Original Research Paper

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Evaluation of Cases of Caesarean Section at the Rajendra Institute of Medical Sciences (RIMS), Ranchi, Jharkhand, India

Gynaecology

KEYWORDS: LSCS, Incidence

Dr. Nibha — 3rd year student, MD Gynecology, Rajendra Institute of Medical Sciences (RIMS) Rajendra Institute of Medical Sciences (RIMS), Ranchi, Jharkhand, India

Dr. Sarita Tirkey — Asst. Professor, Rajendra Institute of Medical Sciences (RIMS)

ABSTRACT

Aim To understand the current caesarean section rate and indications and to evaluate the feto-maternal outcome of LSCS done at RIMS, Ranchi. Method Study of deliveries at RIMS, Ranchi over 18 months to understand the incidence of LSCS through details including previous history, demographics, indications, reasons for LSCS, intra and post-operative status. Results Out of 10828 cases, 4472 (41%) were LSCS with 60% undergoing it for the first time. Rural patients had a higher inclination towards LSCS (46%) as compared to urban patients (39%) even though the total number of LSCS conducted was higher for urban patients. This is symptomatic of the fact that rural patients rely more on traditional methods of delivery and come to hospitals only in case of complications. The most common reason for LSCS was fetal distress (31%). Blood loss was the most common intra-operative complication with 9% of patients suffering from

Introduction

Caesarean section, also known as caesarean delivery, is defined as the delivery of a fetus through a surgical incision in the abdominal wall and uterine wall in the lower segment. It is one of the most common surgical interventions in the modern obstetrics worldwide. James Guillimeau used the term Caesarean section for the first time in 1598 in his book of midwifery.[1] The first serious description on the subject of Caesarean section was published by Frances Rouset in 1581.[1] The most commonly employed type of caesarean nowadays was started by Munro Kerr (1926) who modified the low segment caesarean section as transverse rather than longitudinal segment caesarean section.[2]

One of the most important changes in operative obstetrics during the past three decades has been the increased incidence of caesarean section in developed and developing countries alike. It is also partly due to availability of safe anesthesia, excellent blood transfusion services and advances in operative technology and development of broad spectrum antibiotics. Additionally, the relative safety of the resorting to the procedure for relative indications and even 'caesarean on demand' by some women has led to an increase in its incidence.

Low LSCS rate might indicate poor access to LSCS when obstetric complications occur[3] while high rate increases the risk of maternal and neonatal morbidity.[3] Although there is no general agreement on optimal LSCS rate,[3] the most accepted recommendation is still the one from WHO in 1985 stating that the LSCS rate should not exceed 15%. In 2009, WHO revised their guidelines, still recommending a LSCS rate between 0.5-15% .[4] They stated that a rate above 12-15% is not associated with better outcome, neither for the mother nor the child.[4]

In India, one of the biggest challenges in birth care is the low number of trained healthcare providers, particularly in rural areas. Furthermore the transportation systems are not developed, making emergency access to birth centers difficult.[5]

LSCS is a procedure that often is life-saving, but it is not without risk and can also become life-threatening for both mother and child.[6]

The problem of rising incidence of caesarean sections and efforts to reduce the same has reached an enigmatic level. The results of many studies in the world show increasing trend in caesarean section rate. The concern is being expressed as 'global epidemic' of caesarean section. It is a matter of concern not only for the obstetricians and people in the society, but also for the social scientists.[7]

This study has been done to know the changing trends in caesarean section rate and indications and to evaluate the feto -maternal outcome of LSCS done at RIMS.

Materials and methods

This study was carried out in the department of Obstetrics and Gynecology, Rajendra Institute of Medical Sciences (RIMS), Ranchi during April 2015 to October 2016.

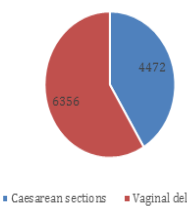
All patients who delivered in the labor room after 28 weeks of pregnancy were included in the study, to calculate the incidence of lower segment caesarean section among them and to evaluate their feto-maternal outcome. All the patients who were admitted in the labor room at RIMS following lower segment caesarean section done outside RIMS have been excluded. Patients discharged before delivery or those who left against medical advice before delivery were excluded.

