Research Article

Incidence of adhesions and intra-operative difficulties in repeat caesarean sections – A study at BRIMS Bidar

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Abstract

Objectives: To study the incidence and the type of adhesions, surgical difficulties encountered in repeat caesarean sections. **Methods:** A observational prospective study of cases of repeat caesarean sections in Bidar Institute of Medical Sciences Bidar, catering services to rural low-mid socioeconomic group. The case histories and intraoperative findings of all cases of repeat caesarean sections over a period of 12 months were analysed to know the difficulties that might be because of previous caesarean surgery. **Results:** Out of 2335 caesareans that were done during the study period 661 (28.3 %) were repeat sections, abdominal wall cicatrisation 95 (14.3%) and some degree of adhesions between various intra-peritoneal structures (31.77%) were the chief causes of intra operative difficulties. This resulted into inaccessibility of lower uterine segment in (8.77%) cases, bladder injury in 2 cases (0.30 %), extensive ventrofixation of uterus causing direct entry into the uterine cavity without clearly defining peritoneal cavity occurred in 15 (2.26 %) cases. In 68 (10.28 %) cases takeover of surgical procedure by senior obstetrician was necessary. **Conclusion:** Parietal wall and intra-peritoneal adhesions make repeat caesarean section a difficult procedure. It is prudent to involve a senior experienced obstetrician in the surgical procedure of repeat caesarean section.

Key words: Repeat caesarean section, caesarean section difficulties, caesarean adhesions.

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INTRODUCTION

Caesarean section is the commonest obstetric operative procedure worldwide. The incidence of caesarean section is continuously rising giving women frequently an obstetric status of "Previous Caesarean Section". However this makes future obstetric performances and future abdominal explorations risky. The rate of caesarean section in the urban educated population in Chennai is 45%[1]. In medical colleges and teaching hospitals in India the overall rate for caesarean deliveries is 24.4%[2]. In the population based cross sectional study the public, charitable and private sector hospitals had caesarean section rates of 20%, 38%, and 47% respectively[3]. After any laparotomy it is fairly common to develop scar tissue, or adhesions, and caesarean sections are no exception. This scarring and adhesion formation is known to increase the major complications rate from 4.3% to 12.5% depending upon the number of previous caesarean sections[4]. Intra-peritoneal adhesions have an incidence of 5.5% to 42.5%[5]. Repeating a caesarean section in subsequent pregnancies is a common mode of delivery[6], and happens variably in 11% to 24% cases of previous one caesarean section[7]. Prior caesarean delivery forms a major indication for repeat caesarean deliveries[8]. The present study aims at knowing the surgical difficulties encountered by a surgeon in this highly prevalent surgical procedure of repeat caesarean section.

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METHODS

For this study case histories of repeat caesarean deliveries were studied and the data recorded. This was done prospectively for 12 months from January 2014 to December 2014. The existing methods of performing caesarean procedures were unaffected by the study. We noted in particular the difficulties encountered while operating on cases of previous caesarean section. The collected data was analysed for type and incidence of the intra operative problems.

Table 1: Indications of caesarean section (n= 661)

S. No.	Indications	Previous Pregnancy[a] * No. of cases (%)	Present Pregnancy[b] * No. of cases (%)
1.	Contracted pelvis*	07 (1.05)	14 (2.11)
2.	Cephalo-pelvic disproportion*	105 (15.88)	145 (21.9)
3.	Bad Obstetric history*	09 (1.36)	35 (5.29)
4.	Obstructed labour*	09 (1.36)	18 (2.72)
5.	Previous 2 or > caesareans*	-	120 (18.15)
6.	Foetal distress	52 (7.86)	120 (18.15)
7.	Oligohydramnios*	09 (1.36)	15 (2.26)
8.	Twin pregnancy*	01 (0.15)	01 (0.15)
9.	Mal presentation*	80 (12.10)	71 (10.74)
10.	Scar dehiscence	-	45 (6.80)
11.	Rupture uterus	-	06 (0.90)
12.	Prolonged pregnancy*	10 (1.51)	22 (3.32)
13.	Hypertensive disease*	06 (0.90)	09 (1.36)
14.	Prolonged latent phase	09 (1.36)	05 (0.75)
15.	Failure to progress	18 (2.72)	13 (1.96)
16.	Cord presentation	10 (1.51)	08 (1.21)
17.	Placenta previa*	11 (1.66)	14 (2.11)
18.	No records, no information available	325	-
	Total	**661**	**661**

[a]- indications of previous sections were available from written records in only 17.54% of cases (116 cases); in few cases (220 cases, 40.36 %) the indication verbally told by the patient or that extracted from history taking could be relied upon.
[b]- most prominent indication is mentioned; few patients had more than one reason.
*- had these cases come antepartum, were sure to undergo elective caesarean section.

