

Study of fetomaternal outcome in pregnancy with previous one LSCS

¹Dr Rita D, Prof & HOD, Department of OBG, NMCH&RC, Raichur, Karnataka

²Dr Bhavana R Naik, Junior Resident, Department of OBG, NMCH&RC, Raichur, Karnataka

³Dr Kapu Shanthi Reddy, Junior resident, Department of OBG, NMCH&RC, Raichur, Karnataka

Corresponding Author: Dr Bhavana R Naik, Junior Resident, Department of OBG, NMCH&RC, Raichur, Karnataka

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Abstract

Introduction: Because of increase in the rate of primary cesarean section there is an increase in incidence of pregnant women with previous caesarean delivery. Management of women with previous caesarean section regarding mode of delivery whether to go for a repeat caesarean delivery or vaginal delivery is a topic of debate and often decision is not made with proper reasoning. Many choose elective repeat section though there are reports of successful VBAC, to avoid complication of Trial of labour such as scar dehiscence, uterine rupture and to avoid neonatal complications.

Aims & Objectives: To know the indications of primary caesarean section, successful outcome of VBAC, to know various intraoperative complications and perinatal outcome in repeat caesarean section.

Methods: This study was conducted at NMCH &RC, in Dept. of OBG for a period of 12 months from October 2020 to September 2021, on 200 pregnant women admitted in labor Room with previous 1 LSCS.

Results: Out of 200 patients, 75 patients underwent Trial of labor, of which 20% had successful VBAC and remaining underwent repeat LSCS out of which 70.81% were emergency ,29.18% were elective . Fetal distress

was the most common indication for emergency LSCS. Most common intra op complication was adhesions 40.6% , thinned out lower uterine segment 19.3% , postpartum haemorrhage 7.7%, scar rupture 1.2%. Out of 200 live births, 30%(60 neonates) required NICU admission, 20 babies were born preterm . Postop maternal and neonatal complications were significantly more in emergency LSCS group.

Conclusion: With the increase in proportion of pregnant women with primary caesarean section, it is important to council this females on spacing between deliveries, regular ANC checkups. It is also essential to council the female on trial of labor in tertiary care centre. Cesarean section should not always be followed by repeat caesarean section and its worth to reduce the rate of primary caesarean section to avoid complications in consequent pregnancy.

Keywords: LSCS, TOL, VBAC, NICU admission.

Introduction

Cesarean section is the most frequently performed major abdominal surgery in obstetrics, when necessary, it is life saving for both mother and neonate and its truly a remarkable success in modern medical science.¹

In many countries cesarean section has become mode of delivery in over quarter of all birth. According to National family health surveys 2019 rate of cesarean section in India has increased to 17.3%. Among all states Telangana has the highest number in India 60.7%, 2nd Andhra Pradesh (42.4%) and least being Nagaland (5.8%). Karnataka is at 9th position with 31.5%. rate. In past 20 years there is a significant increase in rate of cesarean section, various factors contribute towards this rising trend of cesarean section and repeat cesarean section constitutes the commonest indication of cesarean section in most countries and obstetricians are reluctant to take risk in allowing subsequent Trial of vaginal delivery in high risk cases. The introduction of lower segment cesarean section gave a good and strong uterine scar to hold and safely deliver in subsequent pregnancy. It is now hence safe to say “once a cesarean section’, always a hospital delivery.”²

The dictum once a cesarean always a cesarean was made Roy Edwin Cragin in 1916 ³ and before 1970's this dictated obstetric practice. The present-day dictum revolves around optimal management after a previous cesarean delivery.⁴ VBAC is safe and is successful in carefully selected population of women with previous Cesarean Section in appropriate clinical settings. A trial of VBAC is considered safer than routine repeat cesarean section.² It offers less morbidity in women with successful VBAC versus those with elective repeat or emergency cesarean section. They have shorter hospital stay, less blood transfusion and no increased perinatal mortality.⁵

Aims and Objectives

1) To Study the indications of Primary Cesarean section in multiparous women.

- 2) To note various intraoperative complications in repeat Cesarean section.
- 3) To study the maternal and perinatal outcomes among women with previous cesarean section at a tertiary care center.
- 4) To study complications associated with trial of labour after cesarean section and its outcome.

