

# Trial of Labour after Caesarean Delivery and its Outcome in a Teaching Hospital

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## ABSTRACT

**Introduction:** There are rising trend of labour after caesarian birth and have become an accepted practice. So This study was performed to determine the incidence, predictive factors and outcome of trial of labour in post caesarean section pregnancy, so that a definitive protocol can be formulated for selection of the patients who can be given a trial after caesarean section.

**Material and methods:** This retrospective study was carried out in the Dept. of OBGY at MGMH, Petlaburj, Hyderabad from January 2016 to August 2016. Patients were included based on inclusion and exclusion criteria. Case selection was also confirmed whether patient selected matches the TOLAC guidelines. Special attention was paid to the details of the previous caesarean section such as indication, complications encountered during and after delivery, whether delivery was preterm or full term, whether done in labor or electively planned and whether baby was live born/still born and baby weight.

**Results:** During this period total number of deliveries were 14,069. 194 (4.5%) cases were selected for TOLAC Successful VBAC were-132(68.04%) and AMP; failed TOLAC were 62 (31.98%) for which repeat caesarean section was done.

**Conclusion:** Substantial reduction in the caesarean section rate was achieved safely and efficiently by encouraging the TOLAC in women with single previous C-section.

**Keywords:** Caesarean Delivery, Caesarean Delivery's Outcome

## INTRODUCTION

“Once A Caesarean Always A Caesarean.”<sup>1,2</sup>

This statement reflected rising trend of caesarean section. Although attempts at a trial of labour after caesarian birth (TOLAC) have become an accepted practice, the rate of successful vaginal birth after caesarian section (VBAC), as well as the rate of attempted VBAC has been decreasing during the past 10 years.<sup>3,4</sup>

Nevertheless, despite the known risk of uterine rupture (0.5%-1%), TOLAC remains an attractive option for many patients and leads to a successful outcome in a high proportion of well selected cases.<sup>3,5</sup>

In the present situations, the access to the obstetric care is increasing.<sup>6</sup> In an appropriate clinical setting and properly selected group of women VBAC offers distinct advantages over a repeat caesarean section<sup>7,8</sup>, since the operative risks are completely eliminated, the hospital stay is much shorter and expense involved is much less.

Although neither VBAC nor repeat C-Section is free of its own risks and the crucial issue is to ensure better maternal and perinatal outcomes. When to attempt VBAC is a major decision and should be based on careful patient selection after counseling, estimation of patient's risk of uterine rupture and strict adherence to the guidelines and considering the facilities for immediate surgery if need arises. Study aimed to determine the incidence, predictive factors, and outcome of trial of labour after caesarean delivery, to find the cause and reasons of TOLAC

failure and to determine the reliability of clinical monitoring in low resources areas.

## MATERIAL AND METHODS

This was a retrospective study of the patients who underwent TOLAC irrespective of parity from January 2016 to August 2016 in Modern Govt. Maternity Hospital, Petlaburj, Hyderabad, Telangana, India. Study was done after institutional ethical approval and informed consent. Our study selection criteria were as follows:-

### Inclusion

1. Obstetric cases having history of previous one caesarean delivery.
2. Cephalic presentation where pelvis is adequate and AMP; Gynaecoid (CPD is ruled out).
3. No other associated obstetrical and medical complications.
4. Non-recurrent indication in previous delivery.
5. Last child birth more than 2 years.

### Exclusion criteria

1. More than one previous Cesarean Section
2. Previous history of vertical or inverted T-shaped or J-Shaped or unknown uterine incision.
3. Previous h/o Uterine surgery like Myomectomy or Hysterotomy.
4. Previous h/o Uterine perforation.

First the preliminary details in the form of demographic characteristics such as name, age, address, educational and socioeconomic status, date of admission and inpatient registration number were noted. A suitable predesigned, pretested Performa for data collection was prepared. Routine obstetric, menstrual, Relevant past, personal and family histories noted. General examination and obstetrical examination and relevant investigations are noted from the case sheets.

Special attention was paid to the details of the previous caesarean section such as indication, complications encountered during and after delivery, whether delivery was preterm or full term, whether done in labor or electively planned and whether baby was live born/still born and baby weight. Finally place where previous caesarean delivery was done and age of last child birth noted.

Case selection was also confirmed whether patient selected matches the TOLAC guidelines i.e., as per following criteria-

1. Singleton pregnancy.
2. Gestational age 37 completed weeks.

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3. H/O previous one Caesarean section.
4. Non recurrent indication for the previous Caesarean section.
5. Clinically adequate pelvis.
6. No uterine scars or history of previous rupture (fulfilling the criterion according to the ACOG Guidelines (2007).

Maternal outcome in the present pregnancy in the form of mode of delivery whether spontaneous or induced, how many cases failed to progress and AMP; how many delivered successfully without maternal and AMP; fetal complications were stressed upon.

Ante partum, intra partum and post partum complications were noted in all patients who were selected for TOLAC whether delivered vaginally or abdominally. Neonatal outcome in the present pregnancy, whether the baby is live or stillborn, full term or preterm, baby birth weight, APGAR score at one minute and AMP; five minutes, NICU admission, whether baby had any congenital anomalies and AMP; if there was any neonatal mortality, cause of mortality and AMP; number of days of NICU admission, all these data was collected. All the data so collected in the Proforma was arranged and AMP; scrutinized statistically.

