

## MATERNAL COMPLICATIONS IN REPEATED CAESAREAN SECTION

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### ARTICLE INFO

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### ABSTRACT

Maternal complications in repeat cesarean section are increasing with the rising rate of cesarean section in the world. The aim of this study to evaluate intra-operative maternal complications of previous one and two cesarean section. It needs to the highlight for proper antenatal care and complication can be anticipated during surgery. **Objective:** To determine the frequency of intra-operative maternal complications among women undergoing repeated Caesarean section at Isra University hospital, Hyderabad. **Material and methods: Study Design:** Cross-sectional **Setting:** The study was conducted obstetric and gynecology department of Isra University Hospital Hyderabad. **Duration of study:** The study was of six months and the study process was carried out from 15th Agust 2011 to 15th February 2012. **Sample Size:** 280 cases **Sample Technique:** Non probability, purposive sampling **Sample Selection:** Inclusion criteria: All the pregnant women with history of previous one and previous to caesarean section availing obstetrics and gynecology facilities at Isra University Hospital, Hyderabad Women regardless of any age group.

Exclusion criteria:

- Pregnant women with no history of caesarean section
- Pregnant women who refused to participate in the study

**Results:** The mean + SD age was found to be 29.94 + 5.03 years; The maximum age of participants in this study was 45 years while the minimum age was 17 years. The age distribution of study participants was normally distributed. Regarding intra-operative complications, the prevalence of Adhesion is very high and alarming i.e. 97.5% among pregnant women undergoing repeated Caesarean section delivery. The prevalence of uterine scar dehiscence was not very high and it was confined to 17.9% in our study. The prevalence of difficult delivery of fetus a maternal complication was around 12% in our sample. The prevalence of excessive blood loss as an Intra-operative maternal complication was found to be 19% in our study. The prevalence of Caesarean Hysterectomy as an Intra-operative maternal complication was very minimum i.e. <2% in our sample. With regard to the association of age with intra-operative complication Adhesion among study participants, there was no difference in the mean age of two groups as evidenced by p-value of 0.103. Moreover, there was no association between age with intra-operative complication uterine scar dehiscence as evidenced by p-value of 0.837. Interestingly no association was observed between previous history of Caesarean section with intra-operative complication Adhesion among study participants. There was a significant association between previous history of Caesarean section and uterine scar dehiscence in our study. **Conclusion:** The present research makes a strong case that the prevalence of intra-operative complications among pregnant women undergoing repeated Caesarean section is not uncommon at Isra University hospital Hyderabad, Pakistan. This issue can have serious implications for maternal mortality and morbidity. Multiple cesarean deliveries are associated with one of the intra-operative complications “Uterine scar dehiscence”. The risk of major complications increases with cesarean delivery number.

**INTRODUCTION**

Cesarean section is defined as delivery of a baby by an abdominal and uterine incision after the age of viability.<sup>1</sup> 57 Cesarean section is performed either as an elective or an emergency procedure which depends upon the indication. Incidence varies from 10% to 25% in developed countries. In Pakistan incidence is 25% to 35%<sup>1-2</sup>.

Cesarean section is a common and important surgical procedure which save the life of mother and baby, it is a not risk free procedure but intraoperative complication can be decreased with advance surgical techniques as well as post operative care <sup>3</sup>. In the past decades the rate of cesarean section has dramatically increased and repeat cesarean section being the commonest indication.

Several studies have challenged the appropriateness of repeat cesarean section due to maternal and fetal complications<sup>4-5-6</sup>. Evidences on risks, complications and benefits of repeat cesarean section fuels vigorous debate. It raises concerns about morbidity and future care in subsequent pregnancies that could be substantial at population level <sup>7</sup>.

The severity risk of maternal complications in repeat cesarean section is associated with increase number of repeat cesarean section<sup>7-8</sup>.

Pre-operative complications like lower abdominal pain & scar tenderness.

Post-operative complications like wound infections, post partum hemorrhage urinary tract infections are seen<sup>9-10</sup>.

The risk of complications may raised with increasing number of cesarean section , the well known complications are intraabdominal dense adhesions ,placenta previa morbid adherent placenta ,uterine dehescence,bowel and bladder injury and cesarean hysterectomy <sup>11-12</sup>.

No doubt data regarding maternal morbidity is utmost important for future care of repeat cesarean section. To date there is limited number of studies that specifically address maternal complications associated with repeat cesarean section and there results are conflicting & local data is insufficient.

The problems encountered due to repeat cesarean section urge to study & assessment maternal complication associated with second, third are more repeat cesarean section. So in view of this above problems it is important to diagnose & reduce complications by taking preventive measures for better surgical management of patient during repeat cesarean section.

