

Outcome of Pregnancy with History of Previous Cesarean Section

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ABSTRACT

In modern obstetric practice, pregnancy with history of previous cesarean section is quite common. A cesarean section poses some documented risks to the mother's health in subsequent pregnancies like placenta previa or accreta and uterine scar rupture. It is also associated with increased likelihood of preterm delivery, low birth weight, and perinatal death. Repeat cesarean section is technically difficult and there is chance of injury to surrounding structures. The retrospective study was done in Yenepoya Medical College Hospital during the period of January 2014 to January 2015 to find out the maternal antepartum and intrapartum complications as well as perinatal outcome in patients with a history of cesarean section. A total number of 143 pregnant patients with history of one or more cesarean section who underwent repeat cesarean sections were included. Previous classical cesarean, extreme prematurity, and those who opted for vaginal birth after cesarean (VBAC) were excluded. Mean age of the study population was 27.4 years. Here, 72.12 and 20.98% cases had history of previous one and two cesarean sections respectively. Important antepartum complications were placenta previa (3.50%), scar tenderness (8.39%), gestational diabetes mellitus (GDM; 4.90%), pregnancy-induced hypertension (PIH; 6.99%), etc. There were extensive peritoneal and bladder adhesions in 13.99 and 16.78% cases respectively, causing much preoperative difficulties and in one case urinary bladder was injured during operation. Postoperative period was uneventful in 72.72% cases. In this study, 20.28% neonates developed some complications like prematurity, low birth weight, birth asphyxia, and neonatal jaundice. Here the rate of perinatal mortality was 1.4%.

Keywords: Cesarean section, Perinatal mortality, Placenta previa, Scar tenderness, Urinary bladder.

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INTRODUCTION

Cesarean birth has been a major source of interest and concern over the last few decades. In the past 35 years, the rate of cesarean section has steadily increased from 5% to approximately 25%.¹ So pregnancy with history of previous cesarean section is prevalent in present-day obstetric practice. Precise quantification of the risk attributable to a prior cesarean section is difficult. It has been associated with increased risk of placental abruption and placenta previa in subsequent pregnancies, conditions resulting in increased likelihood of preterm delivery, low birth weight, and perinatal death.

A retrospective analysis of catastrophic complication of previous cesarean section by Cynthia Chagotte² showed that 2.4% of the patients after one or more cesarean section had an extremely serious complication like uterine rupture and placenta previa or accreta with accompanying hemorrhage. Other complications like impending rupture, bladder discomfort, preterm delivery, operative interference, and incidental morbidity can occur during pregnancy, labor and in repeat cesarean section.³ There are more technical difficulties and increased chance of injury to the surrounding structures during repeat C-section and postoperative complications are likely to be increased.⁴ The risk of injury to bladder is increased threefold in repeat cesarean section.⁵ Although maternal mortality after scar rupture is low, the major risk is to the fetus that can suffer from anoxic brain damage or die if not delivered very urgently. This study was designed to find out the maternal antepartum and intrapartum complications as well as perinatal mortality and morbidity in patients with history of previous cesarean section.

AIMS AND OBJECTIVES

- To find out antepartum maternal complication related to previous cesarean section.
- To find out intrapartum maternal and fetal complication.
- To find out fetal outcome like prematurity, perinatal mortality and morbidity.

MATERIALS AND METHODS

This study was conducted in Yenepoya Medical College Hospital, a tertiary care referral center in rural part of

Karnataka (Southern India). Retrospective analysis of medical records of 143 women with previous one or two cesarean section who delivered during the time period January 2014 to January 2015 was carried out.

The exclusion criteria included women with previous classical cesarean section, those with extreme prematurity (less than 32 weeks), and those who opted for VBAC.

Data were collected by preparing a data collection sheet, which included the patient's particulars, antepartum clinical, laboratory, and intrapartum or peioperative, post-operative findings as well as perinatal outcome of the fetus. Collected data were compiled and analyzed using Statistical Package for the Social Sciences statistical package.

RESULTS

During the study period, January 2014 to January 2015, a total number of 143 pregnant patients were included in this study who were admitted with history of one or more cesarean sections. The mean age of the study population was 27.4 years (<20–40); 76.22% cases were aged 21 to 30 years (Table 1).

All the study populations were multigravida having various types of previous obstetrical history. Graph 1

shows that 74.12% patients had one and 20.98% had two previous C-sections.

