VOLUME - 14, ISSUE - 08, AUGUST - 2025 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper | Obstetric And Gynecology

# A COMPARATIVE STUDY FOR MATERNAL AND NEONATAL OUTCOME OF TRIAL OF LABOUR AFTER CAESAREAN AND ELECTIVE CAESAREAN SECTION IN DEPARTMENT OF OBSTETRIC AND GYNECOLOGY AT SMS HOSPITAL, JAIPUR

**Dr Pooja Mittal** — Resident Doctor, Department Of Obstetric And Gynecology At SMS Hospital, Jaipur

**Dr Anil Gurjar** — Professor, Department Of Obstetric And Gynecology At SMS Hospital, Jaipur

**Dr Priyanka Mehra** — Resident Doctor, Department Of Obstetric And Gynecology At SMS Hospital, Jaipur

**ABSTRACT**

**Background:** Caesarean section is one of the commonest operations performed on childbearing women, with rates continuing to rise worldwide. Previous caesarean delivery is one of the most common indications for repeat caesarean delivery. One of the strategies proposed to reduce the rate of caesarean section is Trial of Labour (TOL). For women who have had a previous caesarean, choice for mode of birth in their next pregnancy is either a Trial of Labour after Caesarean (TOLAC) or an Elective Repeat Caesarean Section (ERCS).. Both ERCS and trial of labour have benefits and harms. The risks of TOL when compared with ERCS include haemorrhage, need for blood transfusion, endometritis, uterine rupture, perinatal death, and hypoxic ischaemic encephalopathy. **Conclusion:** Trial of labor for women with a history of caesarean delivery is associated with an increased risk of adverse perinatal outcomes and a higher rate of maternal adverse events, as compared with elective repeat caesarean delivery.

**KEYWORDS :** labour, caesarean, maternal adverse, outcome

## INTRODUCTION

Caesarean section (CS) is one of the known lifesaving procedures, but increasing rate of CS is an alarm. This has led to an increase in number of pregnant women with previous uterine scar. Data from 121 countries revealed an average worldwide rate of caesarean section had increased almost threefold(from 6.7% to 19.1%) between 1990 and 2014. As per the latest Indian data (National Family Health Survey 2015-2016, NFHS 4) the caesarean rate at the population level seems to rise to 17.2% as compared with NFHS-1 (1992-93) when it was 2.9%.[1,2] Women who had delivered their first baby by caesarean section have two delivery options: Trial of Labour After Caesarean (TOLAC) or Elective Repeat Caesarean Section (ERCS). A trial of labour is a planned attempt to birth vaginally in a woman with previous caesarean section and has been accepted to lower the overall rate of caesarean sections. A systematic review found that the number of surgical injuries, rate of blood transfusions, and adhesion formation, number of hysterectomies all increased with the growing number of caesarean sections.

Nonetheless, several other researchers have also found that multiple repeat caesarean sections can lead to increased risk of maternal morbidity and mortality especially because of abnormal placenta adherence and caesarean hysterectomy and these risks increase with each sub sequent caesarean section.[3] Vaginal delivery is associated with fewer risks, requires minimal or no anaesthesia, poses a lower potential for postpartum morbidity, involves a shorter duration of hospital stay, is more affordable. These advantages are significant, especially in our poor resource setting where socio-cultural aversion to Cesarean delivery is also common. So, obstetricians should always offer TO LAC and discuss the benefits and risks of TOLAC with these patients. Studies have indicated that success rate of planned TOLAC is 72-75%. We can't deny the truth that spontaneous labour is more successful than induced labour in TOLAC. As suggested by many studies, induction is a better option when indicated as it gives good results when done under strict vigilance. Several studies did not find any significant association between induction and poor materno-foetal out come.In present study we did not keep cesarean section as first option for previous cesarean. We gave them option of TOLAC, thus decreasing the morbidity associated with cesarean. So, the present study was done to compare the success rate of TOLAC in spontaneous versus induced labour in women who have had previous one lower segment caesarean section.

