Original Article

Intraoperative Complications Encountered in Patients with Repeat Cesarean Section

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ABSTRACT

OBJECTIVE: To find out the type and frequency of intraoperative complications encountered in patients who had repeat cesarean section.
STUDY DESIGN: Observational Study.
PLACE AND DURATION: The Gynaecology & Obstetrics Unit – III in Liaquat University Hospital Hyderabad. The study period was from July 2005 to July 2006.
METHOD: This study included the women who had repeat cesarean section during the period from July 2005 to July 2006. These women were divided into three groups, group I (GI) included the women with previous 1 cesarean section, group II (GII) included the women with previous 2 cesarean section and group III (GIII) included the women with previous 3 or more cesarean sections. Intraopratieve complications were noted in terms of dense adhesion (with omentum, bowel, uterus and bladder), extremely thinned out lower uterine segment, scar dehiscence, ruptured uterus, placenta praevia, bladder injury, adherent placenta and fetal demise.
RESULTS: Out of 240 repeat cesarean sections, cases included in GI were 114 (47.5%), in GII were 90 (37.5%) and in GIII were 36 (15%). Dense adhesions were found in 26 patients of group I (22.8%), in 32 patients of Group II (35.5%) and in 7 patients of group III (19.4%). Extremely thinned out lower uterine segment was found in 10 patients of group I (8.7%), in 15 patients of group II (16.6%) and in 3 patients of group III (8.3%). Scar dehiscence was observed in 9 patients of group I (7.8%), in 4 patients of group II (4.4%) and in 2 patients of group III (5.5%). Ruptured uterus was seen in 3 patients of group I (2.6%) and in 1 patient of group II (1.1%). Bladder was injured in 1 patient of group I (0.8%) and in 1 patient of group II (1.1%). Cesarean hysterectomy was performed due to morbidly adherent placenta in 1 case of group I (0.8%) and in 1 case of group III (2.7%). Fetal demise occurred due to ruptured uterus in 3 cases of group I (2.6%) and in 1 case of group II (1.1%).
CONCLUSION: Women with repeat cesarean section are at risk of having multiple intraoperative surgical complications, which may increase the rate of maternal and fetal morbidity and fetal mortality.

KEY WORDS: Cesarean section, repeat cesarean section, intraoperative complications.

INTRODUCTION

Cesarean section rate has been rising continuously and the trend is likely to continue in future. This increase has been a global phenomenon. The timing and rate of increase are different from one country to another. In 1970 the cesarean section rate in United Kingdom was reported to be 4.8%. The audit commission report in 1997 found this rate increased to 11-18%[1]. In England, the rate was 21.3%[2] and in Switzerland it was 29%[3]. A rate of 45% was reported in Puerto Rico between 1996 and 2002[4]. The steady rise in cesarean section rate has resulted in a constant rise of obstetric population with previous uterine scar. It was 6.28% in 1991 and 7.6% in 1995 in a study conducted in Pakistan[5]. From 1991 to 1995 about 25% cesarean sections were indicated because of previous one cesarean section. This population (with repeat cesarean section) increased form 3.7% of all deliveries in 1962 to 7.8% in 1992[6]. Therefore the number of women presenting with a previous cesarean section has remained at around 50% of the current cesarean section rate. There is an objective evidence to support the widely held view that multiple cesarean sections presidpose to an increased risk of uterine rupture, severe intra-peritoneal adhesions, significant haemorrahge, placenta praevia, placenta acrreta, bladder injury, hysterectomy, etc. This study was designed to find out the type and frequency of intra operative surgical complications with repeat cesarean section which may be helpful in identifying the magnitude of the problem to improve the patients care.

PATIENTS AND METHODS

This observational study was conducted in the Obstetrics and Gynaecology Unit III, LUH Hyderabad.

The study period was from July 2005 to July 2006. All the pregnant women admitted in Gynae unit III through out patient department or in emergency with the history of previous cesarean section (one or more) and had repeat cesarean section during the study period were included in this study and those who had cesarean section for the first time were excluded. These women were divided in three groups on the basis of number of previous cesarean section. Those who had previous 1 cesarean section were placed in group I, with previous 2 cesarean sections in group II, and those with previous 3 or more cesarean sections were placed in group III. There were 114 women in group I, 90 women in group II and 36 women in group III. In all these women, type of intra operative complications and their frequencies were noted in term of dense adhesions (extra and intra peritoneal), extremely thinned-out lower uterine segment, scar dehiscence, ruptured uterus, placenta praevia, placenta accreta, bladder injury, bowel injury, fetal and maternal demise. A table was formulated to see the frequency of each compilation in the 3 groups.

