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Research Article

## Per operative findings in repeat cesarean section

Parul Sinha<sup>1\*</sup>, Uma Gupta<sup>1</sup>, Jyotsna Singh<sup>1</sup>, Anand Srivastava<sup>2</sup>, Shilpi Chauhan<sup>1</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, Era's Lucknow Medical College and Hospital, Lucknow, India

<sup>2</sup>Department of Respiratory Medicine, KGMU, Lucknow, India

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**\*Correspondence:**

Dr. Parul Sinha,

E-mail: [drparulanand@gmail.com](mailto:drparulanand@gmail.com)

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### ABSTRACT

**Background:** Cesarean section is the commonest obstetric procedure done worldwide. Incidence of cesarean section is increasing giving it a term "repeat cesarean section". Repeat cesarean section makes future obstetrics performances and abdominal exploration risky. After any Laparotomy it is fairly common to develop scar tissue, or adhesion. The scarring and adhesion formation is known to increase the major complications rate from 4.3% to 12.5% depending on the number of previous section. Intra peritoneal adhesions have an incidence of 5.5% to 42.5%.

**Methods:** An observational prospective study was conducted in Obstetrics and gynecology department of Era's Lucknow Medical College, Lucknow. Total 80 cases of repeat cesarean sections were included. The case histories and intra operative findings were recorded.

**Results:** Intra peritoneal adhesions of varied types were seen in majority of cases, out of which the most commonly seen adhesion was between parietal peritoneum and anterior surface of uterus 24(30%) and adhesion between bladder and uterus 24(30%).

**Conclusions:** Chances of developing adhesions increases with each cesarean section, which leads to increase in morbidity of women. Thus cases of previous cesarean section should be educated about routine antenatal care.

**Keywords:** Repeat cesarean section, Maternal mortality, Intra peritoneal adhesions

### INTRODUCTION

Cesarean section is the commonest obstetric procedure worldwide.<sup>1</sup> It is an important and common surgical procedure that often saves the life of mother and baby. Its safety has increased with positive advances in surgical techniques as well as in patient care.<sup>1</sup> The incidence of cesarean section is continuously rising giving it a term "Previous Cesarean Section". A lack of adequate contraceptive knowledge and the desire to have many children, especially in rural areas is the factor causing an increasing cesarean section incidence. Thus increased parity was found to be associated with adverse pregnancy outcome and to increase the cesarean section rate.<sup>2-6</sup> Repeat cesarean section makes future obstetrics performances and abdominal exploration risky. Cesarean section has several inherent complications but maternal and fetal wellbeing, timing of birth, the surgeon's

experience and the infrastructure of the centre, the surgical technique and the risk of anesthesia are factors that play an important role in the emergence of complications.<sup>1</sup> After any Laparotomy it is fairly common to develop scar tissue, or adhesion. The scarring and adhesion formation is known to increase the major complications rate from 4.3% to 12.5% depending on the number of previous section.<sup>8</sup> Intra peritoneal adhesions have an incidence of 5.5% to 42.5%.<sup>9</sup> One major complication of repeat cesarean section is uterine scar rupture with subsequent adverse fetal and maternal consequences. Prior cesarean delivery forms a major complication for repeat cesarean deliveries and thus our study aimed at knowing the difficulties encountered in this highly prevalent surgical procedure. The aim and objectives of the study was to study the incidence and type of surgical difficulties encountered in women undergoing repeat cesarean section.