## METHODS

It was a prospective study conducted at a tertiary care center over duration of 18 months. The study samp le consisted of a total of 130 patients admitted in labour room with previous one CS fulfilling following inclusion criteria. The patients with spontaneous labour were kept in group I and patients with induced labour were kept in group II. -All the females of 18-35 ye ars with singleton pregnancy, cephalic presentation, term gestation (37 weeks to 42 weeks), one prior lower segment transverse caesarean section with non-recurrent indicati on, post caesarean interval ≥18 months, without any obs tetric or medical problem were included in the study. Using n Master 2.0 software taking proportion in group I = 66.6% & group II = 50% at 95% confidence interval the required sample size was 65 in each group i.e., the total number of patients were 130. patients, who were subjected to study, were counselled regarding all the risks and be nefits pertaining to TOLAC and, the success Cases who fulfilled the inclusion criteria were enrolled for the study. Group I: Included 65 patients who were admitted with spontaneous onset of labour. Group II: Included 65 patients who underwent induction of labour. In the group II, induction of labour was done only after completion of 39 weeks of gestation,[5] using PGE2 (Dinoprostone) gel as per indication. The 2nd PGE2 gel was repeated after 6 hours, whenever needed. If the patient did not enter into the active phase after 2nd dose of cervigel, then patient was monitoredfor next 24 hours. After 24 hours if there was no progress of labour, it was considered as failure of induction and the patient was taken up for cesarean sceti on. In active phase of labour, augmentation was done, if required in both the groups, by artificai rupture of memb rane and or oxytocin. Patients were examined for signs of scar dehiscence such as tachycardia, acute abdominal pain, abdominal tenderness in suprapubic area (in post contra ction phase), fetal heart rate alteration, palpation of fetal parts outside the uterus, vaginal bleeding and loss of sta tion. Patients who had any signs of scar dehiscence were immediately taken up for Caesarean section with provisio nal diagnosis of an impending scar rupture. In postpartum period patients were strictly monitored for vitals and blee ding per vaginum. To measure blood loss during delivery, dry weight (grams) of a sanitary pad was taken and then wet pad was weighed (grams). Difference of

weight was converted in milliliter using simple formula 1gram=1mil lilitre. Both maternal and perinatal outcome measures were considered i.e., mode of delivery, indication of caesarean section, scar dehiscence and scar rupture, PPH, birth wei ght, NICU admission within 24 hours, Apgar score at the 1st and 5th minutes after birth, post- partum hemorrhage and duration of hospital stay.

## RESULT

**Table 1. Maternal Outcomes**

| | | Group I (%) | Group II (%) | p value |
|---|---|---|---|---|
| Outcome of TOLAC | Successful VBAC | 80 | 66.2 | 0.075 |
| | Emergency CS | 20 | 33.8 | |
| Indication of CS | Fetal distress | 9.2 | 6.2 | 0.744 |
| | Failed Induction of labour | 0 | 10.8 | 0.013 |
| | Impending scar rupture | 3.1 | 4.6 | 1.000 |
| | Non progress of labour | 3.1 | 9.2 | 0.274 |
| | Others | 4.5 | 4.6 | - |
| Per op | Scar dehiscence | 3.1 | 4.6 | 0.721 |
| | Scar rupture | 0 | 0 | 0 |
| PPH | | 12.3 | 16.9 | <0.001 |
| Hospital stay | Vaginal | 2.06±0.461 | 2.76±0.692 | <0.001 |
| (Mean± S.D.) | CS | 4.38±0.87 | 5.3±0.559 | <0.001 |

Table-1 comprises the maternal outcomes. Rate of VBAC success was more (80 %) in group I than (66.2%) group II (p values=0.075), but the rate was not statistical ly significant. The most common indication for induction was postdatism (66.15%) followed by pregnancy induced hypertension. Incidences of fetal distress, NPOL, and impending scar rupture were similar in both the groups and the difference was not statistically significant. Cases taken for emergency caesarean section with indication of impending scar rupture were 3.1% in group I and 4.6% in group II (p values=0.721). All these patients had operative finding of scar dehiscence. Incidence of atonic PPH and hospital stay was significantly higher in group II as com pared to group I (p values)

**Table 2** compares the neonatal outcome. There was no statistically significant difference between Apgar score at 1 min and 5 min (p value=0.483 and 0.785 respectively) of either of the groups. There was no statistically signifi cant difference between incidence of NICU admission in either of the groups (p value=0.545). In our study, success rate of TOLAC was higher when birth weight was below 3000 grams in both the groups.

