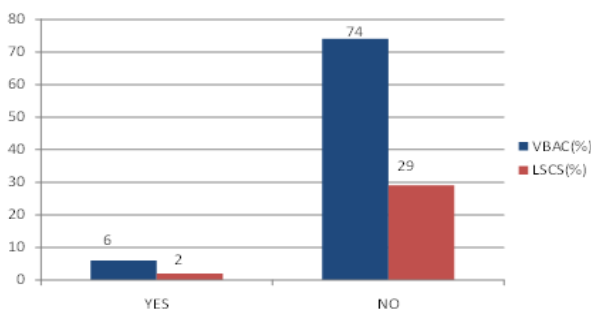


Figure.7. comparison of outcome in previous h/o NVD ORVBAC

A birth weight of more than 3kg was associated with a lower success rate of VBAC. (69%) than with less than 3 kg (73%).

ESTIMATED FETAL WEIGHT BASED ON ULTRA SOUND

TYPE	TOTAL	VBAC (%)	LSCS (%)
EFW < 3 KG	75	55 (73%)	20 (27%)
EFW > 3 KG	36	25 (69%)	11 (31%)

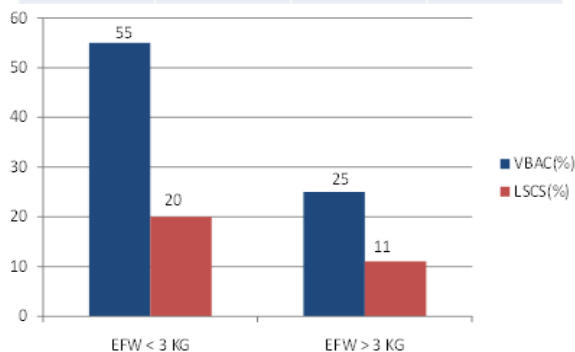


FIGURE.8 .COMPARISON OF OUTCOME IN ESTIMATED FETALWEIGHT OF 3 KG AND MORE

Success of VBAC is more in term gestation (74%) , compared to post term & in spontaneous cases (71%) & in LCB >18 months-72%.

OUTCOME IN DIFFERENT GESTATIONAL AGES

TYPE	TOTAL	VBAC (%)	LSCS (%)
<37 weeks	19	14 (74)	5 (26)
37-40 weeks	85	63 (74)	22 (26)
>40 weeks	3	0	3 (100)

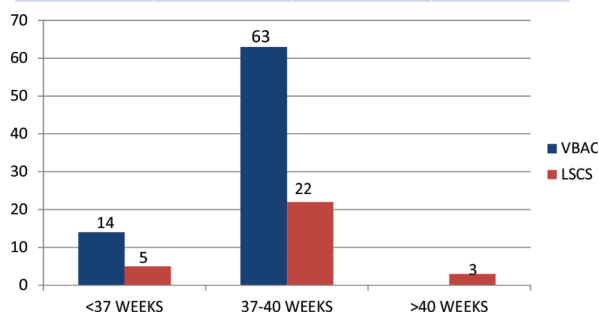


Figure.9. outcome in different gestational ages

TYPE	TOTAL	VBAC (%)	LSCS (%)
LCB <18 MONTHS	28	19 (68%)	9 (32%)
LCB >18 MONTHS	84	61 (72%)	23 (28%)

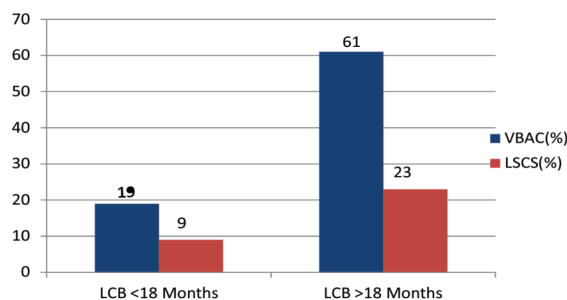


Figure.8 . outcome in cases with last child birth of more than 18 months

The average duration of hospital stay for women having a successful VBAC was lower (3 days) than women who required a repeat CS (7 days).

