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A study of outcome of pregnancy in patients with previous cesarean section in a tertiary set up

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Abstract

Rates of primary caesarean sections has increased dramatically since the 1980's. Consequently, an increasing proportion of pregnant women attending for care have had a previous caesarean and face the question of mode of delivery. These women are at increased risk of complication compared with other women. The primary choice for women in this situation is whether to have a repeat caesarean section or to attempt vaginal birth. Both repeat CS (ERCS) and VBAC have inherent risks for the mother and the baby.

Antenatal counselling and informed consent is crucial. Counselling should incorporate an individualized assessment of the risks and benefits of ERCS and planned VBAC modes of delivery. Women considering their options for birth after a single previous cesarean should be informed that, overall, the chances of successful planned VBAC are 72-76%.

VBAC should not be undertaken without thorough discussion of the risks during labour with the pregnant women. It should not be undertaken in units where full obstetric facilities such as emergency transfer to theatre, blood transfusion and continuous fetal monitoring are not available. Planned VBAC is associated with slightly increased perinatal risk than planned ERCS, although absolute risks are low for both modes of delivery. 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 weeks of gestation. Absolute risk of delivery-related perinatal death associated with VBAC is extremely low (4 per 10 000 (0.04%)) and comparable to the risk for nulliparous women in labour. Planned VBAC is therefore appropriate and may be offered to the vast majority of multiparous women with a singleton pregnancy of cephalic presentation at term with a single previous single lower segment caesarean delivery. From a maternal point of view, the safest outcome is spontaneous labour and spontaneous vaginal delivery while the outcome associated with the greatest morbidity is a failed VBAC resulting in caesarean section. In women with single previous lower segment caesarean section, who opted for ERCS, the major obstetric drawback is the risk of rare, but severe, adverse outcomes in future pregnancies.

The two major clinical factors determining the choice for VBAC are, therefore, the likelihood of a successful attempt and the mother's plan for future pregnancies.

Keywords: TOLAC Trial of Labour after Caesarean Section, VBAC Vaginal Birth after Caesarean Section, ERCS Elective Repeat Caesarean Section, LSCS Lower Segment Caesarean Section

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Introduction

The progressive increase in frequency of Caesarean Delivery is definitely one of the most important developments in the last few years. The safety of lower uterine segment technique, the improvement in anesthetic techniques, the availability of blood products and antibiotics, the widening of indication for the operation, the recognition of foetus as a patient, small family norms, and the acceptance of this all various factors that have contributed to the rise in the incidence of Caesarean births over the past 50 years.(1)

Rates of primary Caesarean sections have increased dramatically since the 1980's. Thus, an increasing proportion of pregnant women have had a previous caesarean and face the dilemma of mode of delivery. They are at increased risk of complication compared with other women.

The rule of *"Once a Caesarean section, forever a Caesarean"* is more However, a series of studies in the 1980's reported the relative safety of attempting vaginal birth following the Caesarean delivery (VBAC).(2) The new rule should be *"Once a Caesarean, Always a Hospital Delivery and Trial of labour."* However, the choice between ERCD and VBAC involves a balance of pros and cons.(3) Women with previous caesarean section should be offered all options for delivery after thorough clinical assessment and antenatal counselling and the decision to attempt a trial of labour could be made.

Aims

- To determine the success rate of TOLAC
- To determine the effect of the indication of Previous Cesearean Section on outcome of pregnancy
- To analyse the major causes of failed TOLAC

Material and Method

In the he present study comprises 200 cases of

pregnant women with history of prior caesarean section, admitted in the department of Obstetrics and Gynecology, GMERS Medical College, Sola Civil Hospital Ahmedabad. The study was conducted during the period from September 2016 to March 2017.

These patients were grouped as follows:

a. Those who can be permitted trial of labour.
b. Those requiring elective repeat caesarean section.

Inclusion criteria for Tolac group: The patients who are permitted a trial of labour include those with history of previous single lower segment transverse caesarean section for non-recurrent indication. They should singleton, live pregnancy with vertex presentation, presenting at term. They should not have any contraindication for vaginal delivery and with spontaneous onset of labour.

Inclusion criteria for ERCS Group:[4,5] Previous LSCS with recurrent indication or with obstetric or medical complication.

In the study, scar dehiscence and rupture uterus is taken as a single maternal outcome.

After taking informed consent, the patients were monitored carefully and partograph was plotted[6] Obstetric analgesia was not given to any of these. Chi square test was used for statistical evaluation of the points leading to a successful VBAC.

The patients were monitored closely for postpartum complications like puerperal sepsis, pyrexia, PPH, urinary retention and the need for obstetrics hysterectomy. Fetal wellbeing was also assessed.

Outcomes were compared between the group of patients who underwent trial of labour after caesarean section and those which underwent elective repeat caesarean section. The former was also compared with those who had failed trial of labour after caesarean section (EMLSCS).

Counseling of patients for contraception and sterilization was done.

Observation and Discussion

Table 1: Brief overview of mode of Delivery in our study

Total Number of Patients in the study	TOLAC	ERCS
200	150	50

In this study, 150 women with single previous lower segment caesarean section underwent trial of labour.

