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Original Research Article

Analysis of trial of labour in previous one LSCS and its correlation with maternal and fetal outcome

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ABSTRACT

Background: A rise in caesarean rate worldwide is one of the causes of maternal and perinatal mortality as well as morbidity. The goal of present study was to assess maternal and fetal outcome of patients with previous one LSCS who were given trial of labour. This research aimed to study the incidence of VBAC and repeat CS in cases with previous one LSCS. And to compare the fetomaternal outcome between vaginal and repeat caesarean delivery. Also, to discover factors predicting outcome of trial of labour after previous one caesarean delivery.
Methods: In this prospective observational study in the Department of Obstetrics and Gynaecology of Grant Govt medical college and JJ group of hospital Mumbai,100 patients with previous one LSCS were evaluated over period of one and half years.
Results: During the above period, out of 100 patients of previous 1 LSCS who were given trial of scar, 47 patients delivered vaginally and 53 required repeat LSCS. VBAC rate was higher in patient with history of previous vaginal delivery. Out of 53 cases who required repeat LSCS, scar tenderness was the most common indication followed by fetal distress. Complication rate were higher in LSCS group. NICU admission rate was higher in LSCS group.
Conclusions: After careful selection of cases, trial of scar after previous one LSCS is safe and often successful. A prior vaginal delivery, Bishop Score > 6, estimated fetal birth weight <2.5 kg, spontaneous onset of labour, interconceptional period >3 years are associated with higher VBAC rate.

Keywords: LS caesarean section, Maternal outcome, Perinatal outcome, Scar tenderness, Vaginal birth after caesarean section

INTRODUCTION

The natural event of childbirth is universally celebrated. But because their bodies are being overly medicalized, it is now a concern for many thousands of Indian women. The delivery of a baby via Caesarean section is one recent example. The most frequent obstetric operation is a caesarean section (CS).[1] Although recently it has also been done at the request of the mother with non-obstetric or medical causes, CS is typically performed when vaginal birth puts the baby's or mother's life or health in danger.

The prevalence of caesarean sections is progressively increasing on a global scale. The incidence has increased two to three times since the original rate of 10% throughout the past ten years.[2] From 2003 to 2018, it has doubled to reach 21%, and it is now growing by 4% annually. Health care institutions around the world are concerned about an increase in Caesarean section (CS) rates. Effectively preventing maternal and neonatal death and morbidity is possible with a medically necessary caesarean section.[3] According to WHO recommendations released in 2015, the optimal rate for CS is thought to be between 10 and 15%.[4]

METHODS

A trial of scar was carried out on 100 patients in the Department of Obstetrics and Gynaecology of Grant govt medical college and JJ group of hospital Mumbai. This prospective observational study was conducted over period of 18 months from June 2021 to December 2022. Selection criteria were cases with uncomplicated pregnancy, adequate maternal pelvis, cephalic presentation and spontaneous onset of labour with previous one uncomplicated LSCS. Patients with classical caesarean section, obstetric complications, cephalopelvic disproportion, multifetal gestation, placenta previa, morbidly adherent placenta were excluded from the study.

Procedure

A written valid informed consent was taken from patient who were registered and booked at our hospital, under careful observation trial of scar given. Labour details noted such as onset of labour, duration of labour and intervention (vaginal vs repeat cesarean). Maternal and fetal monitoring was done with facility of operation theatre, anaesthesia and neonatologist. Ethical approval obtained from Instituitional Ethics Committee. Satistical analysis done using comparative analysis for maternal and fetal outcome, descriptive statistic for demographic data. The outcome data was analyzed using MS word and excel.

RESULTS

This study was conducted on 100 pregnant patients who were given trial of scar with previous one LSCS.

In present study, out of 100 patients of previous 1 LSCS who were given trial of scar, 47 patients delivered vaginally and 53 required repeat LSCS (Table 1).

Table 1: Mode of delivery.

Mode of delivery	No. of cases
VBAC	47
LSCS	53

In present study, majority of cases belong to age group 26-30 years.

In present study, VBAC rate was higher in patient with history of previous vaginal delivery, which shows that trial of labour with history of previous vaginal delivery had more chances of VBAC (Table 2).

In present study, out of 100 patients who were given trial of scar non progress of labour (22) is the most common indication of LSCS in previous pregnancy followed by premature rupture of membranes (19) (Table 3).

In present study, there were 39 cases with low interconceptional period (less than 3 years) out of which 26 required repeat LSCS which shows that caesarean rate was higher in cases with low interconceptional period.

Table 2: Correlation with previous vaginal delivery.

Previous vaginal delivery	VBAC	LSCS	Total
No vaginal delivery	17	28	45
1 vaginal delivery	21	17	38
2 and more vaginal delivery	6	3	9
Total	44	48	92

Table 3: Indication for previous LSCS.

Indication for previous LSCS	No. of cases
NPOL	22
PROM	19
Post datism	17
Oligohydramnios	13
Fetal distress	9
IUGR	8
PIH	6
Cord around neck	5
Cord prolapse	2
Breech presentation	3
APH	1
GDM	1
IUFD	1
Polyhydramnios	1
Total	100

In present study, majority of patients with Bishops score >6 delivered vaginally which shows that patient with Bishops score more than 6 had better VBAC rate.

In present study, out of 53 cases who required repeat LSCS, scar tenderness was the most common indication followed by fetal distress.