Material and Methods

This study was conducted at NMCH &RC, in Dept. of OBG for a period of 12 months from October 2020 to September 2021 on 200 pregnant women admitted in labor Room with previous 1 LSCS after obtaining the written Informed consent from each woman who fulfill the inclusion criteria of study. Antenatal complications, mode of delivery, intra op complications during repeat LSCS along with fetal outcome was looked into. Data was entered and analyzed with Microsoft Excel. Frequencies and percentage were calculated.

Ethical Approval: The study was conducted after obtaining institutional ethical committee clearance.

Inclusion Criteria

1. Gestational age \geq 34 weeks to 40 weeks.
2. Previous one LSCS.
3. Single Live fetus with cephalic presentation.
4. Pelvis should be adequate.
5. Previous LSCS was performed for Non-Recurrent Indications like NPL, fetal distress, malpresentation etc.

Exclusion Criteria

1. Gestational age <34 weeks and >40wks
2. Previous classical caesarean section.
3. History of complete perineal tears.
4. Contracted pelvis.
5. Pregnant women with medical conditions like Heart diseases, Renal disorders, Asthma, Tuberculosis.

On admission thorough antenatal history was taken and antenatal records were evaluated followed by obstetric examination. Labour was monitored by partogram. Patients who were allowed for TOL, were monitored carefully in Intrapartum period for any signs and symptoms of impending rupture like maternal tachycardia, hypotension, suprapubic bulge, vaginal bleeding, hematuria, and for any signs of fetal distress using CTG. In any cases if rupture was suspected or any signs of fetal distress-TOL was abandoned immediately and taken for Emergency LSCS.

In second stage of labour, prophylactic forceps or vacuum applied if second stage exceeds 30 minutes. Active management of third stage of labour given to each pregnant woman (AMTSL) as per WHO guidelines. Any postpartum complications recorded. Neonatal assessment done by weight of neonate, APGAR score at 1 and 5 minutes, need of resuscitation, NICU admission.

Maternal outcomes were measured in terms of type of delivery (VBAC, ERCS, and Failed VBAC), occurrence of scar dehiscence, PPH with need for blood transfusion, uterine rupture, adherent placenta and hysterectomy.

Intra operative complications if any were noted.

Post-operative complications were also noted.

Preterm babies or babies with poor APGAR score or respiratory distress or any other complications were shifted to NICU immediately.

The Robson classification (also known as the 10-group classification) was proposed by the WHO. Later on, a modification to the Robson criteria is proposed.⁶ It is used as a global standard for assessing, monitoring and comparing caesarean section rates both within healthcare facilities and between them. The VBAC recommendations by American College of Obstetrics & Gynaecology, 1998-99, which were renewed in ACOG

2010⁷ are as follows: The criteria for selection of cases for VBAC are:

1. 1 or 2 prior lower transverse cesarean delivery.
2. Clinically adequate pelvis.
3. No other uterine scar or previous rupture.
4. Facility for emergency cesarean delivery
5. Availability of physician throughout active labour who is capable of monitoring labour and performing emergency cesarean delivery.

Factors affecting subsequent outcome are:

1. Type of prior uterine incision- Women with one prior low transverse cesarean have the lowest risk of scar rupture.
2. Indication for prior section- Women with a non-recurrent indication- for example, breech presentation have the highest VBAC rate of nearly 90% (Wing, 1999)⁸.
3. Number of prior Caesarean section- There is a double or triple rate of rupture of uterus in women with two, compared with one prior transverse cesarean. (Macones 2005;⁹ Miller, 1994).¹⁰
4. Soundness of scar- The risk of uterine rupture is low if the thickness of this segment is ≥ 2.5 mm and high if thickness is < 2 mm (Jastrow 2016).¹¹
5. Inter delivery interval- Interval of ≤ 18 months were associated with a threefold greater risk of scar rupture during a subsequent TOLAC compared with intervals > 18 months (Shipp and co-workers, 2001).¹²
6. Fetal size and lie- Increasing fetal size is inversely related to VBAC rates (Jastrow et al, 2010).¹³
7. Maternal obesity- Pre pregnancy body mass index (BMI) and VBAC rates appear to have an inverse relationship.
8. Multiple gestation- The risk of uterine rupture is not increased in twin pregnancy (Ford and associates (2006).

