A RETROSPECTIVE ANALYSIS OF CAESAREAN SECTION IN A TEACHING HOSPITAL

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ABSTRACT

BACKGROUND

World Health Organisation states that every effort should be made to provide caesarean sections to women in need, rather than striving to achieve a specific rate. There are variations in caesarean section rates and its indications nationally and internationally.

Aims and Objective- To know caesarean section rate in our Institution. Analyse different indications of caesarean section. To find out proportion of different indications. To compare these proportions with other available studies. Analyse other associated factors like parity, gestational age, previous obstetric history, emergency or elective caesarean and anaesthesia given.

Study Setting- The study is carried out in the Department of Obstetrics and Gynaecology of MIMER Medical College, Talegaon Dabhade, Pune.

Study Design- It is an observational descriptive study.

MATERIALS AND METHODS

1. The data is collected from the hospital records to know total number of confinements during period of one year and ten months.
2. The total number of confinements, caesarean sections and their individual indications were noted.
3. Proportion of each indication was found out.

4. Other details like parity and gestational age, previous obstetric history and anaesthesia given were also studied.

Data Analysis and Statistical Tests- Rates and ratios are calculated from the observations.

RESULTS

Total 2240 delivered patient's records were studied retrospectively. Out of these, 500 had undergone caesarean section. The caesarean section rate was 22.3%; 82.8% were done for emergency indications, 41.2% were primis, 33.2% had previous caesarean and 66.8% underwent a primary caesarean. Most common indication was cephalo-pelvic disproportion (34.8%) followed by foetal distress (16.8%) and meconium stained liquor (11.6%). Only 5.4% have undergone tubal ligation along with caesarean. In 99.6% cases, spinal anaesthesia was given.

CONCLUSION

In this study, the rate of caesarean section is 22.3%. Here 41.2% patients were primiparous, 33.2% had previous caesarean and 66.8% underwent a primary caesarean. Commonest indications were cephalo-pelvic disproportion (34.8%), foetal distress (16.8%) and meconium stained liquor (11.6%). Most of them (91.6%) were full-term cases. Only 5.4% cases have undergone tubal ligation along with the caesarean. For elective as well as emergency sections, spinal anaesthesia was given (99.6%).

KEYWORDS

Caesarean Section Rate, Caesarean Section Indications.

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BACKGROUND

Caesarean section is the removal of the foetus through an incision on the abdominal wall and the intact uterus. It is one of the most commonly performed surgical procedure globally. This surgical procedure has a very long and important history. There are many indications for caesarean section. Though the rate of caesarean section varies from place to place, nationally and internationally, there has been significant gradual increase in its rate over last few decades.

Globally, there has been significant gradual decline in maternal morbidity and mortality as well as in neonatal morbidity and mortality over last few decades. There are many factors, which have contributed in this positive health development in our developing country. Amongst all these factors, caesarean section has played a great role.

We cannot only criticise the increase in its rate, but should also appreciate the significant improvement in maternal and neonatal outcome. There are many risks involved in caesarean section like postpartum haemorrhage and sepsis. At present with significant advancement in drugs used for controlling post-partum haemorrhage, easy availability of blood and blood products and plenty of antibiotics available at very less cost has really helped to reduce many of these complications. In current era of rapid scientific progress, we decided to know and analyse the different aspects about caesarean section in our Institution.

This study is carried out in the Department of Obstetrics and Gynaecology of a Medical College in rural India.

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Aims and Objective

1. To know caesarean section rate in our Institution.
2. Analyse different indications of caesarean section in our Institute.
3. To find out proportion of different indications of caesarean section.
4. Analyse other factors like parity, gestational age, previous obstetric history and type of anaesthesia given.

Study Design

It is an observational descriptive study.

MATERIALS AND METHODS

1. The data is collected from the hospital records of sequential 500 caesarean sections. Also the total number of confinements during period of one year and ten months were noted.
2. The total number of caesarean sections and their individual indications were noted.
3. Proportion of each indication was found out.
4. Other details like parity and gestational age, previous obstetric history, emergency or elective and anaesthesia given were also studied.

RESULTS

Total 2240 delivered patient's records were studied retrospectively. Many observations like parity, gestational age, mode of previous delivery, indication of caesarean section whether emergency or elective, if tubal ligation was done or not and type of anaesthesia given were recorded.

Type of Delivery	Number	Percentage
Vaginal Delivery	1740	77.7%
Caesarean Section	0500	22.3%
Total	2240	100%

Table 1. Mode of Delivery

In this study, the rate of caesarean section was 22.3%.

Analysis of 500 Cases of Caesarean Section

Parity	Number	Percentage
Primi	206	41.2%
Multi	294	58.8%
Total	500	100%

Table 2. Parity of Caesarean Section Patients

Those who have undergone caesarean section, 58.8% were multiparous. Out of 294 multiparous patients, 166 had undergone previous caesarean section and 128 had previous vaginal delivery.

Gestational Age	Number	Percentage
28 - 36 weeks	041	08.2%
37 - 42 weeks	458	91.6%
> 42 weeks	001	00.2%
Total	500	100%

Table 3. Gestational Age in Caesarean Section Patients

Out of 500 caesarean section cases, 458 were full-term patients.

Previous CS	Number	Percentage
Yes	166	33.2%
No	334	66.8%
Total	500	100%

Table 4. Mode of Previous Delivery

Out of 500 caesarean section cases, 166 had previous caesarean delivery.

Type of CS	Number	Percentage
Emergency	414	82.8%
Elective	086	17.2%
Total	500	100%

Table 5. Emergency or Elective Caesarean Section

Out of 500 caesarean cases, 414 were done for emergency indications.