Majority (74.82%) of the cases were admitted with term, only 13.99% were with preterm, but 11.19% with postdatism (Graph 2).

Table 2 reveals that in more than half of the cases antepartum period was uneventful. Another 17.48% cases had some complications related with previous surgery like placenta previa, scar tenderness, chronic abdominal pain. In 16.79% cases there were some medical disorders like GDM, PIH, urinary tract infection, etc.

Among the study population, 46.15% needed emergency cesarean section and the rest (53.85%) of the cases were terminated on elective basis by cesarean section. Only 5.59% cases required blood transfusion during operation.

Table 3 shows that in 13.99% cases extensive peritoneal adhesion with uterus and posterior surface of anterior abdominal wall and bladder was adherent in 16.78% cases.

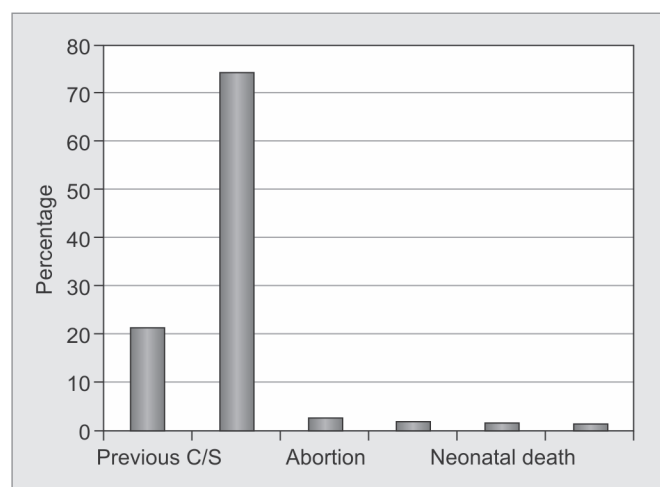
Postoperative complications are shown in Table 4. Here majority (72.72%) had no complication. Important complications were wound infection (7.69%), anemia (3.50), postpartum hemorrhage (PPH; 1.40%), etc.

Table 1: Age incidence of study population

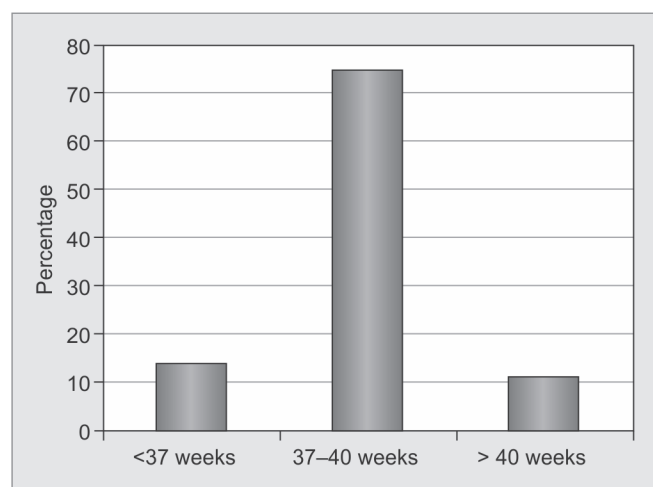
Age in years	Number of patients	Percentage	Mean age
<20	3	2.10	27.4 years
21–25	38	26.57	
26–30	71	49.65	
31–35	22	15.38	
36–40	7	4.90	
41 and above	2	1.40	
Total	143		

Table 2: Antepartum complications

Problems	Number	Percentage
No complication	94	65.73
<i>Complications related with previous surgery</i>		
Placenta previa	5	3.50
Chronic abdominal pain	8	5.59
Scar tenderness	12	8.39
<i>Medical disorders</i>		
GDM	7	4.90
PIH	10	6.99
UTI	4	2.80
Respiratory disease/cardiac disease	0	
Fibroid uterus	3	2.10



Graph 1: Obstetric history



Graph 2: Period of gestation

Table 3: Types of intraoperative problems

Types of problems	Number	Percentage
Difficulty in opening the abdomen due to adhesion		
– minimal adhesion	58	40.56
– extensive adhesion	20	13.99
– no adhesion	65	45.45
Difficulty to reach lower segment due to adhesion with bladder	24	16.78
Bladder injury	1	0.70
Difficulty in stitching the uterine incision due to extreme thinning	15	10.49
Impending rupture	2	1.40

Table 5: Perinatal fetal outcome

Condition of baby	Number of cases	Percentage
Healthy	114	79.72
Birth asphyxia	3	2.09
Premature	7	4.90
IUGR	7	4.90
Neonatal jaundice	8	5.59
Neonatal infection	2	1.40
Neonatal death	1	0.70
IUD	1	0.70

Perinatal fetal outcome has been shown in Table 5. Majority (79.72%) of the babies were healthy; the rest had some complications like prematurity (4.90%), intra-uterine growth restriction (IUGR; 4.90%), birth asphyxia (2.09%), neonatal infection (1.4%), and neonatal jaundice (5.59%). Perinatal death was found in two cases, one of them was intrauterine device (IUD) and the other was early neonatal death.