The American College of Obstetricians and Gynaecologists the Society for Maternal-Fetal Medicine (2017)¹⁴ recommends that nonmedicated indicated deliveries be delayed until 39 completed weeks of gestation or beyond.

Contraindications for TOL are as follows:

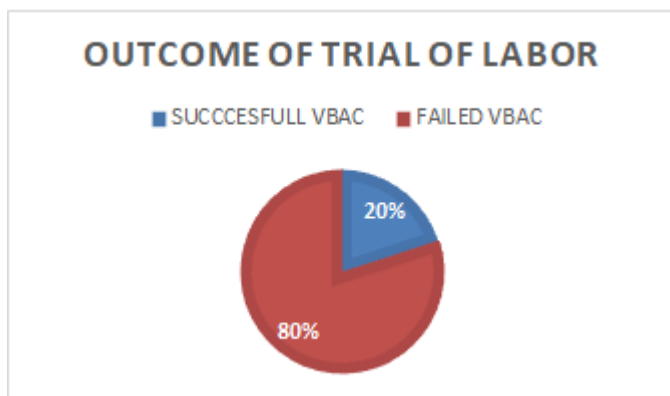
- Previous classical / inverted 'T' uterine scar.
- Previous Hysterotomy or myomectomy or any other surgeries on uterus
- Presence of contraindication to vaginal delivery such as major placenta previa / malpresentation.
- Women refuses TOL and chooses elective Repeat C section.
- Resources limited for emergency C –section.

Table 1: Results- Age Distribution of Study Participants

Age	Number of Patients	Percentage
<20	30	15%
21-25	66	33%
26-30	84	42%
31-35	15	7.5%
36-40	05	2.5%
Total	200	100%

Above table shows the age distribution of study population, maximum pregnant women were in the age group between 26 to 30 yrs accounting for 42%.

Fig 1: Results of Outcome of Trail of Labour



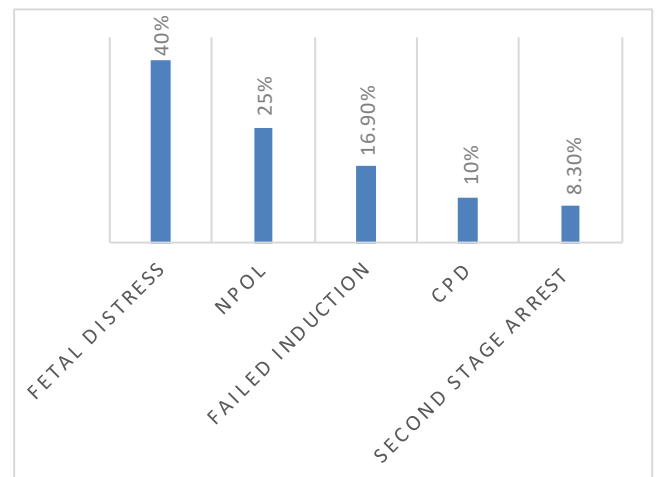
Above figure shows outcome of trail of labour, out of 75 patients who were allowed for trail of vaginal delivery 15 patients had successful VBAC (20%), remaining had failed VBAC (80%) and underwent emergency LSCS.

Table 2: Percentage of Cesarean Section

Operation	Number of cases	Percentage
Emergency	131	70.81%
Elective	54	29.18%

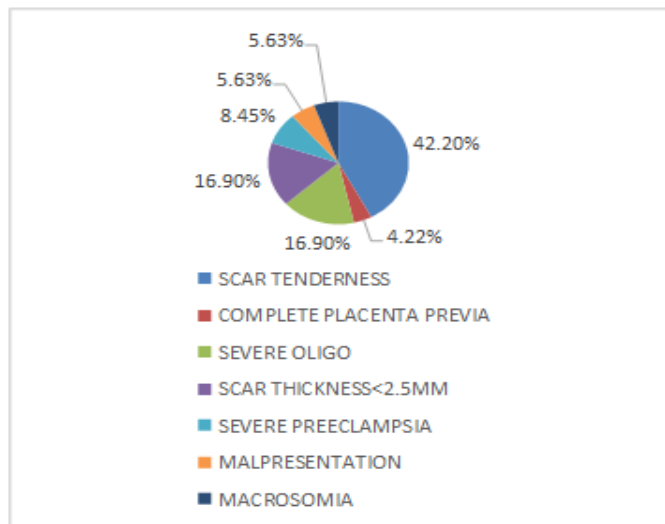
Table showing percentage of patients who had repeat LSCS, 131 patients (70.81%) underwent Emergency LSCS and 54 women (29.18%) had elective LSCS.

