

# Intraoperative Difficulties in Repeat C-Sections

Pallavi A. Gajakosh<sup>1</sup>, Vidya A. Thobbi<sup>2</sup>

<sup>1</sup>3rd Year Resident, Department of Obstetrics and Gynaecology, Al-Ameen Medical College and Hospital Vijayapura  
Email: pgajakosh02[at]gmail.com

<sup>2</sup>Professor and Head, Department of Obstetrics and Gynaecology, Al-Ameen medical College and hospital Vijayapura  
Email: thobbiidya86[at]yahoo.com

**Abstract:** *The hospital-based prospective observational cross-sectional study was under taken to assess intraoperative complications in women with repeat C-section. The study was conducted at a tertiary care center in the department of obstetrics and gynaecology at Al-Ameen medical college, Athani road, Vijayapur for the duration of 18 months. A total of 500 pregnant women with repeat CS willing to participate in the study were included in the study after obtaining written informed consent. A predesigned performa was used collect data regarding clinical, socio-economic variables. The particular difficulties encountered during surgery were noted and all the data was analyzed for type and incidence of intraoperative difficulties. The mean age of the women was 26.29±2.87 years. The majority (n=465, 93%) of participants were aged between 20-29 years. The maximum number of women (n=443, 88.6%) had one previous C-section. In 42% (n=210) of patients intraoperative complications were noted. The most common complication was adhesion (83.8%, n=176) followed by thinned out lower uterine segment (37.1%, n=78). In n=176 patients with adhesion, n=127 had combinations of adhesion including parietal peritoneum and anterior surface of uterus alone (n=90), and parietal peritoneum, anterior surface of uterus and the omentum (n=27). A significant association was found between intraoperative complications and previous C-section (P<0.05). Women undergoing repeated CS have a risk of increased morbidity due to increased intraoperative complications. To avoid this one should keep the CS rate at reasonable limit with appropriate surgical techniques and to limit primary CS rate.*

**Keywords:** Adhesiolysis, caesarean section, Intraoperative complications, repeat caesarean section

## 1. Introduction

Caesarean section (CS) is the second most frequent obstetric operation worldwide. It is carried out when a vaginal delivery put the baby's or mother's life at risk. Whereas, nowadays CS is also performed at mothers' request without any obstetric or medical indication. [1, 2] Caesarean delivery indicates the birth of a fetus through laparotomy followed by hysterotomy. [3]

In most affluent nations as well as many emerging nations, including India, the rate of CS deliveries has steadily increased over the past few decades. The rate of this method of delivery is disturbingly high in states such as Kerala, Goa, Andhra Pradesh, West Bengal, and Tamil Nadu, according to a study of data from the National Family Health Survey. States with a high percentage of institutional births have an increase in CS deliveries. One of the key indices of emergency obstetric care is the ratio of caesarean sections to total births. The WHO recommended a 5–15% rate for CS. A rate of more than 15% denotes excessive use of the procedure for purposes other than life-saving ones. Globally the number of CS has rapidly increased over the past 20 years and has now emerged as a significant public health concern. [4]

The reasons to perform CS are multifaceted which include increased maternal age, related medical risk factors, maternal desires, and evolving obstetric procedures such as an increase in labour induction rates and continuous electronic fetal monitoring. Repeat CS is frequently indicated by prior caesarean sections. Repeat CS is 8–40% more common after performing the prior CS. [1]

It is common to develop the complications such as scar tissue, adhesions, and bladder extension following

laparotomy. However, C-section holds no exception to this. It carries the risks of bleeding from the abdomen, infection, surgical damage, hysterectomy, and death. As the number of CS deliveries increases the instances of uterine scar dehiscence, rupture, and related maternal and/or newborn morbidity and mortality increase. With a caesarean delivery, there is an increased chance of serious complications. Depending on the number of prior caesarean sections, scarring, and adhesion formation are known to increase the possibility of complications. After two Caesarean sections, there is an increased risk of placenta accreta, a potentially fatal condition, and there is also a corresponding increase in the probability of emergency hysterectomies at birth [5-7]. The present study was undertaken to study intraoperative difficulties in repeat CS.