DISCUSSION

In modern practice, with the objective of safe motherhood and mother baby package program the aim of obstetricians is to achieve a healthy mother and healthy baby. To achieve this goal, cesarean section plays a vital role and increasing trend of cesarean section is also related to it to a certain extent. Thus, repeat cesarean section is the commonest contributory factor for increased rate of C-section. It varies from country to country and center to center; 95% of all cesarean sections are in USA, 23% in Norway, 24 to 30% in India, and the lowest 8% in Hungary.⁶

This study was done in the Department of Obstetrics and Gynaecology of Yenepoya Medical College Hospital, among 143 patients with history of one or more cesarean sections who were admitted for termination of pregnancy either on emergency or elective basis.

Majority (76.22%) of the study population were of 21 to 30 years, which is more or less similar to other study results done in SSMC Mitford Hospital where 69.2% cases

Table 4: Types of postoperative problems

Complications	Number of cases	Percentage
No complications	104	72.72
Wound infection	11	7.69
Severe discharge from the wound	9	6.29
Puerperal pyrexia	2	1.40
PPH	2	1.40
UTI	3	2.10
Anemia	5	3.50
Headache	5	3.50
Postoperative rise of blood pressure	2	1.40

were between 20 and 29 years.⁷ Here 74.12 and 20.98% cases had history of previous one and two cesarean sections respectively. Among all patients, a significant number had history of previous pregnancy loss, e.g., spontaneous abortion (2.10%), stillbirth (1.4%), neonatal death (0.7%), and other 0.7% had ectopic pregnancies.

Among the study population, there were some common complications associated with previous cesarean section like placenta previa (3.50%), scar tenderness (8.39%), and chronic abdominal pain (5.59%). A significant number (16.79%) of cases had some medical disorders like GDM, PIH, and UTI. Majority (74.82%) cases came with term pregnancy; only 11.19% were preterm and required emergency termination for GDM, severe preeclampsia, multiple pregnancies, antepartum hemorrhage, etc. Here, total 39.86% cases underwent emergency cesarean section. The elective cesarean section is 50.35% in comparison to those of Khawaja et al⁸ in Pakistan (11.33%) and Asaduzzaman⁹ in Bangladesh (34.6%).

As all the patients underwent cesarean section both perioperative and postoperative findings were observed meticulously. In 13.99% cases there were extensive adhesion among uterus, omentum and anterior abdominal wall causing difficulties in opening the abdomen. Urinary bladder was found adherent in 16.78% cases and in one of them it was injured during operation. In 10.49% cases lower segment was found so thin that suturing was found difficult. The overall perioperative complication was much less (12.1%) in the study of Bergholt and Stenderup.¹⁰

This study reveals that majority (72.72%) cases had no postoperative complication. Here important complications were PPH (1.40%), wound infection (7.69%), anemia (3.50%), etc. The rate of complication is significantly less in this study in comparison to other two studies done by Chowdhury et al⁷ and Asaduzzaman.⁸

In this study, 20.28% babies developed complications, which is statistically comparable to the study of Dey and Hatai¹¹ in India. Among them, 4.90% babies were premature, 2.09% had birth asphyxia, and other 5.59% developed neonatal jaundice. Here number of perinatal



mortality was two, of them one was a case of intrauterine fetal death and the other baby died in early neonatal period. These findings are a bit different from the study of Tadesse et al¹² in Ethiopia where stillbirth and neonatal death were 2.8 and 4.7% respectively.

CONCLUSION

This is a very limited study which revealed that previous cesarean section-related antenatal complications were not very high, but a significant number of cases had perioperative complications. There was no maternal mortality but perinatal fetal mortality rate was 1.40%. Further larger study with the scope of trial of vaginal delivery would be important to evaluate the pregnancy outcome in patients with a history of previous cesarean section.

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