**RESULTS**

The data was analyzed for 280 study participants that were comprised of all the pregnant women with history of caesarean section availing obstetric and gynecology facilities at Isra University Hospital Hyderabad. All analyses were conducted by using the Statistical package for social science SPSS (Release 15.0, standard version, copyright © SPSS; 1989-02). All p-values were two sided and considered as statistically significant if < 0.05. .

Table I: Show the frequency of distribution of various complication that 176 (62.9%) of women had history of one caesarean section delivery and around 104 (37.1%) of the women had history of two caesarean section delivery. This table shows that the frequency of Adhesion is very high and alarming i.e. 97.5% among pregnant women undergoing repeated Caesarean section delivery.

Frequency of Intra-operative maternal complication “Uterine scar dehiscence” among pregnant women undergoing repeated Caesarean section. It is evident that the prevalence of uterine scar dehiscence is not very high and it is 17.9% in our sample.

The prevalence of “Difficult delivery of fetus” among pregnant women undergoing repeated Caesarean section was around 12% in our sample.

Intraoperative complication like “Excessive blood loss” among pregnant women undergoing repeated Caesarean section was found to be 19% shown in tab: 1.

Table: 1 also show the frequency of Intra-operative maternal complication of “Caesarean Hysterectomy”. The prevalence of Caesarean Hysterectomy as an Intra-operative maternal complication was very minimum i.e.< 2% in our study.

Table 2: Show the association of age with intra-operative complication Adhesion among study participants. The variable of Adhesion is categorical in nature and Age was analyzed in continuous form; hence, z-test for two independent samples was applied. The mean + SD among women with history of Adhesion (n = 273) was found to be 29.10 + 4.86; whereas, the mean + SD among women without history of Adhesion (n = 07) was found to be 32.14 + 4.914. Z test for two independent samples clearly indicates that there was no difference in the mean age of two groups as evidenced by p-value of 0.103.

Table 3: Show the association of age with intra-operative complication uterine scar dehiscence among study participants. The variable of uterine scar dehiscence is categorical in nature and Age was analyzed in continuous form; hence, z-test for two independent samples was applied. The mean + SD among women with history of uterine scar dehiscence (n = 50) was found to be 29.30 + 4.84; whereas, the mean + SD among women without history of uterine scar dehiscence (n = 250) was found to be 29.14 + 4.89. Z test for two independent samples clearly indicates that there was no difference in the mean age of two groups as evidenced by p-value of 0.837.

Table 4: Show the association of previous history of Caesarean section with intra-operative complication Adhesion among study participants. Both of the variables are categorical in nature; therefore, Chi-square test of independence was applied.

Table 5: Show the association of previous history of Caesarean section with intra-operative complication uterine scar dehiscence among study participants. Both of the variables are categorical in nature; therefore, Chi-square test of independence was applied.

**Table No. 1 Frequency and distribution of complications of caesarian section delivery among pregnant women undergoing repeated caesarian section (n=280).**

Various Complication	Frequency	Percentage
Number of Previous caesarian Section Delivery	One	176(62.9%)
	Two	104 (37.1%)
Adhesions	Present	273 ( 97.5%)
	Absent	07 (2.5%)
Uterine Scar dehiscence	Present	50 (17.9%)
	Absent	230 (82.1%)
Difficult delivery of fetus	Present	33 (11.8%)
	Absent	247 (88.2%)
Excessive blood loss	Present	52 (18.6%)
	Absent	228 (81.4%)
Caesarean Hysterectomy	Present	05(1.8%)
	Absent	275 (98.2%)

**Table No.2** Association of Age with history of Adhesion among pregnant women undergoing repeated Caesarean section (n =280)

Z Test for two Independent Samples

	History of Adhesion		P value
	Present (n = 273)	Absent (n = 07)	
Age	29.10 ± 4.86	32.14 ± 4.914	0.103

Results are presented as Mean ± Standard Deviation value statistically significant <0.05

**Table No.3** Association of Age with history of Uterine scar dehiscence among pregnant women undergoing repeated Caesarean section (n =280)

Z Test for two Independent Samples

	History of Uterine scar dehiscence		P value
	Present (n = 273)	Absent (n = 07)	
Age	29.30 ± 4.84	29.14 ± 4.89	0.837

Results are presented as Mean ± Standard Deviation. P value statically significant <0.05

**Table No.4**

Association of previous history of Caesarean section with intra-operative complication Adhesion among pregnant women undergoing repeated Caesarean section (n =280)

(Chi-square Test of Independence)

History of Caesarean section	n = 280	History of Adhesion		P-value
		Present	Absent	
One	273	170	103	0.196
Two	07	06	01	

**Table No.5**

Association of previous history of Caesarean section with intra-operative complication "Uterine scar dehiscence" among pregnant women undergoing repeated Caesarean section (n =280)

(Chi-square Test of Independence)

History of Caesarean section	n = 280	History of Uterine scar dehiscence		P-value
		Present	Absent	
One	50	18	32	0.001*
Two	230	158	72	

**DISCUSSION**

The cesarean section rate has rise throughout the world from last few years as well in Pakistan<sup>1-2-13-14</sup>. In Pakistan current rate is rising, according to Chohan A S. 25%.