Due to smaller study group even though there is difference in comparison with different variables, p value is not statistically significant.

DISCUSSION

PREDICTORS FOR SUCCESS OF TOLAC (FLAMM &GEIGER, GROBMAN SCORES)

FAVOURABLE	UNFAVOURABLE
Prior VBAC	Maternal obesity
Prior vaginal delivery	Macrosomia
Spontaneous labour	Short stature
Favourable cervix	Induction
Non recurrent indication	Increased maternal age
	Recurrent indication
	Pre conceptional or gestational diabetes
	Gestational age > 41 weeks

Figure 11. predictors of success of TOLAC(8)

Women with post caesarean pregnancy belong to a high-risk group due to the risk of a scar rupture. Assessment of the individual case regarding the possibility of a successful VBAC is necessary while taking the decision. The important problem for the attendant in subsequent labor is the integrity of the uterine scar. Uterine rupture has the potential for causing serious harm to the pregnant woman as well as the baby. This is the most important risk to be noted, but the advantage which the vaginal delivery imparts largely outweighs the risks associated with a repeat CS.

under strict supervision and careful selection, TOLAC is a very good option even in low-resource setting, as demonstrated by Soni A et al. [6].

studies in some low-income countries showed a high rate of successful TOLAC with careful selection (79.6-83.5%) [3-6], which is consistent with our finding in this study.

OUR STUDY	OTHER STUDIES
Success of TOLAC-72.1%	Constantine et al, Yokoi et al, Abdel-Aziz (60-80%) Dayal.V Phelan et al ⁽⁹⁾
Repeat caesarean- 27.9%	Phelan et al ⁽⁹⁾
most common indication-fetal distress- 45%	Dayal V reported fetal distress (15%)
Successful TOLAC in previous caesarean done for breech- 81%	Jansen et al Phelan et al ⁽⁹⁾ - similar results
cervix dilatation > 4 cm -87% < 4 cm -67%	Landon et al, Demianczuk et al.Pickhardt et al. and others -similar findings.
previous NVD/VBAC-75%	Landon et al., Kraiem et al. Whiteside DC et al., Bedoya, et al. Phelan et al. ⁽⁹⁾ and others
augmentation with Oxytocin-20% ARM- 80%	Dayal V Flamm et al. Lao et al. and others
LCB >18 months-84% <18 months-16%	Shipp et al- Success rate of VBAC-68 to 83% Risk of scar rupture - 2.3% - < 18 months 1% - > 18 months

Scar rupture- 0.9%(1,2)	Obara et al. -(0.93%). Phelan et al. ⁽⁹⁾ – scar dehiscence in 1.9% uterine rupture- 0.3% . Dayal .V - 4.2% Palerm GR & Freidman EA et al. - classical CS-2.2% LSCS- 0.07%
EFW- <3 kg-73% >3 kg-69%	Similar observations were made by other workers ⁽³⁻⁶⁾

The American college of Obstetricians and Gynecologists (ACOG) estimated the risk of uterine rupture in women with a previous CS and concluded that the lower segment caesarean scar has a minimum risk (0.2-0.8%) of rupture during vaginal delivery(1,2). There was no maternal mortality in the present study.

There was no perinatal mortality in the present study.

If women are explained about the option of TOLAC, risk associated with a repeat CS and TOLAC, many CSs can be avoided. VBAC should be encouraged in selected cases to reduce the risk of a repeated CS. Many obstetricians running private nursing homes do not conduct VBAC deliveries, with the fear of scar rupture and subsequent medico-legal litigations.

The limitation of the study lies in the fact that the study was carried out in a tertiary care centre, where there is adequate manpower to supervise each delivery and monitoring, reducing complication rates of VBAC. Similar results may not be replicated at centres other than tertiary care centres.

CONCLUSION:

Majority of the cases of previous CS done for non recurrent indication can be delivered safely by the vaginal route, without any major complication to the mother and the newborn, in an institution having facilities for emergency caesarean. It has been proved to be a safe alternative to repeat an elective caesarean.

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