

## AN AUDIT OF CESAREAN SECTIONS IN A TEACHING HOSPITAL

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### ABSTRACT

**Objective:** To determine the frequency of factors responsible for apparently high cesarean section rate in teaching hospital, Liaquat university hospital Hyderabad and to assess maternal morbidity and fetal outcome after cesarean section.

**Study Design:** Descriptive study.

**Place and Duration of Study:** In obstetric and gynecology Department of Liaquat university hospital Hyderabad Sindh Pakistan from 3rd January 2007 to 2nd January 2008.

**Patients and Methods:** Total 1666 deliveries were conducted in year 2007 to 2008. Out of these 584 were delivered by cesarean section and 1082 were delivered by normal vaginal delivery. Clinical record of all the patients who underwent Cesarean section was analyzed. All the patients who underwent cesarean section were included in this study while clinically diagnosed cases of ruptured uterus and proved on laparotomy were excluded from this study. A proforma of each patient was completed, regarding the relevant information of cesarean delivery and fetal outcome.

**Results:** Cesarean section was done on 584(35%) patients while normal vaginal delivery was conducted on 1082(65%) patients. A total of 149(25.5%) patient's underwent elective cesarean section while in 435(74.4%) patient's cesarean section was done in emergency. A total of 144 (24.7%) patients were booked while 440 (75.3%) patient's were unbooked. Most common indication of cesarean section was repeat cesarean section, which was seen in 182(31.2%) patients. Among obstetric complications major problem encountered was massive hemorrhage, which is seen in 64(11%) patients wound sepsis was second most common complication. A total of 453 (77.6%) newborns were born alive and 50(8.6%) neonates were dead which included fresh and macerated still birth. 81 (13.8%) neonates died later on in pediatric unit (END).

**Conclusion:** The rate of cesarean section in our study was 35%, which is quite high. Commonest indication of cesarean section observed in this study was previous cesarean section. Majority of patient's who underwent cesarean section were unbooked. Commonest obstetric complication was massive hemorrhage followed by wound sepsis. Perinatal mortality was also high in this study.

**Keywords:** Cesarean section, Unbooked, Patients, massive hemorrhage.

### INTRODUCTION

Cesarean section is a major obstetric operation that remained a matter of controversy for several years and gained popularity in recent decades with a dramatic rise in the rate of cesarean section all over the world. The steadily increasing global rate of cesarean section have become one of the most debated topics in maternity care as its prevalence has increased alarmingly in the last few years [1, 2]. Paradoxically, this increased has resulted in an increased in maternal and perinatal mortality and

morbidity. A low threshold to perform c-section is commonly related to the type of maternity setup (public or private), fear of litigation, physician's convenience and difference in clinical practices. Introduction of electronic foetal monitoring with a high false positive rate for detection of fetal hypoxia has also contributed to this rate. Many programmes have been developed to reduce the rate of cesarean delivery [3, 4].

Cesarean section has become much safer over the years, but it cannot replace vaginal delivery in terms of low maternal and neonatal morbidity and less cost, [5] this statement holds true especially for the developing countries where maternal and

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perinatal mortality rates are unacceptably high [6].

Approximately one third of cesarean sections are performed electively and two third are performed as emergency procedures. Primary c-sections have a major contribution in determining the future obstetric course of a woman.

The majority of study on cesarean section motive agrees that the three primary indications for performing cesarean section are cephalopelvic disproportion, previous cesarean section and fetal distress. These three indications represent 60- 80% of over all cesarean section [7-9]. Earlier studies have demonstrated that the antecedent of previous cesarean section is an important risk factor for subsequent or repeated cesarean section so efforts should be made to avoid first cesarean section. Other reason for apparently high cesarean section are that most of the breeches are delivered by cesarean section [10-13] and trends of forceps deliveries are declined [14].

The present study was conducted to determine the frequency of factors responsible for apparently high cesarean section rate in teaching hospital and to assess maternal and fetal outcome after cesarean section.

## **PATIENTS AND METHODS**

This descriptive observational study was conducted from 3rd January 2007 to 2nd January 2008, in Gynecology & obstetric department: unit 1 of Liaquat university hospital Hyderabad.

Clinical record of all the patients who underwent cesarean section was analyzed. All the women who underwent cesarean section were included in this study while clinically diagnosed cases of ruptured uterus proved on laprotomy were excluded from the study. A proforma of each patient was completed, regarding the relevant information of cesarean delivery including maternal age, parity, obstetric background, whether booked or unbooked case, elective or emergency cesarean section, type of abdominal and uterine incision, type of anesthesia & fetal and

maternal outcome. Results were analyzed on SPSS version 11. Frequency and percentage were used to describe the results.

## **RESULTS**

In our study total 1666 deliveries were conducted in year 2007-2008. The cesarean section was done on 584 (35%) patients and Normal vaginal delivery was conducted on 1082 (65%) patients. Out of 584 patients, 149 (25.5%) patients underwent elective cesarean section and in 435 (74.5%) patients cesarean section were done in emergency.

Out of 584 patients, 129 (22.1%) patients belonged to age group of less than 20 years, 132 (22.6%) patients to 20-30 years, 251 (43%) patients to 31-40 years while 72 (12.3%) patients were of more than 41 years. Regarding parity, 175 (30%) patients were primigravida, 344 (58.9%) were multipara and 65 (11.1%) patients were grand multipara (Table-1). A total of 144(24.7%) patients were booked while 440 (75.3%) patients were unbooked. Most common indication for cesarean section was repeat cesarean section which is seen in 182 (31.2%) patient's, 104 (17.8%) patient's were operated due to antepartum hemorrhage, 81 (13.9%) were operated due to cephalopelvic disproportion and malpresentation, 79 (13.5%) patients were operated due to failed progress of labour, 57 (9.8%) due to fetal distress, 50(8.6%) due to eclampsia, and 31(5.3%) due to other indications (Table-2).