Table 2: Change of skin incision

Skin incision	No. of cases (%)	Resulting scar
Joel Cohen to vertical	20 (3.00)	Inverted T / Bow Arrow
Vertical to Joel Cohen	11 (1.60)	Inverted T / Bow Arrow
Right paramedian to Joel Cohen	02 (0.30)	Inverted T / Bow Arrow
Right paramedian to vertical	01 (0.15)	Rail road
vertical to paramedian	01 (0.15)	Rail road
Total	**35 (5.29)**	

Table 3: Intraperitoneal adhesions

S. No.	Adhesion: Structure and Structure	No. of cases[a] (%)
1.	Parietal peritoneum and anterior surface of uterus	84 (12.70)
2.	Parietal peritoneum and bladder	46 (6.95)
3.	Parietal peritoneum and omentum	69 (10.43)
4.	Parietal peritoneum and bowel	06 (0.90)
5.	Omentum to uterus	90 (13.61)
6.	Omentum and utero-vesical fold	18 (2.7)
7.	Bladder and uterus (dense)	50 (7.56)
8.	Bladder and uterus (loose advancement)	22 (3.32)
9.	Uterus to small bowel	05 (0.75)
	Total	**390**

[a]- few cases had more than one type of adhesions

Table 4: Uterine incision locations in previous and present sections

S. No.	Previous Section / Present Section	No. of cases (%)	
1.	Low transverse / Low transverse	603	91.22
2.	Low transverse / High transverse	40	6.05
3.	Low transverse / Inverted T	9	1.36
4.	High transverse / High transverse	9	1.36

RESULTS

In this study, over a period of 12 months, 34.54% births were by caesarean section (total births 6760, total caesarean sections 2335). Out of 2335 caesarean sections 661 (28.3%) were repeat caesarean sections and 1674 (71.29%) were primary caesarean deliveries. Out of 661, 541 cases were of one caesarean section, 117 were of previous two sections 3 were of previous three sections. Of the total cases of previous caesarean section, 450 (68%) were of unbooked, 211 (32%) were booked and 545 (82.4%) did not possess return medical records of their previous pregnancy or caesarean section. Joel Cohen type of low transverse skin scar indicating the use of Misgav Ladach method for their previous caesarean procedure was observed for their previous caesarean procedure in 225 (37.8%) cases, 418 (63.2%) cases had a midline infraumbilical scar and 18 cases (2.7%) had right paramedian scar. Among these cases of previous caesarean section, 596 (90.16%) women had hemoglobin less than 10 gm%, only 65 (9.83%) had more than 10gm% and 296 women (44.7%) had hemoglobin less than 7gm%. In 610 cases (90.77%) repeat caesarean section was performed as an emergency procedure. In 430 cases (65.0%) there was a clear evidence of the need for elective repeat caesarean section (marked * in Table 1), had they reported before the onset of labour. Skin scars were excised in 550 (83.1%) cases. Abdominal wall cicatrisation (very bad scar with extensive fibrosis) was seen in 95 (14.3%) cases of the total 661 cases. It was seen in 60 cases (63.15%) out of the total 418 cases of previous vertical incisions and 35 cases (36.8%) out of 225 of Joel Cohen type of skin incisions. In 35 cases (15.2%) skin incisions were changed when compared to previous procedure (Table 2), this resulted in inverted T or bow-arrow and rail road type of final scar outcomes. Abdominal wall cicatrisation increased surgery duration by causing difficulties in opening abdomen and necessitating scar excision. Intra peritoneal adhesions of varied types were seen in 210 cases (31.77%) out of total 661 cases. Table 3. shows 390 instances of various intra-peritoneal adhesions in these 210 cases. These adhesions not only slowed down the surgical procedure but also necessitated change of the surgeon to a more experienced one. This change to senior obstetrician happened in 68 cases (10.28%) for reason like separating dense adhesions, controlling blood loss, repair of bladder injury and uterine incision extensions, and difficulties in baby extraction. In repeat procedures, 58 cases required a change in uterine incision over its location in the previous procedure (Table 4). Scar dehiscence and scar rupture was seen in 45 cases (6.8%) and 6 (0.9%) cases respectively. In 251 cases (37.9%) the patients underwent concurrent tubal ligation. 15 cases had very dense and extensive type of adhesion between the anterior surface of the uterus and parietal wall. This prevented excess to the free peritoneal cavity and gave a direct entry to the uterine cavity following incision of cicatrised layers of anterior abdominal wall. This happened in 9 cases of previous midline infra umbilical incision and 6 cases done previously by Misgav Ladach method.

DISCUSSION

Modern obstetrics practice for medical, social, economic, and legal reasons has witnessed an increase in the primary cesarean section rates everywhere. This has created a common clinical entity of “previous cesarean section” in subsequent pregnancies, given a high risk pregnancy status to the reference pregnancy. This raises the issue of not only deciding the mode of delivery – VBAC or elective cesarean section, but also of difficulties in repeat procedure making it a high risk surgical procedure. In developing countries where antenatal care seeking rate is poor and last moment reporting or transfer to tertiary units is very high, these high risk cases are managed as emergency sections as against the ideal for them, the elective cesarean. In the present study this resulted in a very high anaemia rate and very high emergency cesarean section rate in these cases of previous cesarean section, further aggravating their risk state. Cases of primary cesarean section should be educated about the need of 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 center both better equipped and manned.

CONCLUSION

Caesarean section deliveries may have serious implications for the health of the women undergoing them. Parietal wall and intra-peritoneal adhesions make repeat caesarean a difficult procedure. It is prudent to involve senior experienced obstetrician in the surgical procedure of repeat caesarean section. The risk of

postpartum death is 3.6 times higher after a caesarean than after vaginal delivery[9]. Therefore, the performance of caesarean section is justified only when the obstetric risk outweigh the risks of the procedure itself.

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