In present study, out of 53 cases who required repeat LSCS, complications were seen in 32 cases out of which the most common complication was scar dehiscence followed by PPH. The serious complication was seen in one case of PPH where obstetric hysterectomy was done and one bladder injury for which bladder rent repair was done (Table 4).

In present study, out of 47 patient who delivered vaginally, complications were seen in 7 cases. PPH was the most common. The only serious complication was the uterine rupture seen in 1 case where emergency exploration and uterine rent repair was done.

In present study, out of 47 cases who delivered vaginally, 24 cases had birth weight less than 2.5 kg, which shows that babies with lower birth weight had better VBAC rate.

Table 4: Maternal complications in LSCS and VBAC group.

Complications	No. of cases	Any interventions
Scar dehiscence	10	Scar repair
PPH	12 (8 LSCS and 4 VBAC)	11 cases managed medically, 1 case needed obstetric hysterectomy In LSCS group
Bladder adhesion	4	Adhseiolysis
Omental adhesion	3	Adhesiolysis
Wound gape	4	Resuturing
Uterine artery injury	1	Uterine artery ligation
Anterior abdominal wall adhesions	1	Adhesiolysis
Bladder injury	1	Bladder rent repair
Uterine rupture	1	Emergency explopration and uterine rent repair
Cervical tear	1	Cervical tear repair
Lateral vaginal wall tear	1	Vaginal exploration and tear repair

Table 5: NICU admission.

NICU admission	No. of cases
LSCS	7
VBAC	3

In present study NICU admission and neonatal complications rate was higher in LSCS group (Table 5).

DISCUSSION

In the present study out of 100 patients who were given trial of scar, 47 patients delivered vaginally and 53 required repeat LSCS which was similar to study conducted by Maadan et al on 300 pregnant women with one LSCS, VBAC rate was 53.6%.[4]

In present study, majority of cases belong to age group 26-30 years. Similarly, in study conducted by Singh et al, the study's population had a mean age of 26.92±3.61 years. A total of 60 patients were examined; 36 of them were in the 26-30 age range, followed by 13 in the 21-25 age range, and 11 in the 31-35 age range.[5]

In present study, VBAC rate was higher in patient with history of previous vaginal delivery. Similarly in study conducted by Wazzan et al and Gonen et al shows that VBAC rate was higher in patient with history of previous vaginal birth.[6]

In present study, out of 100 patients who were given trial of scar non progress of labour (22 out of 100) is the most common indication of LSCS in previous pregnancy followed by premature rupture of membrane (19 out of 100). This is comparable with study conducted by Adigoppula et al, most common indication was Breech presentation with success rate of 74%.[7]

In present study, there were 39 cases with low interconceptional period (less than 3 years) out of which 26 required repeat LSCS which shows that caesarean rate was higher in cases with low interconceptional period. Similarly, in study conducted by Doshi et al, VBAC was associated with patient with interconceptional period more than two years.[8]

In present study, majority of patients with Bishops score >6 delivered vaginally. Similarly, in study conducted by Bujold et al who concluded that Bishops Score improves the success of VBAC in cases with previous one LSCS.[9]

In present study, out of 53 cases who required repeat LSCS scar tenderness is the most common indication for repeat LSCS scar tenderness followed by fetal distress. Similarly, in study conducted by Kaur et al scar soreness (13.7%), fetal distress (11.7%), labour not progressing (11.7%), meconium-stained liqour (11.7%), and post-dated pregnancy (11.7%) are the warning signs of a repeat caesarean section.[10]

In present study complications rate were higher in LSCS group out of which most common complication was scar dehiscence followed by PPH and in VBAC group most common complication was PPH. This was complarable to study conducted by Narang et al (2014) they observed, 8 (6%) patients had scar dehiscence during surgery, while 6 (4.5%) patients had ruptured uteri.[11]

In present study, out of 47 cases 24 cases delivered vaginally with birth weight less than 2.5 kg. Whereas in study conducted by Beer et al (2019), 95.24% of newborns with birth weights less 2.5 kg underwent vaginal birth after caesarean sections, while EmRCS was the mode of delivery in 25.60% of cases.[12]

In present study neonatal complication and NICU admission and neonatal complication rate was higher in LSCS group out of which birth asphyxia was most common complication. This is comparable to study conducted by Beer SK (2019), 7 (46.67%) of the 117 (78%) patients in the VBAC group and 8 (53.33%) of the

33 (22%) cases in the LSCS group required admission to the NICU. Prematurity (57.14%) was the most common reason for NICU admission in the VBAC group, after that jaundice and observation (14.28%).[12]

The study encountered several limitations such as small sample size, incomplete records, and strict inclusion criteria. Confounding factors, varying definitions of success, temporal trends, and single institution settings reduced generalisability, affecting validity and interpretation of the findings and future research implications.

CONCLUSION

In these individuals, multiple emergency caesareans are more likely to result in infectious morbidity than vaginal deliveries. Other issues, such as intraoperative issues and blood transfusions, were more prevalent in repeat caesarean section patients than in vaginal delivery patients. As the percentage of patients with a history of past LSCS rises, it is important for medical staff to provide adequate antenatal counselling for VBAC and have a well-defined management plan to increase the number of VBACs. Repeat caesarean sections shouldn't always be performed after one. To reduce maternal and perinatal morbidity and death, the patient should give birth in a well-equipped hospital and difficulties should be identified early.

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