



ORIGINAL ARTICLE

## High order caesarean section: Prevalence and maternal morbidity at Nishtar Hospital Multan.

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**ABSTRACT... Objective:** To determine the prevalence and morbidity associated with high order caesarean section (HOCS). **Study Design:** Descriptive Study. **Setting:** Department of Obstetrics & Gynaecology, Nishtar Hospital Multan, Pakistan. **Period:** January 1, 2018 to December 31, 2019. **Material & Methods:** A prospective study of all the patients who underwent four or more C-section were included. Maternal morbidity was the primary study objective. The data was collected and analyzed by using SPSS version 19. **Results:** A total of 7390 caesarean sections were performed, out of these 240 patients (3.24%) underwent HOCS. Two women had their 6th caesarean, while 12 women had their fifth caesarean. There was no maternal death. Most common complications were postpartum haemorrhage requiring blood transfusion (25.8%), obstetric hysterectomy (6.25%), bladder injury requiring repair (5%) and wound dehiscence and wound infection (2.5%). **Conclusion:** HOCS is associated with increased maternal morbidity although there was no mortality. Indications for primary caesarean section should be reviewed to reduce repeat caesarean sections. Moreover, counselling on different methods of contraception during visits to antenatal clinics should be done to limit family size.

**Key words:** High Order Caesarean Section, Morbidity.

### INTRODUCTION

Caesarean section (CS) is a routine procedure in the modern obstetrical practice.<sup>1</sup> there is an increasing rate of CS across the globe which is a source of great concern as repeated caesarean delivery is proven to increase maternal complications in comparison to normal vaginal delivery.<sup>2</sup> Higher order Caesarean Section (HOCS) is defined as 4<sup>th</sup> or more CS.<sup>3</sup>

Indications for CS have changed in recent years and increasing number of CS is also being done on maternal request and because of associated medical problems. As a result, the number of women with repeated CSs is increasing.<sup>4-6</sup>

There is a significant increase in the risks of both placenta praevia and accrete with repeat CS which is associated with increased maternal morbidity and even mortality. The risk is reported

to be 0.26 percent and 0.01 per cent respectively in an unscarred uterus which is increased to 10 percent for placenta Previa and 6.7 percent for placenta accreta after a fourth CS.<sup>7,8</sup>

The greatest risk of repeat CS is an increased risk of uterine rupture.<sup>9</sup> This risk is more obvious in our country where due to lack of education women go for trial of labour despite multiple prior CS. There is also lack of supervised optimal intrapartum care.

Multiple CSs are associated with technical hitches during abdominal dissection and during separation of uterine segment from the urinary bladder commonly due to adhesions. It often leads to prolong operation time, increased blood loss, need for intensive care and sometimes caesarean hysterectomy.<sup>10</sup> This study was undertaken to evaluate the prevalence and

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morbidities associated with HOCS and how to reduce them. This goal cannot be achieved without emphasizing the need for proper counselling and public health education.

## MATERIAL & METHODS

A prospective study of all the patients who underwent four or more caesarean sections at Department of Obstetrics and Gynaecology Nishtar Hospital Multan, between January 1, 2018 to December 31, 2019 was undertaken. Patients having 4<sup>th</sup> or higher C-section were labelled as HOCS. Data was collected on number of CS, nature of caesarean section (emergency or elective), booking status, parity of woman, difficulty in surgery, maternal outcome and the need for blood transfusion were obtained. Data was analysed using SPSS version 19.

## RESULTS

There were a total of 18,500 deliveries during one-year period. Out of these deliveries 7,390 caesarean sections (39.94%) were performed. This showed a higher CS rate as Nishtar Hospital is the only tertiary care hospital serving people from a large catchment including Southern Punjab, Baluchistan and Northern Sindh. The patients referred here are mostly complicated cases. There were a total of 240 higher order caesarean sections, with a HOCS rate of 1.3% per total deliveries and 3.24% per total CS. Out of the 240 women who had higher order caesarean section, majority were unbooked (75.4%) and grand multipara (22.2%). Table-I

75.6 % (181) caesarean sections were performed as emergencies while only 24.4% (59) were elective. This put a woman on added risk of complications. Younger females are having repeated caesarean deliveries. (94.2%) women were having their fourth CS while twelve women were having their fifth caesarean section (5.0%). Two patients had 6<sup>th</sup> caesarean section (Table-II).