Fig 2: Showing indications of emergency LSCS in failed VBAC group



Above figure shows that most common indication for Emergency LSCS was fetal distress (40%), Non progression of labour (NPOL) in 25%, failed induction 16.90%, CPD 10% and second stage arrest was indication in 8.30%.

Fig 3: Indications of emergency LSCS in patients selected for elective LSCS



Above figure shows indications of emergency LSCS in patients who were selected for elective LSCS, scar tenderness 42.2%, severe oligohydramnios 16.90% and scar thickness

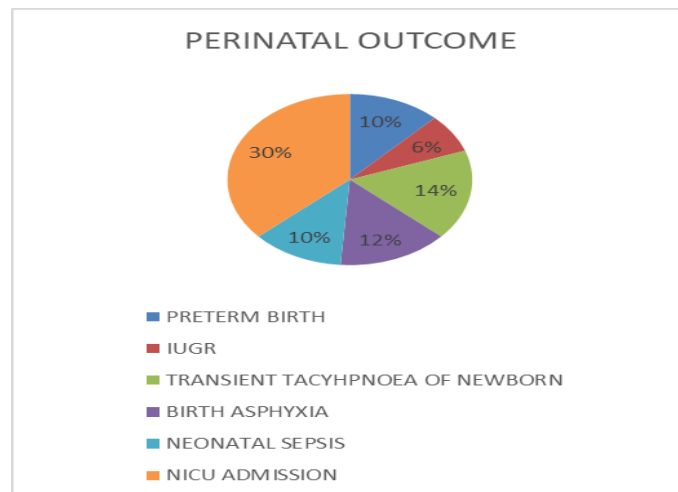
< 2.5mm 16.90%, severe preeclampsia 8.45%, malpresentation and macrosomia 5.63%

Table 3 : Showing intraoperative complications

Complications	Number	Percentage
Adhesions		
1.maximal	27	17.4%
2.minimal	36	23.2%
Difficulty in reaching lUS due to adhesion with bladder	11	7.09%
Thinned out LUS	30	19.3%
Scar dehiscence	22	14.1%
Scar rupture	2	1.2%
Angle extension	15	9.6%
Post Partum Haemorrhage	12	7.7%

Above table shows various intra op complications adhesions were the most common complication encountered followed by thinned out lower uterine segment.

Fig 4: Perinatal Outcome



Above figure shows perinatal outcome with 10% preterm and neonatal sepsis, 6% IUGR, 14% transient tachypnoea of newborn, 30% neonates requiring NICU admission most common indications were preterm care and transient tachypnoea of newborn.

Table 4 : Post-operative complications

Complications	Number	Percentage
Blood transfusion	30	16.2%
Wound gaping	19	10.2%
Puerperal pyrexia	20	10.8%
Headache	19	10.2%
Prolonged Catheterisation	25	13.5%

Above table shows post-operative complications with need for blood transfusion for 16.2%, prolonged catheterisation 13.5%, puerperal pyrexia 10.8%, wound gaping and headache 10.2%,

Discussion

Cesarean section is one of the oldest obstetric operations performed. In past It was mainly performed for maternal reasons. But nowadays frequently performed for fetal reasons in addition to maternal reasons. Being a major surgical intervention associated with significant immediate and delayed maternal and neonatal morbidity & mortality.