## 2. Materials and Method

The present hospital-based prospective observational cross-sectional study was conducted at a tertiary care center in the Department of Obstetrics and Gynaecology at Al Ameen Medical College, AthaniRoad, Vijayapur for the duration of 18 months. A total of 500 pregnant women with repeat CS willing to participate in the study were included in the study after obtaining written informed consent whereas, the patients with medical complications and the pregnant women who had undergone other abdominal surgeries were excluded from the study.

A thorough history and physical examination were done as per proforma followed by a complete blood count, BT, CT, and ultrasound study including doppler Doppler study, scar thickness, placental detail, and CTG. Case histories of repeat caesarean deliveries were studied and data was recorded. The particular difficulties encountered during surgery were noted and all the data was analyzed for type and incidence of

intraoperative difficulties. The intraoperative complications were analyzed and categorized with respect to age, parity, number of C-sections, and indication for C-sections for both previous and present.

Routine investigations such as haemoglobin percentage, blood grouping, rhesus typing, urine for albumin, sugar, microscopy, and VDRL were done. Gestational age was confirmed by LMP and a dating scan per-abdominal examination was done to know the gestational age by fundal height for the uterine activity for signs of threatened rupture of uterus presentation, lie, the position of the fetus if vertex presentation whether it is engaged or not engaged.

In per-vaginal examination dilatation and effacement of cervix, position, and station of presenting part, presence or absence of caput and molding if present its grading, color, and smell of the liquor, the pelvic assessment was done to rule out cephalo pelvic disproportion. The decision for a caesarean section was taken based on clinical evaluation of the progression of labor, fetal condition, station and its position (in the pelvis), maternal condition, and patients not willing for VBAC (vaginal birth after caesarean section).

All the intraoperative details were noted and complications were managed promptly. The postoperative period was monitored and all complications were managed promptly. Patients with uneventful post-operative periods are discharged after the 6th postoperative day. On discharge, a summary card was given and a postoperative check-up, after 4 weeks was advised. All cases were advised a mandatory hospital delivery in successive pregnancies.

### Statistical analysis

Data were analyzed using the SPSS IBM V 20 software. Continuous variables were expressed in terms of mean $\pm$ SD whereas, categorical variables were expressed in percentage and frequency. Qualitative data was presented with the help of frequency and percentage table. Association among the study groups was assessed with the help of Fisher's test, student 't' test and Chi-square test. P value was determined

using the chi-square test. P value <0.05 was considered statistically significant.

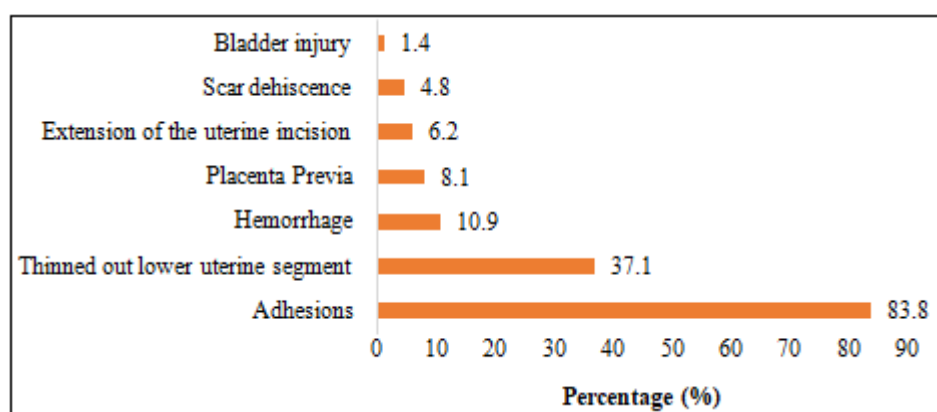
### 3. Results

The mean age of the women was 26.29 $\pm$ 2.87 years. The majority (n=465, 93%) of participants were aged between 20-29 years. The maximum number of women (n=443, 88.6%) had one previous C-section. Other clinical and socio-demographic features are shown in table 1.