## METHODS

It is an observational prospective study conducted in obstetrics and gynecology department of Era's Lucknow Medical College and Hospital, Lucknow. In this study a total number of 80 cases of repeat cesarean section were included. The case histories of repeat cesarean section were studied and data regarding intra operative findings of all cases of repeat cesarean sections were recorded. The surgeons were requested to note in particular the difficulties they encountered while operating on cases of previous cesarean section. Information extracted included the maternal age, parity, indication of repeat cesarean section, number of previous cesarean section, type of cesarean section, type of abdominal and uterine incision and post-operative complications. Emergency cesarean was defined as an operative delivery carried out for unplanned reasons, and elective cesarean when, the operation was scheduled at 38 completed weeks of gestation. Pfannenstiel incision was performed in majority of patients, except those with previous vertical incision. Uterine scar dehiscence was defined as a window in the lower segment with intact peritoneum and membranes. Uterine rupture was diagnosed when fetal parts were found within the abdominal cavity after full thickness separation of the previous scar. Severe adhesions were considered, as the presence of adhesion detected intra operatively, extending from the abdominal wall to the bladder or to the front wall of the uterus, not separating easily and left alone during the surgery as much as possible due to the concern that it could cause serious morbidity. These adhesions interfere with the course of operation, increasing the time of operation, blood loss and maternal and fetal complications.

The research protocol was approved by the Institutional Ethics Committee before the study began. An informed consent was not needed as we noted down the per-operative findings written in the case sheets by the surgeon in-charge.

### Inclusion criteria

1. All previous cesarean section irrespective of their number of previous cesarean section and type.
2. Women with previous cesarean section who have no history of any other abdominal surgery.

### Exclusion criteria

All first time cesarean section, irrespective of their parity.

### Sample size

Sample size is calculated on the basis of proportion of abdominal wall cicatrization using the

Where,  $p = 24.39$ ; Proportion of AWC;  $q = 100 - p$ ; type 1 error  $\alpha = 5\%$ ; allowed error  $L = 10\%$ ; Data loss =  $10\%$ . Thus sample size  $n = 80$ .

## RESULTS

**Table 1: Indications of cesarean section in current pregnancy.**

Indication	Cases
Cephalo pelvic disproportion	5(6.25%)
Fetal distress	19(23.5%)
Severe PIH with fetal distress	6(7.5%)
Short interval pregnancy	6(7.5%)
Transverse lie	5(6.25%)
Breech	2(2.5%)
Placenta previa	4(5%)
PROM	2(2.5%)
Prolonged latent phase	4(5%)
Oligohydroamnios	1(1.25%)

The main indication for performing a repeat cesarean section in current pregnancy was fetal distress 19(23.75%).

**Table 2: Number of previous cesarean section.**

No of previous C.S	Cases
Previous 1	65(81.25%)
Previous 2	14(17.5%)
Previous 3	Nil
Previous 4	1(1.25%)
No of previous C.S	Cases

Out of total 80 cases of previous cesarean sections 65 (84%) patients were 2nd gravid (1.25%) were previous one cesarean section.

**Table 3: Parity of the patients.**

Parity	Cases
Gravida 2	32(40%)
Gravida 3	28(5%)
Gravida 4	14(17.5%)
Gravid 5	6(7.5%)
Parity	Cases

40% patients were 2nd gravid.

**Table 4: Type of skin incision.**

Skin incision	Cases
Pfannenstiel	66(82.5%)
Vertical to Para median	6(7.5%)
Para median to Vertical	4(5%)
Vertical	2(2.5%)
Johen Colen to Right Para median	2(2.5%)

Out of total 80 cases of previous cesarean sections 65 (81.25%) were previous one cesarean section, 14 (17.5%) were previous two cesarean section and 1 (1.25%) was previous four cesarean section. In 80 cases, 70 (87.5%) were performed as an emergency procedure and rest were

done on an elective basis. The main indication for performing a repeat cesarean section in current pregnancy was fetal distress 19 (23.75%). Pfannenstiel skin incision was given in majority of cases 66(82.5%). In 10 (12.5%) cases, skin incision was changed when compared to previous procedure. Intra peritoneal adhesions of varied types were seen in majority of cases, out of which the most commonly seen adhesion was between parietal peritoneum and anterior surface of uterus 24(30%) and adhesion between bladder and uterus 24(30%). The adhesions not only slowed down the surgical procedure but also necessitated change of the surgeon to a more experienced one for reasons like separating dense adhesions, controlling blood loss, repair of bladder injury and uterine incision extension. Scar rupture was seen in 1 (1.25%) and scar dehiscence 3 (3.75%) cases respectively. Most common type of uterine scar was low transverse 42 (52.5%). Need for obstetric hysterectomy was required in 3 (3.75%) cases done for atonic PPH and one for placenta accreta.