Maternal morbidity and mortality are summarized in Table-III. Majority of the patients (97.5%) had moderate to severe adhesion between rectus muscles and uterus. Only 6 (2.5%) of the cases had no adhesion. There was higher incidence

of hysterectomy in caesareans complicated with placental adherence (6.2%). Bilateral tubal sterilisation was done in 192 (80%) women. Imminent uterine ruptures were observed 11 (4.58%) women, nine from 4<sup>th</sup> caesarean section and two were from fifth caesarean sections. No maternal death observed.

Variable	(N=240)
Mean age (years)	31.42 ± 3.30
< 35	138 (57.5%)
> 35	102 (42.5%)
Mean Parity	4.27±0.68
3 – 4	182 (77.8%)
> 5	58 (22.2%)
<b>Booking status</b>	
Booked	59 (24.6%)
Unbooked	181 (75.4%)

Table-I. Baseline patients characteristics.

	(N=240)
<b>Nature of CS</b>	
Emergency	181 (75.6%)
Elective	59 (24.4%)
<b>Number of C-sections</b>	
4	226 (94.2%)
5	12 (5.0%)
≥6	02 (0.8%)

Table-II. Nature and number of C-Section.

Complications	N=240
<b>Preoperative complications</b>	
Uterine scar dehiscence	11 (4.5%)
Uterine rupture	0 (0.0%)
Placenta Previa	12 (5.0%)
Placental accrete	4 (1.6%)
Adhesions:	
Mild	148 (61.7%)
Severe	92 (38.3%)
<b>Intraoperative complications</b>	
Bladder injury	12 (5.0%)
Bowel injury	0
Need for blood transfusion	62 (25.8%)
Caesarean hysterectomy	15 (6.2%)
<b>Postoperative complications</b>	
Urinary tract infection	4 (1.6%)
Wound infection	6 (2.5%)
Wound dehiscence	0
Maternal death	0

Table-III. Maternal morbidity.

## DISCUSSION

Pakistan is a developing country where due to various religious, cultural and socioeconomic reasons people desire larger family size. In our study we also noticed this trend where regardless of risks linked with multiple caesarean sections.<sup>11</sup> (22.2%) women had five or more children with a mean parity of  $4.27 \pm 0.68$ . This could partly be attributed to low contraceptive use in Pakistan.<sup>12</sup> Given resistance to wide spread use of contraceptives in Pakistan, HOCS is likely to persist in future as well. It brings forth the need to increase public awareness and counselling of women undergoing HOCS regarding the potential risks so they can make a well informed decision and potentially reduce maternal morbidity and mortality.<sup>12</sup>

There is scant existing literature focusing on the clinical outcomes, incidence as well risks associated with multiple CS in Pakistan. In our study, most common clinical indication for current CS was a repeat caesarean section. A policy of recommending elective caesarean section in patients with two or more prior CS is likely one of the reasons for this increased incidence of repeat CS.<sup>13</sup> In our study, the risk of fatal outcome related to labour in patients with 1-2 CSs was low and could be effectively reduced or eliminated by vigilant patient choices and improvements in intrapartum care. A positive review of policy towards a trial of vaginal delivery in multiple caesarean sections was, therefore, advocated in view of advances in patient management in contemporary obstetrical care. In addition, provision of equipment to monitor these patients during labour will reduce the degree of apprehension with which these patients are currently monitored.

We noticed an increased incidence of intraperitoneal adhesions increased with the number of CSs. Majority of the patients studied had adhesions, 148 (61.7%) had mild and 92 patients (38.3%) had severe adhesions. This is comparable to the existing literature.<sup>14,15</sup> Severe adhesions lead to difficulty in separating the lower segment of uterine and corresponding increase in operation time and blood loss.<sup>16,17</sup> This increases the incidence of postpartum anaemia and the

need for blood transfusion. So the gynaecologists should be aware of the possible presence of adhesions and prior availability of blood should be make sure before CS in such patients. Patients who develop complications tend to stay longer in hospital which puts unbearable economical burden on our limited resources.

## CONCLUSION

HOCS is now a reality; there is an urgent need to reduce its incidence. Every effort should be made to avoid the caesarean births. This can be achieved by availability of skilled obstetrical care within an easy access, sufficient training of medical workers to undertake procedures like such as trials of assisted vaginal births and trials of normal delivery should be done in women in previous CS before moving for next CS. Women should be counselled about the risks involved in multiple LCSs and high parity, and should be educated to use modern contraceptive Etechniques.




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