**Table 1:** Socio-demographic and clinical features of the studied sample

Variables	Subcategories	Frequency (n)	Percentage (%)
Age (years)	<20	5	1
	20-29	465	93
	30-35	30	6
Education	Primary	85	17
	SSC	110	22
	HSC	145	29
	Graduation	130	26
	Uneducated	30	6
Socio-economic status	Lower	180	36
	Lower middle	105	21
	Upper lower	100	20
	Upper Middle	70	14
	Upper	45	9
Residential area	Urban	315	63
	Rural	185	37
Previous C-section	1	443	88.6
	2	55	11
	3	2	0.4

In 42% (n=210) of patients intraoperative complications were noted. The most common complication was adhesion (83.8%, n=176) followed by thinned out lower uterine segment (37.1%, n=78) (Figure 1). In n=176 patients with adhesion, n=127 had combinations of adhesion including parietal peritoneum and anterior surface of uterus alone (n=90), and parietal peritoneum, anterior surface of uterus and the omentum (n=27).



**Figure 1:** Distribution of intraoperative complications

A significant association was found between intraoperative complications and previous C-section (P<0.05).

### 4. Discussion

The number of repeat CS has lately increased, owing in part to concerns about an increased risk of uterine rupture in women who attempt vaginal birth after CS delivery. Women

who had a caesarean section during their first delivery had a second surgical delivery in 80-96% of cases. [8] Repeated CS is associated with various intraoperative complications that may cause maternal morbidity and mortality. The present study was undertaken to assess the intraoperative difficulties in repeat CS.

In this study the mean age of the patients was  $26.29 \pm 2.87$  years. Moreover, here 93% of the patients were belonged to 20-29 years of age. Furthermore, 88.6% of women had one previous CS. Similarly various studies have reported the previous CS in this age group. [1, 9, 10] This might be due to early marriages, early conception, short intervals between subsequent pregnancy, high prevalence of illiteracy and poverty among people of this part.

In current study 42% of the women had intraoperative complications including adhesions (83.8%), followed by thinned out lower uterine segment (37.1%), hemorrhage (10.9%), placenta previa (8.1%), extension of the uterine incision (6.2%), scar dehiscence (4.8%) and bladder injury (1.4%). The incidence of complications was highest in the age group of 20-29 years (43.6%). Whereas, 7 out of 23 patients (23.3%) in the age group of 30-35 years had complications. However, there was no significant association between intraoperative complications and age. These findings are comparable with the studies conducted by Singh N and Lavanya B, Morang K et al. and Gupta P. [1, 10, 11]

In this study, among n=210 patients with intraoperative complications, n=163 with 1 previous CS had intraoperative complications whereas, n=45 and n=2 patients with 2 and 3 previous caesarean sections respectively had complications. A significant association was found between previous caesarean section and complications in patients ( $P < 0.05$ ). Morang K. et al showed similar findings. [10] Similarly, findings of Lakshmi JV et al. are also comparable with present study findings. [4]

In this study complications were managed by adhesiolysis (89.1%), adhesiolysis with uterine extension sutured (3.3%), uterine extension suture (2.4%), adhesiolysis with extra bites at the placental bed (2.4%), adhesiolysis, higher incision, double and layer bladder repair (0.9%), adhesiolysis with rent repair (0.9%), and adhesiolysis with extra bite on uterus (0.9%).

The strength of the study was adequate sample size and uniform application of the protocol. We acknowledge certain limitations including effects of surgical techniques and intraoperative management and their effect on perioperative morbidity were not assessed.

