

ASSESSMENT OF INDICATIONS OF LOWER SEGMENT CESAREAN SECTION AT TERTIARY CARE CENTER: A RETROSPECTIVE STUDYNIDHI MEENA¹, SABA PARVEEN¹, TEENA NAGAR¹, NARESH KUMAR MEENA^{2*}¹Department of Obstetrics and Gynaecology, Jhalawar Medical College, Jhalawar, Rajasthan, India. ²Department of Pediatrics, Jhalawar Medical College, Jhalawar, Rajasthan, India. Email: naresh.meena40@gmail.com

Received: 28 January 2022, Revised and Accepted: 03 March 2022

ABSTRACT

Objective: Cesarean section (CS) is one of the most common and widely performed surgical procedures in obstetrics in India and Worldwide. It is mainly evolved as a lifesaving procedure for mother and fetus during the difficult delivery. To study, various indications for the lower segment CS at our tertiary care center were the objective of the present study.

Methods: This is a descriptive, retrospective study of all the patients who were underwent CS in the Department of Obstetrics and Gynecology, Jhalawar Medical College, Jhalawar from January 1, 2021, to March 31, 2021 for the duration of 3 months. Data of patients who delivered by C-Section in our hospital during the defined study period were recorded and a statistical analysis was done for various indications of the lower segment CS (LSCS).

Results: The total numbers of women delivered by CS over the study period were 806 among these 339 (42.05%) patients were primiparous and 467 (57.95%) were multiparous. 550 (68.23%) cases were from age group 20–25 years and 153 (18.98%) were had age group 26–30 years, 20 (2.48%) were from age group below 19 years, and 76 (10.29%) patients were above 31 years age. The previous LSCS was the leading indication to the LSCS (31.14%) followed fetal distress (13.88%), malpresentation 95 (11.78%) (including breech presentation in maximum women (86), transverse and oblique lie (9 each), and face presentation (3)) (11.78%), meconium stained liquor with fetal distress 60 (7.44%), severe oligohydramnios 48 (5.95%), non-progress of labor 32 (3.97%), cephalopelvic disproportion 23 (2.85%), pre-eclampsia 20 (2.48%), obstructed labor 19 (2.35%), big baby 19 (2.35%), pregnancy-induced hypertension 18 (2.23%), maternal request and post-dated pregnancy 15 (1.86%) each, gestational hypertension and eclampsia 11 (1.36%) each, placenta previa 10 (1.24%), induction failure 8 (0.99%), and intrauterine growth retardation and antepartum hemorrhage 7 (0.86%) and 14 (1.73%). Patients had other indications such as Abruptio placentae, gestational diabetes, twin pregnancy, uterine rupture, and deep transverse arrest.

Conclusions: In this study, CS rate (40.68%) is found to be higher as compared to other studies and the WHO guidelines. CSs rate is high probably because Jhalawar Medical College, Jhalawar acts as a government tertiary care center. The previous LSCS was a common indication in 31.14% of mothers in present study. Besides, previous LSCS, fetal distress, malpresentation (Breech presentation/transverse lie, oblique lie, and face presentation) MSL with fetal distress, and severe oligohydramnios were the common indications for LSCS, which are seen in the present study.

Keywords: Indications, Cesarean section, Tertiary center.

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INTRODUCTION

Cesarean section (CS) is the delivery of an infant, alive or dead, through an abdominal uterine incision after the period of viability. The incidence of CSs is rising in most part of the world. CS is one of the commonly performed surgical procedures in obstetrics and is certainly one of the oldest operation in surgery. CS is a surgical procedure which is carried out to ensure safety of mother and child when vaginal delivery is not possible (emergency CS) or when the doctors consider that the danger to the mother and baby would be greater with a vaginal delivery or difficult vaginal delivery (planned CS). Proportion of CS to the total births is considered as one of the important indicator of emergency obstetric care [1]. The steadily increasing global rates of CS have become one of the most debated topics in maternity care as its prevalence has increased alarmingly in the last few years [2,3]. The rate of CS is different across countries even between urban and rural areas, due to different socioeconomic statuses, and opportunities to access public and private health care services [4].