All cesarean section were done by pfannenstiel incision 157 (26.9%) were done under general anesthesia and 427 (73.1%) patients were operated under spinal anesthesia.

Intraoperative anesthetic complications were observed in very few patients. Anesthesia related complication were difficult intubation, which is seen in 03 (0.5%) patients. One of them gets sufficient hypoxia, & she remained on ventilator for 48 hours and then she gradually recovered. Among the obstetrics complications the major problem encountered was massive hemorrhage in 64 (11%) patients. Out of these 64 patients 5 were managed by cesarean hysterectomy. Wound

sepsis was the second most common complication observed following cesarean section i.e. in 21 (3.6%) patients.

453 (77.6%) neonates were born alive and 50(8.6%) neonates were dead including fresh and macerated stillbirth (Table-3). Most of the dead neonates were delivered from the mothers who presented with obstructed labour, antepartum hemorrhage and eclampsia. 81(13.9%) neonates were born alive and died later on in pediatric medicine unit because of multiple factors.

**Table-1: Demographic data of patients (n=584).**

Variables	No	%
<b>Age</b>		
< 20 years	129	22.1
20-30 years	132	22.6
31-40 years	251	43
> 41 years	72	12.3
<b>Parity</b>		
Primigravida	175	30
Multipara	344	58.9
Grandmultipara	65	11.1

**Table-2: Indication of C-section (n=584)**

Variables	No	%
Repeat c-section	182	31.2
APH	104	17.8
CPD & malpresentation	81	13.9
Failed progress of labour	79	13.5
Fetal distress	57	9.8
Eclampsia	50	8.6
Others	31	5.3

**Table-3: Maternal & fetal complications**

Variables	No	%
<b>Anesthetic Complications</b>		
Difficulty in intubation	03	0.5
<b>Obstetric Complications</b>		
PHH	64	11
Wound sepsis	21	3.6
Cesarean hysterectomy	05	0.8
<b>Fetal Complications</b>		
Fresh still birth	36	6.2
Macerated dead baby	14	2.4
Early neonatal death	81	13.9

**DISCUSSION**

Primary c-section usually determines the future obstetric course of any woman and therefore should be avoided wherever

possible. The 1-2% risk of scar dehiscence associated with trial of vaginal birth after cesarean section can result in serious maternal and perinatal morbidity and mortality in subsequent pregnancies. Cesarean section is also expansive, because of the cost of the operation itself, as well as large postpartum stay in the hospital that is required for the newly delivered mother [16]. Cesarean section rates were 18-23% in the United States and in the United Kingdom [17]. Although there is an upward trend of cesarean delivery all over the world, cesarean section rate in our unit at Liaquat university hospital Hyderabad was 35% as compared to other countries. This was because of the fact that majority of the pregnant women of the surrounding population are delivered vaginally at home by traditional birth attendant and Lady health visitor and general practitioner in private hospitals most of these patients are referred to this teaching hospitals who have one or the other risk factor and who already have a trial of labour somewhere else. So the cesarean section was obviously high in these high risk and non-booked cases.

Majority of the patients who underwent cesarean section was in 31-40 years age group i.e. 251(42.9%).

A study in Taiwan found that after adjusting for maternal indications, health care institution and physician characteristics, there was a significant relationship between advancing maternal age and an increased Likelihood of a cesarean section [18]. The results of this study are similar to our study.

The majority of patients in this study were unbooked i.e. 75.3%. This is mainly due to the paucity of general and obstetrical health care awareness in the society as well as devastating depriving socioeconomic condition [19].

In our study all cesarean sections either emergency or elective were done by transverse incision and no cesarean section was done through midline.

In an emergency, the easiest and fastest route to shorten the operative time is always considered first [20, 21]. It is therefore

surprising to see that there were all cesarean section were performed through transverse incision. This obviously may have to do with the experience of the operators rather than the need for a quick end to the operation [22].

Repeat cesarean section was the commonest indication. This was quite similar with other studies conducted by Yudkin et al [23] and Notozon et al [24]. This leads us to believe that avoidance of first cesarean section would strongly influence the subsequent performance of cesarean section as evidenced by the above figures. Logically, antecedents of two or more pregnancies constituted a significant protection factor for first cesarean section.

In spite of remarkable improvement in safety of anesthesia and surgical techniques, cesarean section increases the risk of maternal death, as compared to normal vaginal delivery postoperative complications such as sepsis are increased [25]. Cesarean section alters the management of subsequent pregnancies [26]. The common causes of morbidity following cesarean section are hemorrhage and sepsis.

Generally cesarean section is considered a relatively safe option for the fetus. However perinatal mortality depends upon the reason for cesarean section and gestational age of the fetus. Regarding fetal outcome following cesarean section in our unit 77.5% were born alive. A total of 131 (22.4%) babies were lost in perinatal period. This perinatal mortality was quite high as compared with other studies [27, 28].

As compared with international standards, maternal morbidity perinatal morbidity and mortality in our setup is quite high because of so many factors e.g. poverty, lack of awareness, late referral to tertiary care hospitals, poor maternal general health, lack of adequate health care facilities and non affordability of relatively costly antibiotics.

## CONCLUSION

The rate of cesarean section in our study was 35%, which is quite high, because mostly referred cases after initial trial of lady health

visitor and general practitioner in private hospitals were received.

Commonest indication of cesarean section observed in this study was previous cesarean section. Majority of patient's who underwent cesarean section were unbooked. Commonest obstetric complication was massive hemorrhage followed by wound sepsis. Perinatal mortality was also high in this study.

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