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A Descriptive Analysis of Indications of Caesarean Section at SMS Medical College, Jaipur

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Abstract

Background: Caesarean section rates may vary among institutes .According to WHO , every effort should be made to prevent a caesarean . So far, available literature suggests that caesarean section rates should not go beyond 15% , but this not meet the practical aspect actually .

Methods: At zenana hospital , SMS MEDICAL COLLEGE ,we carried out a prospective analytical study of caesarean sections rates along with their indications .

Result: The total numbers of women delivered over the study period were 2000, out of which CS deliveries were 750.Overall, caesarean rate calculated for our centre was 37.5 %. Previous LSCS was the most Common indication of caesarean section In the present study accounting for 29.3% of all Cases . Fetal distress accounted for 14.5% ; Non Progression of labor / failed induction -13.7%

Conclusion: The rate of caesarean at our at our institute was on higher side .Main reason of this was higher percentage of percentage of reffered patients ,higher percentage of previous caesarean and patient who had undergone failed trial of labor at peripheries.Among the booked patients most with scarred uterus did not give consent for trial of labor .

Keywords: Previous caesarean , Fetal distress , caesarean section rate.

Introduction

The rate of caesarean section has increased in last few decades . According to WHO , ‘ There is no justification for any region to have caesarean section rates higher than 10-15 % [1]

- According to ICMR study conducted in 30 teaching hospitals in INDIA ; there is an increase in caesarean section rates from 21.8 % in 1993-1994 to 25.4 % in 1998-1999 study
- In USA , the rate was 27.5% in 2003 which increased to 32.8% in year 2010 .[2]
- There are various factors involved in the rise of rate of cesarean section .

➢ Increase in primary caesarean section rate ,
➢ Decrease in VBAC trial ,
➢ Decrease in operative vaginal deliveries ,
➢ Increase in litigations ,
➢ Increasing facility of electronic monitoring
➢ Decrease threshold of patients for bearing labor pain

- As with any surgery, caesarean sections are associated with short term and long term risks which can extend many years beyond the current delivery and affect the health of the woman, her child, and future pregnancies.
- Caesarean section may be associated with an increased risk of surgery related morbidity, abdominal pain , hysterectomy, ureteral tract and vesicle injury, neonatal respiratory morbidity, fetal death, placenta accreta/percreta, and uterine rupture in future pregnancies , maternal postpartum morbidity , higher chances of newborns getting postpartum respiratory morbidity , fetal death, , less breast feeding .[3,4]
- High caesarean rates are an issue of international public health concern.

Aims & Objectives

Aim

- To analyse the various indications of caesarean sections

Objectives

- To find the cause behind the rise in the rate of caesarean section
- To reduce the rate or to keep the rate to the minimum possible level .

Materials And Methods

- We conducted retrospective analytical study of various indication of caesarean section in 750 patients who underwent cesarean delivery from December2017 to December 2018.
- We took detailed history, including age, obstetric history , indications of caesarean section.
- Partogram was made in patients undergoing trial of labor for plotting the progress of labor .
- Continuous fetal monitoring was done in every patient undergoing trial of labor

We analysed the data so as to study the factors responsible for high rate of caesarean section .

Result

The total numbers of women delivered over the study period were 2000, out of which CS deliveries were 750. Overall, caesarean rate calculated for our institution was 37.5 %.

Figures

Table 1 – Age wise distribution of caesarean section

Age group	Number of cases	Percentage
< 20 yr	35	4.6
21-30 yr	575	76.6
31-40 yr	140	18.8
Total	750	100

We divided all the patients in 3 age groups. Out of which, 575 patients belonging to the age group 21-30 years, 140 patients were of age group 31-40 years, 35 cases were from age group less than 20 years.

Table 2 – Elective vs emergency caesarean section

Type of caesarean	Number of cases	percentage
Elective	335	446
Emergency	415	554
Total	750	100

335 cases (44.6%) were taken as elective caesarean, while 415 cases (55.4%) presented in emergency.In case Of emergency indications, there are more chances of maternal & fetal morbidity, along with poor uterine scar healing due to infection which ultimately reduces success rate of future VBAC .