## 5. Conclusion

Intraoperative complications in patients receiving CS were more common in women who had more CS. To reduce adverse outcomes in CS patients, preoperative evaluation by history, prior records, ultrasound (placental location and invasion), and intraoperative preparedness for subsequent operation is critical. At the institution level, reduction in primary CS and elective surgery in prior CS can be used.

## References

- [1] Singh N, Lavanya B. Intra-operative difficulties in repeat caesarean section-in a tertiary care hospital. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2021 Jul 1; 10 (7): 2596-606.
- [2] Hannah ME, Hannah WJ, Hewson SA, Hodnett ED, Saigal S, Willan AR. Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial. *The Lancet*. 2000 Oct 21; 356 (9239): 1375-83.
- [3] Nisenblat V, Barak S, Griness OB, Degani S, Ohel G, Gonen R. Maternal complications associated with multiple cesarean deliveries. *Obstetrics & Gynecology*. 2006 Jul 1; 108 (1): 21-6.
- [4] Lakshmi JV, Anuradha C, Rishitha M. Intra-operative complications in repeat cesarean sections. *Int J Clin Obstet Gynecol*. 2020; 4 (2): 144-9.
- [5] Ramkrishnarao MA, Popat GU, Eknath BP, Panditrao SA. Intra-operative difficulties in repeat cesarean sections—A study of 287 cases. *J Obstet Gynecol India*. 2008 Nov 1; 58 (6): 507-10.
- [6] Gasim T, Al Jama FE, Rahman MS, Rahman J. Multiple repeat cesarean sections: operative difficulties, maternal complications and outcome. *The Journal of Reproductive Medicine*. 2013 Jul 1; 58 (7-8): 312-8.
- [7] Mettu K, Reshma CR. Study of intraoperative difficulties in repeat caesarean sections. *Paripex-Indian Journal of Research*. 2015; 4: 124-6.
- [8] Sharma J, Tiwari S, Padhye SM, Mahato B. Prevalence of Repeat Cesarean Section in a Tertiary Care Hospital. *JNMA: Journal of the Nepal Medical Association*. 2020 Sep; 58 (229): 650.
- [9] Jhahria R, Meena P, Kosaraju S. Comparative study of maternal morbidity in primary and repeat caesarean section. *International Journal of Clinical Obstetrics and Gynaecology*. 2018; 2 (2): 69-74.
- [10] Morang K, Latha L, Konda KR. Intraoperative surgical difficulties encountered during repeat caesarean section in a tertiary care centre in Northeast India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2021 Nov 1; 10 (11): 4144-50.
- [11] Gupta P. Study of intraoperative complications observed in lower segment caesarean section (LSCS) surgeries at a district hospital. *European Journal of Molecular & Clinical Medicine*.; 9 (04): 2022.

## Author Profile



**Dr. Pallavi A. Gajakosh**, is 3<sup>rd</sup> year resident, department of obstetrics and gynaecology, Al-Ameen medical college and hospital, Vijayapur. She completed MBBS proficiently from a prestigious medical College and successfully doing her post-graduation at a renowned institute. She participated in various national and international poster presentation competition and also having publications in national and international journals.



**Dr. Vidya A. Thobbi**, professor and head, department of obstetrics and gynaecology, Al-Ameen medical college and hospital, Vijayapur. She is having 30 year experience in academics. The achievements including she was chairperson Food Drugs and Medico Surgical Equipment Committee FOGSI 2018-20, best committee FOGSI Award Dr Mehroo Dara Hansotia 2020, ICOG Governing Council Members 2021-23, FOGSI Champion Award 2019, National Corresponding Editor-Jogi, Organising Chairperson KSOGA 2016, president Bijapur OBGYN Society 2009, secretary Bijapur OBGYN Society 2007, publications in various books and contributions to FOGSI, focus and Speaker at National and International Conferences.

- Papers at National and International Conferences.
- Organized various CME workshops and awareness programs.
- Advisory Faculty of boards Rajiv Gandhi University of Health Sciences.