The incidence of cesarean section in tertiary care hospital of Pakistan is very high 30-35% because of very high number of unbooked cases landing in emergency after having been mismanaged outside<sup>2</sup>.

However in order to the study conducted in Agha Khan University Hospital the rate of primary cesarean section has decreased from 16% to 12%<sup>15</sup>.

The present study was designed to evaluate intra-operative maternal complication in repeat cesarean section. Like adhesions, scar dehiscence, excessive blood loss, difficult delivery of fetus and cesarean hysterectomy. Maternal complications for repeat cesarean section remain a problem in developing countries including Pakistan. Data from our country focusing on this issue is inadequate and fragmented. In our study the mean age group of study participants was 29.0±5.05(mean± SD) however median, mode range value 30,30,28 years respectively maximum age of participants was 45 years and minimum age was 17 years. In our study the rate of intra-operative complications are more in middle age group. Similarly the ratio of booked patients was 72.5% and unbooked 27.5% The ratio of booked cases is high as compared to unbooked patient the reason being that this study was conducted in private University Hospital, which focus on close follow-up and an early booking in during antenatal period which is the completely apposite to study by Ashraf Gul show has

high number on unbooked patient. This present study showed that repeats section has important impact on intra-operative maternal complications. Regarding that in our studies adhesions were very high in 97.5% in woman undergoing repeat cesarean section delivery in which adhesions seen in woman previous one cesarean section 170 patients and in previous two cesarean section. As adhesions adversely affect the time of operation increased blood transfusion, injuries surrounding structure and difficult to delivered fetus.

In present study even adhesions were more high and alarming may be because of previous post operative infection, poor surgical techniques. In one study adhesion were more in previous two cesarean section and previous one cesarean section 62% and 37.77% respectively<sup>13</sup>.

Adhesion has reported to create difficulties for surgeons but may also prolong operative time and can increase risk of adjacent injuries to adjacent tissue<sup>13-16-17</sup>.

In the Qublan study showed incidence of adhesion found more in women had greater than three cesarean section, in compassion to previous one cesarean 2.8 % in previous two or 34.8 % adhesions found<sup>8</sup>.

In one study adhesion were more in previous two cesarean section and previous one cesarean section 62% and 37.77% respectively<sup>13</sup>.

In one study of Saudi Arabia Uterine scar dehiscence was found only in one patient (0.26) who was undergoing second cesarean section<sup>18</sup>.

In present study uterine dehiscence was 17.9% and more common with previous two cesarean section. It is notable point that in our study scar dehiscence was high may be because women come as an emergency with history of previous one or two cesarean section were in labour or induction of labour was carried out in patient & it is significant.

Excessive blood loss can lead to maternal morbidity & mortality, depletion of iron stores, increase risk of blood transfusion & its associated hazards in present study rate of excessive blood loss is 18.6%. In study of Jordan University analysis revolved that transfusion was required in 72% of women with previous cesarean is higher then elective cesarean section need fewer blood transfusion and patient with History of cesarean section leading an emergency had higher blood transfusion (0.0.18)<sup>19</sup>.

In H.A Alchalabi's study there was significant of blood loss in previous or previous 2 cesarean section<sup>19</sup>.

In the study at Lahore general hospital 80% of cases were unbooked and emergency cases with prolong labour, obstructed labour. All these factors lead to high number of complications. Intraoperative complications were high in emergency cases than elective cases<sup>2</sup>.

In present study 72.5 were booked and 27.5% were unbooked cases. Intraoperative complications were seen more in unbooked cesarean section.

Difficult delivery is more possessed by scared abdomen and adhesions if present by previous cesarean section. In our study difficult delivery of fetus was encountered in 11.8% of cases.

In one study of in which 0.2 found too difficult delivery of fetus<sup>1</sup>.

Peripartum cesarean Hysterectomy is an operation that is almost performed as an emergency and associated with significant blood loss<sup>19</sup>.

Risk of cesarean Hysterectomy during cesarean section is greater than vaginal deliveries. In our study the risk of cesarean hysterectomies done 05(1.8%)

In one study women who had cesarean hystrectomy were 13 times more likely delivered by cesarean section. Increasing incidences of placenta accrete in patient with previous cesarean section translate to an increase risk of hemorrhage and increased risk of cesarean hysterectomy<sup>2</sup>.

### CONCLUSION

The present research makes a strong case that the prevalence of intra-operative complications among pregnant women undergoing repeated Caesarean section is not uncommon at Isra University hospital Hyderabad, Pakistan. This issue can have serious implications for maternal mortality and morbidity. Multiple cesarean deliveries are associated with one of the intra-operative complications "Uterine scar dehiscence". The risk of major complications increases with cesarean delivery number.

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