Table 3

Parity	No of cases	Percentage
primipara	420	56

Multipara	330	44
Total	750	100

Table 4

	No of cases	percentage
Preterm<37 wk	215	28.6
Term>37 wk	535	71.4
Total	750	100

71.4% (535 of 750) of the study group were term patients; term being defined as 37 weeks period of gestation or more.

Table 5- Indications of caesarean

Indications	Number of cases	Percentage
Previous caesarean	220	29.4
Fetal distress	109	14.6
Non progression of labor (including failed induction)	103	13.8
Malpresentation	44	5.8
Toxemia of pregnancy	70	9.4
Antepartum haemorrhage	35	4.8
Severe oligohydramnios/ IUGR	40	5.4
Obstructed labor	16	2.4
Multifetal gestation	31	4.4
Cord prolapse	10	1.6
Cephalopelvic disproportion	20	2.6
Other medical disorder	20	2.6
Precious pregnancy / Bad obstetric history	22	3
Total	750	100

Previous LSCS was the most common indication of caesarean section in the present study accounting for 220 of all CS cases (29.4%).

Fetal distress accounted for 14.6% , Majority of them were having thick meconium stained liquor & some were having multiple loops of cord around neck .

Non progress of labor/failed induction – 13.8% , These cases included having non progress due to poor bishop at time of induction / augmentation of labor .

Hypertensive disorders of pregnancy (HDP) – 9.4%, There were 70 cases of toxaemia, including 50 patients having pre-eclampsia, 16 patients having eclampsia and 4 cases of HELLP (Haemolysis, Elevated Liver Enzymes, Low Platelet count) syndrome. The cases with pre eclampsia and eclampsia were operated for cesarean because of changes in fetal Doppler, uncontrolled maternal blood pressure, aggravating pre-eclamptic toxaemia and non-progress of labour. Patients with HELLP syndrome were taken for cesarean with correction of coagulopathy with blood components.

Malpresentation -5.8% , Majority of them were having breech presentation . A few of them were having transverse lie .

Oligohydramnios/IUGR account for 2.6% & 5.4% each of total caesarean sections respectively. Oligohydramnios cases are routinely given trial of labour with proper fetal heart monitoring. But there were 40 cases with severe oligohydramnios with absent liquor, and were taken for cesarean section. Absent liquor at full term with no labour pain or poor Bishop score makes chances of normal labour difficult as there will be more chances of

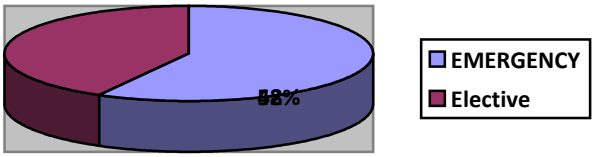
fetal compromise due to cord compression and fetal distress.

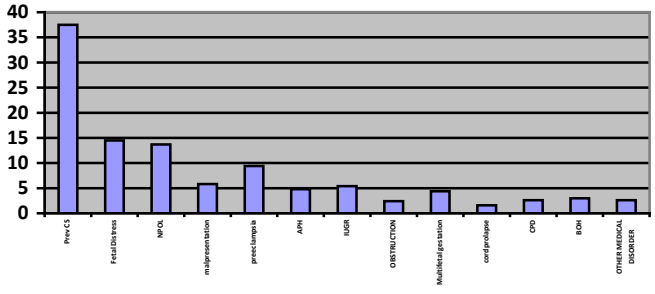
16 cases presented with obstructed labour, which needed to be operated with cesarean delivery

There were 31 cases of twins with first fetus in non-cephalic presentation which underwent cesarean.

22 cases of precious pregnancy underwent cesarean, which included 12 patients with bad obstetric history and 10 patients conceived with infertility treatment with active married life more than 5 years.