CS is a major surgical procedure with a corresponding level of risk and should be performed in the presence of specific and clearly defined indications. There is an increase in trend in both primary and repeat CS

rates. There are various indications for LSCL including presumed fetal distress, failure to progress in labor, repeat CSs and breech presentation, obstructed labor, twin pregnancy, high blood pressure in the mother (eclampsia and pre-eclampsia), problems with the placenta (placenta previa, antepartum hemorrhage, and placental abruption), umbilical cord or shape of the pelvis, and previous C-section [5,6]. Post-dated, preterm labor, prolonged labor, fibroid uterus, diabetes, intrauterine growth retardation (IUGR), PIH, Big baby, various malpresentations, induction failure ruptured uterus, and some C-sections are also performed on request.

The World Health Organization recommends that they should be done based on medical need and in many cases, they are lifesaving for the mother and baby [6,7].

Aims and objectives

The aims of this study were to study indications of lower segment CS at tertiary care center.

Inclusion criteria

All patients who were underwent CS whether elective or emergency and whether booked or unbooked patient admitted during the study period were included in the study.

METHODS

This was a descriptive retrospective analysis of all the patients who were underwent CS in the Department of Obstetrics and Gynecology, Jhalawar Medical college, Jhalawar from January 1, 2021, to March 31, 2021. Three months, data were collected from operation lower segment CS (LSCS) register and the results were summarized in percentages and numbers. All patients admitted to PNC ward after LSCS during the study period were included in the study. For data collection, paper-based study pro forma was used. The study protocol was reviewed by the ethical committee.

Statistical analysis

Collected data were be compiled and tabulated using Microsoft Excel and appropriate tables and figures were generated.

Ethical issues

Ethical approval was taken from the Institutional Ethic Committee of Jhalawar medical college, Jhalawar, before starting the study.

RESULTS

During the study period of 3 months, total 1,968 deliveries occurred, out of which 806 (40.95%) underwent CS among these 339 (42.05%) patients were primiparous and 467 (57.95%) were multiparous (Table 1). 550 (68.23%) cases were from age group 20–25 years and 153 (18.98%) were had age group 26–30 years, 20 (2.48%) were from age group below 19 years, and 76 (10.29%) patients were above 31 years age (Tables 2 and 3).

The previous LSCS was the leading indication to the LSCS 251 (31.14%) followed fetal distress 112 (13.88%), malpresentation 95 (11.78%) (including breech presentation in maximum women (86), transverse and oblique lie (9), and face presentation (3)) (11.78%), meconium stained liquor with fetal distress 60 (7.44%), severe oligohydramnios 48 (5.95%), non-progress of labor 32 (3.97%), cephalopelvic disproportion 23 (2.85%), pre-eclampsia 20 (2.48%), obstructed labor 19 (2.35%), big baby 19 (2.35%), pregnancy-induced hypertension 18 (2.23%), maternal request and post-dated pregnancy 15 (1.86%) each, gestational hypertension and eclampsia 11 (1.36%) each, placenta previa 10 (1.24%), induction failure 8 (0.99%), IUGR and APH 7 each (0.86%) and 14 (1.73%). Patients had other indications such as Abruption placentae, gestational diabetes, twin pregnancy, uterine rupture, and deep transverse arrest (Table 4).

Table 2: Distribution according to age

Age group	Number of cases (%)
Below 19	20 (2.48)
20–25	550 (68.23)
26–30	153 (18.98)
31–35	48 (5.95)
Above 35	28 (4.34)

Table 1: Description according to parity

Parity	Number of cases (%)
Primipara	339 (42.05)
Multipara	467 (57.94)
Total	806

Table 3: Description according to gravid status

Gravida status	Number of cases (%)
G1	339 (42.05)
G2	305 (37.84)
G3	120 (14.88)
G4	27 (3.34)
G5 and above	15 (1.86)
Total Patients	806

DISCUSSION

CS is a widely performed abdominal surgery across the world which is life saving for mothers and fetus in case of difficult vaginal delivery or when vaginal delivery not possible due to any fetomaternal complications which lead to absolute and relative contraindication of vaginal delivery.

We have conducted this retrospective study at a tertiary care hospital, Department of Obstetrics and Gynecology, Jhalawar Medical College, Jhalawar, Rajasthan. During the study period of 3 months (January 2021 to March 2021), total 1,968 deliveries occurred, out of which 806 (40.95%) underwent cesarean. It is because JMC Jhalawar acts as a tertiary care referral center. Most of the complicated and high risk ANCs of subdistrict hospitals, Rural hospitals, Private Maternity hospitals, and PHCs are referred to our center for further management.