**Table 5: Type of adhesions.**

Type of Adhesion	No of Cases
Parietal peritoneum to anterior surface of uterus	24(30%)
Parietal peritoneum to bladder	15(18.75%)
Parietal peritoneum to omentum	14(17.5%)
Omentum to uterus	9(11.25%)
Omentum to utero vesical fold	2(2.5%)
Bladder to uterus	24(30%)
Bladder to uterus advancement	19(23.75%)
Uterus to small bowel	1(1.25%)
Scar rupture	1(1.25%)
Scar dehiscence	3(3.75%)

**Table 6: Changes in uterine scar.**

Changes in Uterine scar	Cases
Low transverse to low transverse	42(52.5%)
Low transverse to high transverse	34(42.5%)
Low transverse to inverted T shaped	4(5%)
Low transverse to classical	NIL
Classical to classical	NIL

## DISCUSSION

Cesarean section is the commonest obstetric procedure worldwide. Modern obstetrics practice for medical, social, economic reasons has witnessed an increase in primary cesarean sections rates everywhere. This has created a common term; "Previous Cesarean Section" in subsequent pregnancies, giving a high risk pregnancy status to the subsequent pregnancy.<sup>1</sup> This raises the issue of not only deciding the mode of delivery, vaginal birth after cesarean section (VBAC) or elective cesarean section, but also of difficulties in repeat procedure making it a high risk procedure. In developing countries where the antenatal care seeking rate is poor and last

moment reporting is very high, makes the management of these cases very difficult and is managed on an emergency basis rather than ideal elective basis.

In our study the most common indication for performing repeat cesarean section was fetal distress 19 (23.75%) which was comparable to other study where fetal distress was the second most common indication (19.51%) after Cephalo pelvic disproportion (22.09%). Repeated cesarean birth is related to serious maternal complication when compared to normal birth and first cesarean.<sup>7,12,14</sup> Chances of developing adhesions increase with each cesarean section. Adhesions are a cause of acute morbidity with bleeding and increased surgery duration and of chronic morbidity, with chronic pelvic pain and intestinal problems. With increasing number of cesarean section the adhesion rate as well as intensity increases. In addition the adhesions can cause additional increase in morbidity directly or with peripheral organ injury. In our study the most common adhesion was between parietal peritoneum and anterior surface of uterus 24 (30%) and bladder to uterus 24 (30%) which is comparable to other study in which most common adhesion was between bladder and uterus (32%) and parietal peritoneum to anterior surface of uterus (19%).<sup>1</sup> Abnormal placenta development following repeated cesarean birth is concurrent with an increased risk of placenta previa and placenta accreta. The risk of placenta previa has been reported to increase by 0.28% to 2% in patients who have undergone at least one cesarean section in a meta-analysis, including 36 studies.<sup>17</sup> Hysterectomy is another significant morbidity. It is mostly associated with placenta accrete, placenta previa, uterine atony and uterine rupture. Each uterine scar is accompanied with an increasing risk of hysterectomy independent of the presence of placenta previa.<sup>15,18</sup>

## CONCLUSION

Thus we come to a conclusion that cases of previous cesarean section should be educated about the need of routine antenatal care, need of last few visits to a tertiary level centre in order to decide the mode of delivery and to undergo elective or emergency cesarean section in a centre which is both better equipped and manned.

Here we conclude our study with a quote<sup>19</sup>

"Once a cesarean, always a caesarean" Cragin, 1916

"Once a cesarean, always a trial?" Pauerstein, 1966

"Once a cesarean delivery always a controversy" Flamm, 1997<sup>1</sup>

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