

A Prospective Study on Successful Trial of Labour after Caesarean Section based on Indication of Previous Caesarean Section at a Tertiary Care Centre in Western Rajasthan

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Abstract: ***Objective:** In view of increasing rates of caesarean sections, the present study was undertaken to find the effect of indication for previous LSCS and successful trial of labour in selected cases with non-recurrent indications. **Method:** this is an observational prospective study. 100 women with prior caesarean section willing for trial of labour and meeting the inclusion criteria were included. Trial of labour continued until vaginal delivery or indication of caesarean delivery developed. **Results:** out of 100 women 79 had successful trial of labour while 21 required a repeat caesarean section. **Conclusion:** in appropriately selected patients in a well-equipped tertiary care Centre vaginal delivery is quite safe if a fair trial of labour is given under close monitoring*

1. Introduction

- VBAC or TOLAC is a trial of vaginal delivery in selected cases of a previous CS in a well-equipped hospital.[1]
- The incidence of caesarean section is increasing day by day as operation is resorted to for termination of pregnancy for many obstetric complications and most of these caesarean sections are performed with sole indication “previous caesarean section”. This increasing rate of caesarean section has raised concern regarding trial of labour after caesarean (TOLAC) or VBAC(vaginal birth after caesarean section).
- Once a caesarean delivery doesn't necessarily always requires a caesarean delivery but always a hospital delivery under careful obstetric supervision. The most feared complication during TOLAC is uterine rupture because of which rate of trial of labor after lscs is still low.
- But many studies have revealed that trial of labour for appropriately selected patients in a well-equipped hospital environment, trial of labour is as safe or even safer as caesarean section.
- Hence VBAC should be encouraged in selected patients as it will lead to Less operative intervention , less maternal mortality and morbidity as well as psychological enhancement.[2]

The American College of Obstetricians and Gynecologists (ACOG) provides guidelines for birth interventions and for

treating complications that may arise during VBAC (e.g., uterine rupture and maternal and fetal death); several studies have recommended various approaches to identify patients who may undergo VBAC. [3]

However there are multiple factors that affect the successful trial of labour and must be taken into consideration. These factors are age, parity, type of previous caesarean section ,indication for prior caesarean section, number of previous caesarean sections, previous vaginal deliveries.

The indication of prior caesarean section is one of the most prominent factor affecting the decision of vaginal birth after caesarean section.

Indication for previous caesarean section may be recurrent like contracted pelvis or non recurrent like fetal distress, malpresentation, placenta previa, cord prolapse, abruptio placentae, non progression of labour etc.

Hence this study was undertaken to determine the impact of indication of previous caesarean section and successful trial of labour.

2. Aim and Objective

To determine the effect of indication of prior caesarean section on rate of successful trial of labour in Umaid hospital.

Inclusion criteria:

- 1) Previous section should be lowtransverse.
- 2) Previous section should be for a non-recurring cause.
- 3) Singleton pregnancy with cephalic presentation with estimated fetal weight < 4000grams

Exclusion criteria

- 1) Previous classical caesarean section.
- 2) Estimated fetal macrosomia.
- 3) Multiple previous caesarean sections.
- 4) Mal presentations.
- 5) Multiple gestation.
- 6) History of uterus rupture
- 7) Placenta previa
- 8) Fetal distress
- 9) Contraindications to vaginal delivery
- 10) Uterine malformations

3. Material and Methods

A prospective study was done on 100 patients with a history of LSCS who were admitted in Umaid Hospital Jodhpur 2021 requesting vaginal birth while in the active or second stage of labor.

Although all women meeting the inclusion criteria were eligible for CS due to previous CS, CS and vaginal birth groups were identified according to consent for VBAC or consent for CS

Trial of vaginal birth was performed after receiving consent from the patients insisting on vaginal delivery. A Caesarean section was considered to be indicated when requested by the patient or when other indications such as impending uterine rupture, acute fetal distress, and obstructed labor were detected.

The demographic characteristics and clinical parameters of the patients were recorded.

Most of the patients fall in 21 to 30 yrs of age group.

Investigations: complete blood counts, ABO-Rh grouping, RFT, LFT, urine complete, urine for albumin. Viral markers (HIV, HbsAg, VDRL).

Requisition for crossmatch of 1 unit of blood was sent. Labor progress was monitored using partogram.