| Apgar Score | Group I | Group II | p Value |
|---|---|---|---|
| 1 Minute | 6.98 ± 0.78 | 7.08 ± 0.71 | 0.483 |
| 5 Minute | 8.49 ± 0.69 | 8.52 ± 0.59 | 0.785 |
| Nicu Admission Duration | | | |
| None | 92.3 % | 89.2 % | 0.545 |
| Total | 7.7 % | 10.8 % | 0.545 |
| Day 1 | 1.5 % | 3.1 % | 1.000 |
| Day 2 | 3.1 % | 3.1 % | 1.000 |
| Day 3 | 3.1 % | 4.6 % | 1.000 |

## CONCLUSION

Although IOL in previous 1 CS using PGE2 gel is not free of risks, but it reduces the complications associated with repeat CS. The results of the present study are quite promising and favour TOLAC andIOL in previous 1 CS, since both the study groups had similar VBAC rates with fewer cases of scar dehiscence and fewer NICU admis sions, especially in countries like India which has higher parity and limited resources. Hence, IOL can be tried in patients of previous 1 CS who don't have spontaneous on set of labour or have other indications of IOL.

## DISCUSSION

The success rate of TOLAC ranges from 50% to 85%. [6] ACOG 2010 quoted success rate of TOLAC to be 60 80%. [13] Several studies show that success of TOLAC in spontaneous and induced labour vary from 52.1 % to 86.82 % and 50% to 71.4 % respectively. [7, 8, 27, 33, 36] Ove rall success rate in our study was 73.1%. In group I, 80% cases had successful VBAC and in group II, 66.2% cases had successful VBAC. Success rate of TOLAC also varies between institution and service provider. Mishra et al.[7] reported a success rate of 52.17% which is much lower than our study. The present study observed that chances of successful TOLAC resulting in vaginal birth are higher in women who had spontaneous onset of labour compared to those in whom labour was induced.[5,8.6] observed that women who presented in spontaneous labour and had less oxytocin use were more likely to deliver vaginally Zelop et al. [12] demonstrated that gestational age >40 we eks was significantly associated with a decreased likelihood of VBAC for both spontaneous and induced labour. Raja et al. [40] found that gestational age was an important indi vidual factor affecting mode of delivery after induction.

## REFERENCES


1. Non progress of labour National family health survey (NFHS-1), 1992-93: India.
2. National Family Health Survey (NFHS)-4. Ministry of Health and Family Welfare Government of India. [Online]. 2015;20165
3. Nazaneen S, Kumari A, Malhotra J, Rahman Z, Pankaj S, Alam A et al.
4. Study of intraoperative complications associated with repeat cesarean sections at a tertiary care hospital in Eastern India. IOSR-JDMS. 2017;16(8):77-82. [CrossRef] Bharatam KK.
6. Cesarean section uterine scar dehiscence-a re view- Uterus & Ovary 2015;2:e751 Kumari SS, Malhotra J et al. Induction of Labor.GCPR,FOGSI - ICOG 2018. SOGC Clinical Practice Guidelines.Guidelines for vaginal birth after previous cesarean birth. Number 155,
7. Int J Gynecol Obstet 2005.89 (3):319-31.[PubMed] [CrossRef] 7.Mishra N, Taori N, Misri A. Fetomaternal outcome of preg nancy with previous cesarean section. Journal of Evolution of Medical and Dental Sciences. 2014;3(47):113 69-79. [CrossRef]
8. Balachandran L, Vaswani PR, Mogotlane R. Pregnancy outco me in women with previous one cesarean section. Journal of cli nical and diagnostic research: JCDR. 2014;8(2):99. [PubMed] [CrossRef]
9. Horenstein JM, Eglinton GS, Tahilramaney MP, Boucher M, Phelan JP. Oxytocin use during a trial of labor in patients with previous cesarean section. The Journal of reproductive medici ne. 1984;29(1):26- 30.Horenstein JM, Phelan JP. Previous cesarean section: the risks and benefits of oxytocin usage in a trial of labor. American jour nal of obstetrics and gynecology. 1985;151(5):564-9.