RESUTLS

Total number of cesarean section performed during July 2005 to July 2006 were 656. Out of these, 240 cases (36.5%) had a history of previous cesarean section. In these 240 cases, 114 (47.5%) had a history of previous one cesarean section were placed in group I, 90 (37.5%) had a history of previous 2 cesarean sections were placed in group II and 36 (15%) had a history of previous 3 or more cesarean sections were placed in group III. The overall complication rate was 52.23% in this study. Dense adhesions were found in 65 (27%) cases, extremely thinned-out lower uterine segment was found in 28 (11.6%) cases, scar dehiscence was seen in 15 (6.25%) cases, ruptured uterus in 4 (1.6%) cases, placenta praevia in 6 (2.5%) cases, morbidly adherent placenta in 2 (0.8%) cases, bladder injury occurred in 2 (0.8%) cases while fetal demise (due to ruptured uterus) occurred in 4 (1.6%) cases. Regarding frequency of these complications in each group, dense adhesions were found in 26 cases of group I (22.8%), 32 cases of group II (35.5%) and 7 cases of group III (19.4%). Extremely thinned-out lower uterine segment was seen in 10 cases of group I (8.7%), 15 cases of group II (16.6%) and 3 cases of group III (8.3%). Scar dehiscence was observed in 9 cases of group I (7.8%), 4 cases of group II (4.4%) and 2 cases of group III (5.5%). Three cases of ruptured uterus were seen in group I (2.6%) and 1 in group II (1.1%). No case of ruptured uterus was seen in group III in this study. Placenta praevia was found in 3 cases of group I (2.6%), in 2 cases of group II (2.2%) and in 1 case of group III (2.7%). Morbidly adherent placenta for which cesarean hysterectomy was performed was seen in 1 case of group I (0.8%) and in 1 case of group III (2.7%). Bladder injury occurred in 1 case of group I (0.8%) and in 1 case of group II (1.1%). Fetal death occurred (due to ruptured uterus) in 3 cases of group I (2.6%) and in 1 case of group II (1.1%).

FREQUENCY OF COMPLICATIONS IN DIFFERENT STUDY GROUPS

Complications	Group I (n=114)	Group II (n=90)	Group III (n=36)
Dense adhesions	26 (22.8%)	32 (35.5%)	7 (19.4%)
Thinned out lower uterine segment	10 (8.7%)	15 (16.6%)	3 (8.3%)
Scar dehiscence	9 (7.8%)	4 (4.4%)	2 (5.5%)
Ruptured uterus	3 (2.6%)	1 (1.1%)	Nil
Placenta praevia	3 (2.6%)	2 (2.2%)	1 (2.7%)
Bladder injury	1 (0.8%)	1 (1.1%)	NIL
Placenta accreta (Cesarean hysterectomy)	1 (0.8%)	NIL	1 (2.7%)
Fetal demise	3 (2.6%)	1 (1.1%)	NIL

DISCUSSION

The cesarean delivery rate has been increased for nearly two decades which has resulted in a steady decrease in the proportion of women achieving spontaneous vaginal delivery in industrialized countries throughout the world[2]. The relative safety of cesarean section deliveries and its perceived advantages relative to vaginal delivery has resulted in a change in the perceived risk benefit ratio, which has accelerated the acceptance for cesarean section[7]. Although, the operation is now safer than in the past because of improvements in anesthesia, antibiotics and blood transfusion services, a cesarean section still carries a significant risk to the mother compared to a normal vaginal delivery[1]. In this study the repeat cesarean section contributed to 36.5% of all cesareans performed during the period. This figure was also found in another study[5]. In some studies, the incidence of women with previous cesarean section was around 50%[6]. During a cesarean delivery women are at an increased risk of injury than they are during a vaginal birth and the risk increases as the number of cesarean sections increases. However, many of these problems are associated with emergency cesarean section. The rate of complications was found 14.5% in emergency cesar-

ean section, compared to 6.8% in elective group in some studies[8]. Although it was found in other studies that incidence of scar dehiscence and rupture of previous uterine scar was increased with the increased number of cesarean section[9], however, in this study increased frequency of scar dehiscence and uterine rupture was observed in cases having history of previous 1 cesarean section. The probable reason could be that most of these cases were emergency cases thus establishing a possible association between emergency cases and increase risk of complications. Dense adhesions were observed more in patients with previous two cesarean sections in comparison with previous three caesarean sections in this study. The reason was that in majority of cases the record of previous surgery was not available which also has an association with adhesion formation. Subsequent cesarean section increases the risk of dense adhesion with significantly more adhesions found in patients having two cesarean sections compared to patients having one cesarean section as observed in this study. Different studies show different rates of adhesion formation and its consequences. It is reported 12%[9], 48%[10] and 73%[11]. The overall rate of 27% was also found in this study. Cesarean section takes longer time and bladder injuries are significantly more common in the presence of adhesions and at repeat cesarean section compared with primary cesarean section[12]. Women with multiple cesarean sections are significantly prone to have uterine scar dehiscence, uterine rupture, placenta praevia and placental adherence[13]. Many studies have highlighted the previous cesarean section as an important risk factor for placenta praevia. The risk increased from 0.26% with an un scarred uterus to 10% for women with four or more previous cesarean section[14]. However it was observed in this study that the increasing number of cesarean section does not raise the incidence of placenta praevia[15]. This was also found in the study of Hershkowitz et al[15]. They had suggested that a single cesarean section is enough to interfere with the normal physiological stretching of lower uterine segment in subsequent pregnancies, thus preventing normal migration of placenta away to the upper uterine segment which results in increased incidence of placenta praevia with scarred uterus. Overall 35% of women with placenta praevia and one or more previous cesarean sections have placenta accreta[16]. Two American studies showed the association of placenta previa and previous cesarean sections with placenta accreta and hysterectomy[15]. This study also confirmed the association of previous cesarean section with placenta accreta and hysterectomy.

Problems associated with repeat cesarean section may prove detrimental in developing countries because of lack of availability of obstetrics facilities and less favorable circumstances for the management of these patients. Therefore, it is very essential to keep our cesarean section rate to a reasonable limit.

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