Sakael *et al.* conducted a hospital-based study from 2001 to 2005 which showed that proportion of CS cases was 32.6% [8]. Similar study conducted by Haider *et al.* in Isra university hospital, Hyderabad Pakistan showed that 64% deliveries were conducted by CS [9]. Das *et al.* show 35.45% cesarean rate [10], Badge *et al.* show 56.08% cesarean rate [11]. These are comparable to our study. In the present study, previous LSCS (31.14%) was the major indication of CS at our center. A study conducted by Badge *et al.* (32%) [11], Rajshree *et al.* (45.8%) [12], Anand *et al.* (48.9%) [13], and Bade *et al.* at Latur GMC (24.8%) [14] showed various proportions of the previous LSCS that was comparable to the present study.

In the present study, fetal distress was the indication in 13.88% cases. A Study by Anand *et al.* mentioned fetal distress in 10.94% cases [13]. Unnikrishnan *et al.* found fetal distress in 19.6% cases [15], Singh *et al.* found fetal distress in 19 % cases [16]. Their results were comparable to the present study.

Malpresentation was indication in 11.78% cases in the present study. A study by Singh *et al.* mentioned malpresentation indication in 13% cases [16], Patnaik (23.1%) [17], Chavda *et al.* (18.6%) [18], and Jawa

Table 4: Description according to indication of the lower segment cesarean section

Indication of LSCS	Number of cases (%)
Previous LSCS	251 (31.14)
Fetal distress	112 (13.88)
Malpresentation (breech presentation/ transverse lie, oblique lie, and face presentation)	95 (11.78)
MSL with fetal distress	60 (7.44)
Severe oligohydramnios	48 (5.95)
Non-progress of labor	32 (3.97)
Cephalopelvic disproportion	23 (2.85)
Preeclampsia	20 (2.48)
Obstructed labor	19 (2.35)
Big baby	19 (2.35)
Pregnancy-induced hypertension	18 (2.23)
Maternal request	15 (1.86)
Post-dated	15 (1.86)
GHTN	11 (1.36)
Eclampsia	11 (1.36)
Placenta previa	10 (1.24)
Induction failure	8 (0.99)
APH	7 (0.86)
IUGR	7 (0.86)
Abruption placentae	4 (0.49)
Twin pregnancy and arrest of second baby	4 (0.49)
GDM	3 (0.37)
Deep transverse arrest	2 (0.24)
Ruptured uterus	1 (0.12)

LSCS: Lower segment cesarean section, APH: Antepartum hemorrhage, IUGR: Intrauterine growth retardation, GDM: Gestational diabetes

et al. found malpresentation in 9.37% cases [19]. Their results were comparable to the present study. Severe oligohydramnios was indication in 5.95% of cases in the present study. Similar findings were mentioned in study done by Jawa *et al.* (5.93%) [19], Das *et al.* (5.21%) [10], and Bade *et al.* (4%) [14]. Non-progress of labor was the indication in 3.97% cases in the present study. Other studies mentioned that similar results were Jawa *et al.* (5.93%) [10], Chavda *et al.* (4.80%) [18], Nikhil *et al.* (6.32%) [13], and Singh *et al.* (5.10%) [20]. Pregnancy-induced hypertension was the indication in 2.23% cases in the present study. Nikhil *et al.* (1.94%) [13], Singh *et al.* (4.80%) [20], and Das *et al.* (4.87%) [10] were mentioned comparable results.

Obstructed labor was the indication in 2.35% cases in the present study. Badge *et al.* (4.6%) [11] and Jain *et al.* (3.9%) [21] show similar findings. That was comparable to present study. Maternal request was the indication of LSCS in 1.86% cases in the present study. Unnikrishnan *et al.* (1.46%) [15] show similar results. Big baby was the indication for LSCS in 2.35% cases in the present study. Das *et al.* (1.42%) [10] found similar result. Placenta previa was the indication in 1.24% cases in the present study, similar results were obtained by Badge *et al.* (1.3%) [11].

CONCLUSIONS

In this study, CS rate (40.68%) is found to be higher as compared to other studies and the WHO guidelines. CSs rate is high probably because Jhalawar Medical College, Jhalawar acts as a government tertiary care center. The previous LSCS was a common indication in 31.14% of mothers in the present study. Besides previous LSCS, fetal distress, malpresentation (breech presentation/transverse lie, oblique lie, and face presentation) MSL with fetal distress, and severe oligohydramnios were the common indications for LSCS, which are seen in the present study.

CONFLICTS OF INTEREST

Academic.

FUNDING

No funding sources.

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee.

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