In recent years since there is significant increase in number of primary caesarean section thus increasing proportion of pregnant women with one previous LSCS, in last 35 years rate of cesarean section has steadily increased from 5 to 25%.¹⁵

Studies have shown that 20 to 80% of women with previous LSCS can achieve vaginal delivery when trial of labor is done. Decision regarding trial of labor or elective repeat LSCS is an individual one and should be based on careful case selection and thorough appropriate counseling. This study was conducted with main aim to study maternal & fetal outcome in pregnant women with one previous LSCS. Among the study participants majority were in age group of 26-30 years (42%). Trial of labor was given in 70 patients remaining 130 patients were chosen for elective repeat LSCS. The most common indication for an ERCS in the present study was the unwillingness of the patient for a Trial of labor inspite of being eligible for a trial of labor, which constituted 38.28 % of the total number of patients who had an ERCS. This is comparable to the study by Gonen and colleagues where 37.90% of the patients had an ERCS on maternal request and declined for a trial of labor.¹⁶ In 70 patients, TOL was successful in 15 patients accounting for 20%, rest 60 patients underwent emergency LSCS (80%), most common indication of emergency LSCS was fetal distress 24(40%), second most common indication was NPOL 15(25%), others were failed induction and CPD.

A study by Nigamananda Mishra, Namrata Taor et al showed, out of total 75 cases, a total of 23 patients (30.67%) were given trial of labor. Out of 23 patients given trial of labor, 12 patients (52.17%) had successful VBAC. Commonest indication for unsuccessful trial of labor undergoing repeat cesarean section was non progression of labor (54.55%) and failed IOL (36.67%).

Out of 125 patients who were not given TOL 71 patients were taken up for emergency LSCS as they were already in labour with complications like scar tenderness 30 (42.2%), placenta previa 3(4.22%), severe oligohydramnios 12 (16.9%), severe preeclampsia 6 (8.45%), malpresentation and macrosomia 4 (5.63%). Rest 54 patients who were not in labour without any antenatal complications were taken up for elective LSCS after 37 completed weeks. Among intra op complications maximal adhesions was found in 27 cases (17.4%), minimal adhesions were seen in 36 (23.2%) adhesions were the most common intra op complications encountered. Thinned out LUS was seen in 30(19.3%), difficulty in reaching LUS due to adhesions with bladder was seen in 11 (7.09%), scar dehiscence 22 (14.1%), scar rupture 2 (1.2%), angle extension 15 (9.6%), PPH 12 (7.7%). In present study 125 patients opted for elective repeat LSCS most common indication being previous pregnancy bad experience hence not willing for trial of labour out of fear. There were 2 cases of uterine rupture (1.2%) most of published data suggest incidence of uterine rupture following LSCS is <1%.

Nazia Mussarat, Saima Qurashi et al reported Out of 100 patients, 58(58%) had emergency and 42(42%) had elective caesarean section. The leading maternal indications were previous caesarean section 34 (34%), severe pre- eclampsia 6(6%), post date & failed induction of labor 6 (6%), placenta previa 6(6%), and failure of progression of labor 5(5%), PROM 3(3%), Pre-PROM 3(3%), and cephalopelvic disproportion (2%).

Perinatal morbidity occurred in 60 babies (30%) due to birth asphyxia 24 (12%), neonatal sepsis 20 (10%), preterm birth occurred in 20 (10%), transient tachypnoea of newborn 28(14%). Major reason which required NICU admission was birth asphyxia and preterm

care. Shah Jitesh et al and Shruthi s Goel et al who concluded that infants born after successful VBAC had the lowest rates of NICU admission and those born by failed VBAC had highest NICU admission . Nazia Mussarat, Saima Qurash et al showed nine babies had perinatal deaths in their study, 8 belonged to emergency and only one baby died in elective group due to aspiration pneumonia.

Maternal and neonatal complications were more in emergency LSCS group compared to VBAC and elective LSCS group. Post operative complications like blood transfusion was done in 30 patients, wound gaping was seen 19 patients (10.2%) and prolonged catheterization in 25 (13.5%) patients.

Conclusion

Although, wide spread improvement in anesthesia, surgical technique, antibiotics and blood transfusions have decreased the morbidity and mortality from cesarean section , but it is not without hazard.

With proper case selection, appropriate timing and careful monitoring, TOL is relatively safe but it is not risk free. It's very important to spread knowledge Regarding Regular Antenatal check up ,Inter pregnancy interval and training health care professionals at periphery level for early referral of this cases to tertiary health care center for appropriate and timely management. Cesarean section should not be always followed by repeat cesarean section and patient should have hospital delivery and any complications should be diagnosed at an early stage so that we can prevent maternal and perinatal morbidity and mortality.

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