

ORIGINAL ARTICLE

Frequency of Caesarean Section in patients undergoing trial of Labor after Caesarean Section (TOLAC)

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ABSTRACT

Aim: To estimate the rate of C-section in patients undergoing TOLAC (trial of labour after cesarean section).**Study design:** Descriptive case series.**Place and duration of study:** Department of Obstetrics & Gynecology Ward, Ayub Teaching Hospital Abbottabad from 1st October 2020 to 1st April 2021.**Methodology:** One hundred and fifty-seven pregnant women with previous one caesarean section were included in the study. Basic demographics like age, gestational age, parity and weight were recorded.**Results:** The mean age was 28.09±5.37 years, mean gestational age was 37.79±2.36 weeks, mean weight 68.66±5.49 Kg, mean height 1.65±0.04 meters, mean BMI 25.11±2.77 Kg/m² and mean estimated fetal weight was 2.95±0.55 kg. Caesarean section was observed in 84.1% patients.**Conclusion:** Unsuccessful TOLAC was higher in women admitted with history of previous caesarean section.**Keywords:** Caesarean section, Trial of labor after caesarean section, Unsuccessful

INTRODUCTION

Cesarean delivery rate has increased tremendously worldwide. According to a study conducted in tertiary hospital of Pakistan, Cesarean section rate reported was 46.7% and the frequently noted indication was previous one caesarean section¹. This dramatic increase in Cesarean section rate has no parallel improvement in neonatal outcome.² Trial of labor after caesarean section [TOLAC] is the only way for the reduction of C-section rate and to meet WHO recommended rate of 15%³.

Trial of labor after caesarean section leading to VBAC is comparatively safer than repeat caesarean section but TOLAC rates have dropped significantly worldwide in recent years³⁻⁵. The reason being, a failed VBAC increases the risk of maternal and perinatal complications more than elective repeat Cesarean section⁶. These complications can be reduced by selecting patients for TOLAC more vigilantly⁷ because unsuccessful TOLAC are more closely linked with associated complications like uterine rupture, post-partum hemorrhage, fetal and major maternal morbidities^{8,9}, multiple caesarean deliveries that will increase the incidence of complicated surgeries, placenta previa, bladder injuries, morbidly adherent placenta and increased hysterectomy rates^{10,11}.

Among the factors leading to failed VBAC, BMI >25Kg, gestation >40 weeks, poor bishop at admission, no previous vaginal birth, previous caesarean for dystocia and induced deliveries, are significant⁶.

According to a study, caesarean section rate in patients undergoing TOLAC was found to be 27.9%¹². In another study, caesarean section rate after failed VBAC was reported to be 31.60%⁶.

In our setup, caesarean section rates are now approaching to above 50%, among which patients with previous one caesarean section makes the biggest pool, which is posing a huge economic burden on our country. TOLAC will limit any escalation of caesarean delivery rates and maternal morbidity associated with multiple caesarean deliveries but studies from Pakistan highlighted unsuccessful attempts of TOLAC⁸. An unsuccessful TOLAC could be the cause of neonatal and maternal mortalities so in our studies, we will determine frequency of emergency caesarean section due to failed TOLAC and factors leading to unsuccessful TOLAC so that rate of emergency caesarean can be decreased and patients for TOLAC can be selected more vigilantly.

MATERIALS AND METHODS

This descriptive case series was conducted at Obstetrics & Gynaecology Ward, Ayub Teaching Hospital, Abbottabad from 1st October 2020 to 1st April 2021 and 157 patients were enrolled.

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Patients age 18 to 40 years, previous one caesarean section, singleton pregnancy, cephalic presentation and spontaneous onset of labour were included. All women with myomectomy, IUGR baby, upper uterine segment caesarean, placenta previa, estimated fetal weight >3.5Kg and post-term pregnancy >42 Weeks were excluded. A detail explanation about the participation in the study was given to the patient and a written informed consent was obtained explaining the benefit of the study. Basic demographics like age, gestational age, parity and weight were recorded. The specific points in the history were taken in detail and this data was recorded. Data was stored and analyzed in SPSS-20.

RESULTS

Table 1: Descriptive statistics of the patients according to age, gestational age, weight, height, BMI and estimated fetal weight (n=157)

Variable	Mean±SD
Age (years)	28.09±5.37
Gestational age (weeks)	37.79±2.36
Weight (Kg)	68.66±5.49
Height (m)	1.65±0.04
BMI (Kg/m ²)	25.11±2.77
Estimated fetal weight (Kg)	2.95±0.55

Table 2: Demographic information of patients (n=157)

Characteristics	No.	%
Co-morbidities		
None	122	77.7
Diabetes	4	2.5
Hypertension	24	15.3
Others	7	4.5
Indications for previous CS		
Fetal Distress	15	9.6
Breech	14	8.9
Precious pregnancy	1	0.6
Oligohydramnios	10	6.4
Failed induction	20	12.7
CPD	18	11.5
Others	79	50.3
Previous vaginal delivery		
0	106	67.5
1	19	12.1
2	21	13.4
3	5	3.2
4	4	2.5
5	2	1.3
Caesarean Section		
Yes	132	84.1
No	25	15.9

The mean age was 28.09±5.37 years, mean gestational age was 37.79±2.36 weeks, mean weight was 68.66±5.49 kg, mean height was 1.65±0.04 meters, mean BMI was 25.11±2.77Kg/m² and mean estimated fetal weight was 2.95±0.55kg (Table 1). Frequency and percentage of co-morbidities, indications for previous CS, previous vaginal delivery and cesarean sections are shown in Table 2.

DISCUSSION

Unsuccessful TOLAC rate was comparatively higher irrespective of the birth order^{8,13}. A study conducted in Saudi Arabia showed almost 24% failure rate in a similar group of patients. However, this study did not show birth weight association with failure attempts.¹⁴ A hospital based study from Pakistan demonstrated that, mean birth weight is 2.9kg¹⁵. Although, no significant association of unsuccessful C-section attempts was found with fetal weight because variation in birth weight was observed regardless of the mode of delivery. However, in present study, estimated birth weight was 2.95±0.55. On the other hand, a large scale study showed that, higher incidence of failure was noticed in neonates who had birth weight >3500g¹⁵.

Another important factor which could be associated with TOLAC failure was previous history of mode of delivery. A large multicenter study demonstrated that, failure rate was higher in mothers who had history of cesarean section in contrast to mothers who had history of vaginal delivery^{16,17}. Height of the mother was also associated in one study. Operative delivery chances were higher in mother with short stature.¹⁸ In the present study, mean weight of the mothers was 68.66±5.49. BMI could be the important determinant of TOLAC success or failure¹⁹. Landon et al highlighted the association of success rate or TOLAC with the BMI of pregnant females. Low success rate was observed in mothers who were obese as compared to the normal weight mothers.

This study showed that gestational age was also documented and its relation with TOLAC success or failure was observed. Coassolo et al²⁰ and Smith et al²¹ stated that 31% of TOLAC failure was observed at 40 weeks of pregnancy in contrast to <40 weeks of pregnancy in which failure rate was only 22%. Moreover, another study also showed similar results²². This study also showed that mean gestational age was 37.79±2.36. Cervical dilation of >1cm can also elevates the success rate of TOLAC. Various studies have already documented the similar results^{13,23}.

CONCLUSION

Success rate of TOLAC was very low in women who had previous history of cesarean section. Oxytocin does not increase the chances of success rate of TOLAC. Results were helpful in counselling and proper management of the pregnant women condition in accordance with their birth histories.

Conflict of interest: Nothing to declare

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