### STATISTICAL ANALYSIS

The data was analyzed and final results of incidence, failure rates and outcome were listed. Continuous variables (age, birth weight) were presented as Mean  $\pm$  SD. Categorical variables were expressed in percentages. Chi square test was used for comparison.

### RESULTS

During the study period the total number of deliveries were 14,069 of which 4258 (30.28%) cases were caesarean sections (both elective and emergency), total number of cases selected for TOLAC were 194 (1.37% of total deliveries) during the study period, out of which 132 i.e., 68.04% delivered vaginally and had successful VBAC where as 62 cases (31.95%) were delivered by emergency caesarean section (table-1)

Mode of Delivery	No. of Cases %
TOLAC	194 1.34% of total deliveries
VBAC	132 68% of selected cases
Failed Trial Requiring Caesarean Section	62 32% of selected cases

VBAC success rate at our institute during our study period was 68%. In the present study 62 cases underwent failed trial requiring an emergency caesarean section. Indications being Maternal tachycardia followed by scar tenderness for 20 cases (32.25), 16 cases (25.85%) had failure to progress, 10 cases (16.12%) due to MSL, 4 cases (6.44%) for Abruptio Placenta and 2 cases for cord prolapse (3.22%).

In this study 15 cases had h/o previous vaginal delivery. Out of which 11 cases (73.34%) had successful vaginal delivery and amp; 4 cases (26.66%) had C – Section. Thus outcome of mode of delivery in TOLAC was significantly associated with h/o previous vaginal delivery.

The morbidity due to emergency caesarean section was higher as compared to elective repeat caesarean

Selection (proper selection of the case for TOLAC is very important). Blood transfusions were given to 18 cases which include only 5 cases of successful VBAC and 26 cases of failed TOLAC and taken for emergency LSCS. Atonic PPH was found maximum incases which were taken for emergency caesarean section i.e, 23 cases (37.09%) after failed trial while only 6 (4.54%) cases that had successful VBAC encountered atonic PPH.

Scar dehiscence was present in 11 (17%) of study cases,

delivered by emergency caesarean section and 46 (75%) had thinned out LUS. On analyzing APGAR scores at one minute and 5 minutes in neonates after elective caesarean section it was found only 5 babies had asphyxia. None of the babies had APGAR score less than 8 who was delivered by VBAC.

### DISCUSSION

In the present study, total 194 cases were included (with H/o one previous caesarean section) and given a Trial of Labor. Out of these that were given Trial 132 (68.04%) cases had successful VBAC and amp; 62 (31.98%) cases failed trial of labour and required emergency caesarean section. Our results were comparable to other studies of Pembe AB et al.<sup>10</sup> Bhat BPR et al.<sup>11</sup> Kumar P et al.<sup>12</sup>

The success rate of vaginal birth after caesarean section in present study was 68.04%. Attempts at vaginal delivery were abandoned, at that very moment when there was any signs and symptoms of scar dehiscence or maternal or fetal tachycardia or excessive vaginal bleed or scar tenderness, to avoid maternal and neonatal mortality and morbidity. The discrepancy in various studies reflects the difference in the inherent nature of obstetric population and the difference in the protocol applied for selection of cases.<sup>13,14</sup>

Our study, 62 cases underwent emergency LSCS maximum 20 cases (32.25%) has maternal and fetal tachycardia followed by scar tenderness as an indication. It was followed by failure to progress which was seen in 16 (25.80%) cases. 10 cases (16.12%) were operated due to meconium stained liquor, 4 cases (6.45%) for abruptio and 2 cases (3.22%) for cord prolapse complicating the delivery. Thus fetal distress and maternal tachycardia were the commonest indications for an emergency caesarean section. It was seen that success of mode of delivery in present pregnancy was significantly associated with history of one previous vaginal delivery. Concluding that patients who had a successful VBAC following a caesarean section have a very good chance of another successful VBAC.<sup>13</sup>

In our, study, on analyzing, the incidence of maternal morbidities associated with different modes of delivery, it was found that morbidity was maximum in patients who underwent emergency C Section after a failed trial of labour. In the present study total 62 cases were delivered by emergency C Section. There are no stillbirths. 3 cases of asphyxiated babies found. One due to obstructed labour, other due to abruptio for which baby was admitted in NICU but expired after 3 days. One more baby was asphyxiated due to meconium aspiration. In vaginal delivery 2 cases of asphyxiated babies were encountered reasons being prolonged second stage and cord round the neck. Both remained stable after resuscitation.

In our study 24 babies were admitted to NICU 3 babies due to VLBW (1.5-2kgs), 16 cases due to LBW (2-2.5 kgs) and 5 cases due to asphyxia.

In the management of TOLAC cases, regular and intensive antenatal surveillance is required.<sup>5,13,15</sup> Proper selection, appropriate timing and close monitoring by competent staff are mandatory.<sup>16</sup> There is no doubt that a Trial of labour is relatively safe procedure but it is not devoid of risks pertaining to it. TOL in patients with one previous C-Section is almost always safe in institute which have quality care and is capable to provide comprehensive emergency obstetrical care.

### CONCLUSION

To conclude, an expectant attitude and individualization of the case with respect to the management of pregnancy and delivery in the patients with one previous LSCS is not only justifiable

but also represents sound and conservative obstetric practice. Substantial reduction in the C-Section rates can be achieved safely and efficiently by proper selection of the patients and encouraging them for TOLAC.

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