Details collected for each patient included: Identification details (name, age, etc.), General examination, Personal and family history, Admission details, Menstrual and Obstetrical history, Details of past and current pregnancies, Medical and surgical history, Outcomes of routine tests as well as post-operative conditions.

Observations

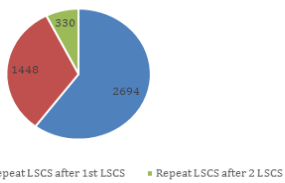
The incidence of LSCS at RIMS, Ranchi during the period was 41.3%.

Figure 1: Incidence of caesarean section



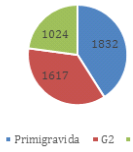
Out of 4472 cases undergoing LSCS, 2694 (60.2%) cases had primary caesarean, 1448 (32.5%) cases had repeat LSCS after 1st LSCS, and 330 (7.3%) cases had repeat LSCS after previous 2 LSCS.

Figure 2: Number of cases undergoing Primary or repeat LSCS



3. Out of 4472 cases, 1832 (41.0%) maximum number of LSCS was done among primigravida females.

Figure 3: Incidence of caesarean section among primigravida, second gravida and gravida 3 & above



4. 65% of total deliveries were from urban population, deliveries of cases from rural area accounted for only 35%. However, on comparison within the same settlement type, rural patients had higher share of LSCS as compared to urban patients.

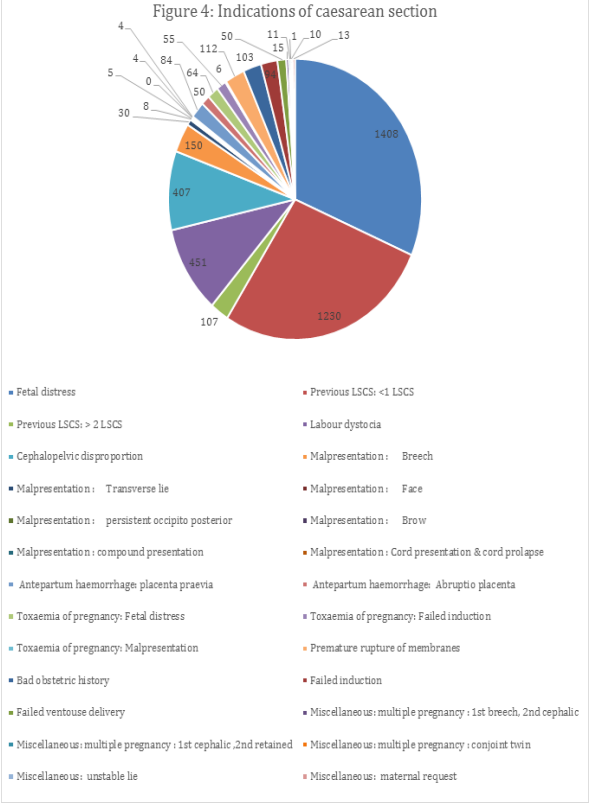
Table 1: Incidence of LSCS among rural and urban patients

Settlement type	Total cases	% of total cases	Vaginal deliveries	LSCS deliveries	LSCS deliveries as a % of total deliveries in the settlement type
Urban	7038	65.0%	4305	2733	38.8%
Rural	3790	35.0%	2051	1739	45.9%
Overall	**10828**	**100%**	**6356**	**4472**	**41.3%**

5. Out of 4472 cases, 3706 (82.9%) cases underwent emergency LSCS while 766 (17.1%) cases had elective LSCS.

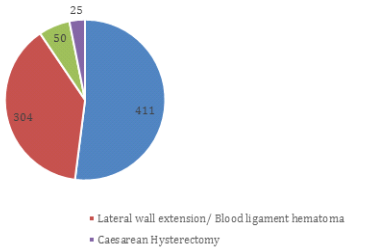
6. Highest indication of LSCS was fetal distress shown in 32% of LSCS cases

Figure 4: Indications of caesarean section



7. In terms of intraoperative complications, blood loss >1000ml was the most common intraoperative complication seen in 9.2% (411) of the cases who underwent LSCS, followed by lateral wall extension/broad ligament haematoma/ uterine vessel injuries seen in 6.8% (304) cases.