Mode of delivery

Vaginal delivery or repeat caesarean section

Clinical signs of uterine dehiscence or rupture like severe pain, sudden changes in maternal or fetal vital signs, bleeding, abnormal labor pattern were considered indications for repeat caesarean section.

A thorough uterine exploration was done to check uterine integrity. Small dehiscence with no bleeding were not repaired.

4. Results and Observations

- A total no. of 100 cases who were given a trial of labour were taken and their indication for prior section was recorded

Table 1

Indication of prior caesarean section	Percentage
Fetal Distress	45%
Primi Breech	15%
APH	10%
PROM	7%
CPD	5%
Failed Induction	5%
Obstructed Labour	6%
Transverse Lie	3%

- Most common indication for caesarean section was fetal distress i.e. 45% cases.

Indication of prior caesarean section and outcome of trial of labour

Indication of prior caesarean section	VBAC	Intra-Partum Caesarean Section
Fetal Distress	(86%)	14%
Primi Breech	(80%)	20%
APH	(80%)	20%
Transverse Lie	(33%)	66%
PROM	(57%)	43%
CPD	(40%)	60%
Failed Induction	100%	0
Obstructed Labour	83%	17%

- In most of the cases the success rate of vbac was more in non recurrent indications, maximum being with failed induction and least in cases where prior LSCS indication was cephalopelvic disproportion and transverse lie.
- Of 100 patients with prior on caesarean section, 79% delivered vaginally and 21% underwent caesarean section.
- Indications for intrapartum CS are reported in Table 1.

Indication of intrapartum caesarean section	% of caesarean section
Fetal distress	52.38%
Scar dehiscence	04.76%
Maternal request	19.04%
DTA	14.30%
APH	9.52%

- The most common indication of intrapartum caesarean section was fetal distress (52.8%).

5. Discussion

- The rising rate of caesarean section in the past decade has become a major concern.

- Most of the times the sole indication being previous caesarean section. Recent attempts have been made to set new guidelines for
- Safe vaginal delivery of patients with prior caesarean section.
- The reasons for this switch over being better assessment of scar integrity, fetal well-being and improved obstetric and anaesthetic facilities.[5]
- When comparing vaginal delivery with elective or intrapartum CS, VBAC appears to be safe.
- One of the most common indications for caesarean section was fetal distress. The success rate of VBAC in these cases was 86%. comparatively lower results (68 to 83%) have been reported by other workers.[7]
- The success rate of VBAC in cases with a previous CS for cephalopelvic disproportion was 40 % in the present study, which was similar to that reported by other workers (25 to 77%).[7,10]

In this study, the success of VBAC in cases with a previous CS done for breech presentation was 80%. Studies by Jansen *et al.* [10] and Phelan *et al.* [7] have reported similar results.

In our study, the rate of a repeat CS was 21% and the commonest indication for intrapartum lscs was fetal distress (52%). Similar results were reported by bangal V.B. *et al.*[9] while Phelan *et al.*[7] reported a lower (15%) rate of fetal distress requiring intrapartum lscs.

There was one case of scar dehiscence and dehiscence was managed by CSs. Obara *et al.*[6] reported two cases of ruptured uterus (0.93%) in their study of 214 cases of a previous CSs. Phelan *et al.*[7] reported scar dehiscence in 1.9% cases and uterine rupture in 0.3% cases. Dayal V[8] reported a higher rate (4.2%) of scar rupture

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 (0.2-1.5%) of rupture during vaginal delivery.[14]

In spite of the ongoing efforts by the government to promote the norm of the small family, there is a perennial desire for more number of children, especially male children among the rural uneducated population. Many women do not accept sterilization even during the second CS.

This decision exposes them to the development of complications related to scar rupture in subsequent pregnancy and labor.

If women are explained about the option of VBAC and about the risk associated with a repeat CS, many CSs can be avoided. VBAC should be encouraged in selected cases to reduce the risk of a repeated CS.

6. Conclusions

The present study was undertaken to know the relationship between indication of caesarean section and successful trial of labour. In appropriately selected group of patients with

prior caesarean section vaginal delivery is found to be as safe as caesarian section if a fair trial of labour is given in a well-equipped hospital under careful monitoring and constant supervision of an experienced obstetrician.

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