TOLAC	VBAC	Failed TOLAC (EMLSCS)
150	110	40

Out of 150 patients, who were given trial of labour, 110 patients delivered vaginally while in 50 patients trial had to undergo caesarean section.

NICHD study reported a 73% (70-75%) VBAC labor success rate in women with previous one lower segment caesarean section who attempted trial of labour.[7] In my study, aVBAC success rate of 73.3% was observed.

Type of delivery	No. of Patients
FTND	100
FT outlet forceps delivery	4
FT vaccum delivery	6

From the 110 successful VBAC, 100 delivered normally, 4 had forceps application and 6 required vacuum delivery.

Table 2(A): Indications of Previous CS

	Indications of Previous CS	VBAC (n=110)	EMLSCS (n=40)	Elective LSCS (n=50)
1	Fetal Distress	28	12	4
2	NPOL	21	8	13
3	Malpresentation	41	7	5
4	CPD	-	-	10
5	Post Date	-	1	3
6	Hypertensive Disorder	8	5	2
7	Oligohydroamnios	9	5	8
8	Placenta Previa	-	1	-
9	Abruption	-	-	1
10	Cord around neck	3	1	1
11	Precious Pregnancy	-	-	2
12	Primi Twins	-	-	1

(B): Indication of Previous CS &Result of Trial of Labour

	Indication of Previous CS	No of Patients Given Trial	Successful Vaginal Delivery	Percentage (%)	EMLSCS	Percentage (%)
1.	Fetal Distress	40	28	70%	12	30%
2.	NPOL	29	21	72%	8	27%
3.	Malpresentation	48	40	83%	8	17%
4.	Post Date	1	-	-	1	100%
5.	Hypertensive Disorder	13	8	61%	5	39%
6.	Oligohydroamnios	14	10	71%	4	29%
7.	Cord Around Neck	4	3	75%	1	25%
8.	Placenta Previa	1	-	-	1	100%
	Total	150	110	-	40	-

The given table it is observed that patients with prior LSCS for Malpresentation had the maximum rate of successful VBAC, followed by those, prior LSCS for cord around neck and patients with prior LSCS for non-progress of Labour.

Prior caesarean delivery for a breech (malpresentation) presentation is associated with highest reported success rate according to a study by Coughlan et al.[8]

Better success was seen when VBAC was carried out in women with previous caesarean for non-recurrent indications like 91% for Breech, 88% for fetal distress, 70% for dystocia.

Table 3: Indication of CS in this Pregnancy

(A) Failed TOLAC

Sr. No	Indication of CS	No. of Patients (n= 40)	Percentage
1.	Scar Tenderness	9	22.5%
2.	Ruptured uterus	3	7.5%
3.	Fetal Distress	19	47.5%
4.	NPOL	5	12.5%
5.	PROM	4	10%

40 patients underwent caesarean section due to failure of trial. Fetal distress was the commonest cause of failed trial, constituting 48% of cases. Scar tenderness constituted 22.5% of cases, while prolonged labour constituted 12.5% of cases.

Dr. A. N. Gupta et al.[10] PGI Chandigarh, 1986 concurred on the main indication of repeat caesarean section in cases in which trial was not successful was the fetal distress even when it was ruled out before trial was started.

(B) ERCS

Sr. no	Indication	No of Patients (n= 50)	Percentage
1.	Post Date	13	26%
2.	CPD	7	14%
3.	Previous CS	8	16%
4.	Oligohydroamnios	9	18%
5.	PROM	7	14%
6.	Breech	2	4%
7.	Placenta Previa	1	2%
8.	Uteroplacental Insufficiency	1	2%
9.	Pre eclampsia	2	4%

Table 4: Prior Vaginal Delivery

	Total	VBAC	EMLSCS	Success Rate
History of prior vaginal delivery	46	38	8	83%
No history of prior vaginal delivery	104	72	32	69%

X^2 2.9 df 1 p value 0.043 ($p<0.05$)

A planned VBAC success rate of 85–90% was seen in patients with a previous vaginal delivery. A study of carried out by Iyer[11] on 318 women states that there are more chances of VBAC (84.8%) in women with history of previous vaginal delivery compared to ones without (62.7%).

Similar observation found in present study where 83% of the patients delivered vaginally with history of previous vaginal delivery compared to 69% of patients without prior history of vaginal delivery.

Summary

Of the 200 women who were studied, 150 underwent trial of labour after caesarean section (TOLAC). Of these 150 women, 110 had a successful VBAC yielding a success rate of 73.3%. Majority of women were second gravida, as women with more than one prior CS were excluded from this study.

Successful VBAC was analysed with respect to:

Indication of previous CS& trial of labour: Most of the patients with non-recurrent indications of previous caesarean section underwent TOLAC successfully. Of

these, patients with prior LSCS for Malpresentation (83%) had the highest rate of successful VBAC, followed by those with prior LSCS for cord around neck (75%), followed by those with prior LSCS for non-progress of Labour (NPOL 72%) and by those with fetal distress (69%).

Indication of CS in failed TOLAC: From the 150 patients given trial of labour, 40 had caesarean section due to failure of trial. The commonest cause of failed trial was fetal distress seen in 48% of cases, Scar tenderness coming second seen in 22.5% of cases and prolonged labour constituted 12.5% of cases.

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