Figure 5: Intraoperative complications and their incidence



8. Similarly, blood loss was the most important major post-operative complication, seen in 2.5% (112) cases while 0.6 % (27) cases had sepsis with no case of deep vein thrombosis.

9. There were 10 cases of maternal mortality in 4472 LSCS operations, a mortality rate of 0.2%. Of these, the biggest reason was APE accounting for 4 such cases in all.

Table 2: Associated causes in cases of maternal deaths

Cause	No of cases
APE	4
Obstructed labour+ Septicaemia+ DIC	3
APH	2
Severe anaemia+ Cardiorespiratory failure	1
Total	**10**

10. In total, there were 120 perinatal deaths including 43 still births out of the 4472 LSCS operations conducted. The PMR hence calculated was 2.7%.

Table 3: Perinatal mortality and causes

Perinatal mortality			
Still births		**Early neonatal deaths**	
Cause	**No of cases**	**Cause**	**No of cases**
APE	20	Respiratory distress syndrome	37
APH	12	Congenital anomalies	15
Obstructed labour	5	Birth asphyxia	13
Cord prolapsed	4	Meconium aspiration	10
Fetal distress	2	Kernicterus	2
Total still births	**43**	**Total early neonatal deaths**	**77**
Total perinatal mortality			**120**

Discussion

Incidence of LSCS: The incidence of LSCS at RIMS was high (41.3%). This high figure was mainly due to:

1. RIMS is the highest referral centre in Jharkhand. So there are relatively more admissions of patients with complications and hence more number of LSCS.

2. There is higher incidence of admission of neglected and mishandled cases in RIMS.

3. The patient to trained personnel ratio is high leading to a tendency of conducting LSCS after the previous one being LSCS, leading to increased incidence of caesarean deliveries.

4. Some patients, especially those with the previous one as LSCS or with a bad obstetric history, request for LSCS.

5. Poor facilities of obstetrical care like delivery and LSCS in the peripheral health centre and hospitals also cause increase in incidence because many of them are then referred to RIMS.

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WHO has quoted that high incidence of LSCS >15% reflects over utilization of the procedure for other than life saving reasons[4], but in this context, it does not seem to be over utilization considering the high number of referrals and complicated cases coming to RIMS.

Primary or repeat LSCS: LSCS rate was highest among primigravida (41%). Primary LSCS rate was (60.2%) & repeat LSCS (39.8%). Mishra and Ramanathan (2002) stated that primiparity is associated with greater pregnancy complications and hence there is a higher incidence of LSCS[8]. Emma L Barber et al (2006) reported that primary LSCS accounted for 50% increase in caesarean rate[9] which corroborates with the outcome of this study. The decision for doing LSCS in a primi patient should be very well judged so that this might help in reducing the number of repeat LSCS.

Elective/ emergency LSCS: In the present study majority of cases, 3706 (82.8%) underwent emergency LSCS and only 766 cases (17.2%) had elective LSCS. Farah Karim et al (2011) reported that emergency LSCS contributed (85.9%) and elective (14.1%)[10] which is similar to the results found in this study.

Rural/ Urban split of LSCS: In this study, more cases were from urban population as compared to rural area. Hence, the incidence of caesarean delivery was also higher in urban population. This is similar to the study by Sancheetha Ghosh, K S James (2008) who reported that caesarean delivery rate is higher in urban areas[11]. Shewli Shabnam, a research scholar at JNU, also reported in her study that compared to rural areas, caesarean section delivery is more likely to occur in urban areas. In her study in the year 2007-08, an overall of 4.2% women had caesarean delivery in Jharkhand. 2.7% women from rural population underwent LSCS whereas 13.0% women of urban population had LSCS[12]. The figures from this study show a similar figure. However, as a percentage of cases from the same area, rural patients seem to have a higher incidence of LSCS as compared to urban patients. This can be explained by the fact that rural people tend to handle deliveries at their homes or at local hospitals while only the complicated cases travel to RIMS, Ranchi.

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