Caesarean due to fetal distress, hypertensive disorders, APH, oligohydramnios/IUGR had almost equal occurrence amongst primigravida versus multiparous females. However, CS due to NPOL, Breech, CPD,obstructed labor was more in primi group.





Discussion

In our study, caesarean rate was 37.5%. This is almost double the accepted upper norm of World Health Organization of 15%.[1] . A study on the rates of caesarean section in Bangladesh stated arate of 35%.Similar results were obtained in studies conducted in USA& IN SOUTH INDIA. [5].However, it may be difficult to contain the rates in tertiary care institutes, catering to a large population of referred cases.

The WHO expert panel in its worldwide ecologic study to assess the association between caesarean sections, maternal and neonatal mortality made the following observations:[1]

Increases in CS rates up to 10-15% at population level are associated with decrease in maternal, neonatal and infant mortality. Above this level, the rate of caesarean section is no longer associated with reduced mortality

Below a caesarean section rate of 10%, maternal and neonatal mortality decreased when caesarean rates increased. No effect on mortality rates was observed at CS rate between 10-30%

Current data is insufficient to assess the link between maternal and newborn mortality and rates of caesarean section above 30%. There has been a steady increase in the rates of CS in both developed and developing countries although there exists a wide variation in caesarean rates between the two owing to limited resources in the developing nations. The caesarean section rate in Africa was 6.2% of which most common indication was obstructed labor (31%), in contrast to previous LSCS in our study.[6] In United Kingdom, the caesarean rate was 24.1% of all live births.

Analysis of age of the patients showed that 80% of cases were in the age group of maximum fertility i.e. between 20-30 years. A study in IPGMR showed 89 % amongst this age group.[5,8] A study of Latin American hospital showed maximum incidence > 30 years in primi patients, which might reflect delayed age of marriages in the western countries.[5,9]

The increased rates of caesarean section are thought to be due mainly to changed risk profiles both for expectant mothers and for their yet unborn children, as well as an increase in caesarean section by maternal request.

Although a previous caesarean section does not necessarily mean a repeat caesarean delivery in subsequent pregnancies, the sense of security of physicians and mothers seems to be responsible for repeated caesarean deliveries.[10]

Another reason for the observed incre ase in caesarean deliveries is the rise in assisted reproductive interventions. Reproductive interventions in themselves lead to an increased caesarean rate, but maternal anxiety about a healthy outcome for her child may also play an important part.[11]

In our study, trial for vaginal birth after caesarean (VBAC) was given judiciously in patients where applicable according to ACOG guidelines for trial of VBAC - with previous 1CS (transverse scar), singleton pregnancy with vertex presentation in spontaneous labor.[12] No trial was given to patients with previous two or more scars due to presumed risk of maternal and fetal complications.

No standard classification system exists for indications of CS.[13, 14] a major challenge is that definitions are not standardized and indications can be multiple or related.

For example, there may be a difference in opinion of the authors in classifying the patients under a particular category. Despite challenges in classification, identifying the most common indications for caesarean section is important to target prevention strategies.[12]

Conclusion

- The rate of caesarean section has been increasing worldwide, due to various reasons & indications .
- There is a possibility of keeping the rate to minimum by
- Reducing number of primary caesarean sections , by proper counselling of the patients ,
- Proper monitoring of maternal & fetal parameters,
- Promoting institutional deliveries,
- Promoting VBAC in previous caesarean section with non recurrent indications .
- Individualization of the indication and careful evaluation can help us limit early peri-natal morbidity and mortality. Previous CS was the leading indication for caesarean deliveries in the study group.
- It is important that efforts to reduce the overall caesarean rate focus on reducing the primary CS rate and judicious use of VBAC be given in cases of previous caesarean to decrease rate of repeat CS.
- Obstetric audits in the institution, following standardized guidelines and practice of evidenced-based obstetric shall help in reducing the peri-natal morbidity and mortality.

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