TL Done with CS	Number	Percentage
Yes	027	05.4%
No	473	94.6%
Total	500	100%

Table 6. Tubal Ligation with Caesarean Section

Only 5.4% cases have undergone tubal ligation along with the caesarean section.

Type of Anaesthesia	Number	Percentage
Spinal	498	99.6%
General	002	00.4%
Total	500	100%

Table 7. Type of Anaesthesia given for Caesarean Section

For elective as well as emergency caesarean sections, spinal anaesthesia was given.

Indication of CS	Number	Percentage
Cephalo-Pelvic Disproportion	174	34.8%
Foetal Distress	084	16.8%
Meconium Stained Liquor	058	11.6%
PROM	034	06.8%
Breech Presentation	032	06.4%
Non-progress of Labour	030	06.0%
Failed Induction	021	04.2%
Previous LSCS and Scar Tenderness	015	03.0%
Previous 2 LSCS	014	02.8%
Placenta Praevia	007	01.4%
Twins with First Non-Vertex	006	01.2%
Deep Transverse Arrest	005	01.0%
Malpresentations	005	01.0%
Occipito-Posterior Position	004	00.8%
Abruptio Placentae	004	00.8%
Contracted Pelvis	003	00.6%
Cord Prolapse	002	00.4%
Cervical Fibroid	001	00.2%
Previous CS and Didelphys Uterus	001	00.2%
Total	500	100%

Table 8. Different Indications for Caesarean Section

DISCUSSION

Total 2240 delivered patient's records were studied retrospectively. Out of these, 500 had undergone caesarean section. In this study, the rate of caesarean section was 22.3%. Prashant Bade et al found caesarean section rate of 23.97% in similar type of setting.¹ Hooja Nupur et al had rate of caesarean section of 26.6% in intrauterine foetal demise cases.² R. Subhashini et al observed that the rate of caesarean section has increased from 16.14% in 2004 to 25.66% in 2014.³

Out of 500 caesarean cases, 414 (82.8%) were done for emergency indications. In the study by R. Subhashini et al, 65.31% caesarean sections were done for emergency indications and 34.69% were done electively.³ Saima Rafique et al also found that 31.5% were elective and 68.5% emergency caesarean sections in their study.⁴

In our study, out of 500 patients those who have undergone caesarean section 58.8% were multiparous and 41.2% were primiparous. Out of 500 caesarean section cases, 166 (33.2%) had previous caesarean delivery, 128 had previous vaginal delivery and 334 (66.8%) underwent a primary caesarean section. Patel RV et al found that previous caesarean section contributed in 36.3% as the indication for repeat caesarean.⁵ Wanjari SA had caesarean rate of 37.8% and the most common indication for caesarean section in that study was repeat caesarean with one prior caesarean.⁶ Katke RD et al in a LSCS audit in a tertiary care centre in Mumbai got incidence of LSCS of 25.7% and previous LSCS was the leading indication in 35.2% cases.⁷ Yadav S et al stated that 32.9% were elective and 67.1% had emergency LSCS.⁸ Mussart N et al found out at a teaching hospital at Faisalabad that 58% had emergency and 42% had elective caesarean section and 34% had previous caesarean section.⁹

Amongst the different indications of caesarean section, common once were cephalo-pelvic disproportion and foetal distress. Out of 500 caesarean sections, 174 (34.8%) were diagnosed with cephalo-pelvic disproportion. Patel RV et al found CPD in 12.1% cases as the indication for repeat caesarean.⁵ Wanjari SA had caesarean rate of 37.8% and cephalo-pelvic disproportion was indication in 7.69% cases.⁶ Katke RD et al in an LSCS audit found that only 4.64% cases were diagnosed with cephalo-pelvic disproportion.⁷ Mussart N et al found out that merely 2% cases of caesarean section had cephalo-pelvic disproportion.⁹ This shows that there is a lot of variation in percentage of cephalo-pelvic disproportion contributing to caesarean sections in different studies.

Foetal distress and meconium stained liquor contributed 84 (16.8%) and 58 (11.6%) respectively in current study. Saima Rafique et al noted that foetal distress contributed in 17.5% as an indication for caesarean sections in their study.⁴ Wanjari SA concluded that foetal distress/meconium stained liquor was an indication only in 9.36% cases.⁶ Katke RD et al found that 14.97% cases had foetal distress leading to caesarean section in their study.⁷ Yadav S et al quoted foetal distress in 25.1% cases as an indication for LSCS.⁸ Mussart N et al found out that only in 9% cases foetal distress was an indication.⁹

Prolonged rupture of membranes was seen in 34 (6.8%) cases in our study. Wanjari SA noted that in 7.31% of cases, PROM was the indication.⁶ Katke RD et al found that only 1.89% cases had PROM who underwent caesarean.⁷ Breech presentation was the indication for caesarean section in 32

(6.4%) cases in our study. Wanjari SA stated that 4.21% cases had breech presentation who underwent caesarean.⁶ Katke RD et al found that 6.11% cases had various malpresentations leading to caesarean section.⁷ Mussart N et al found that in 6% cases malpresentation was an indication for caesarean section.⁹

Non-progress of labour was an indication in 30 (6.0%) cases in current study. Saima Rafique et al found that in 14.3% cases, failure to progress led to caesarean section.⁴ Yadav S et al noted non-progress of labour in 6.1% of cases undergoing LSCS.⁸ Mussart N et al found that in 5% cases failure of progress of labour was the indication.⁹ In this study, 14 (2.8%) cases had previous 2 caesarean sections leading to repeat caesarean in our study. Wanjari SA had 3.48% cases with previous two caesarean sections leading to repeat caesarean.⁶ Katke RD et al had 10.54% cases with previous two caesareans leading to a repeat caesarean.⁷ Yadav S et al noted that 3.6% cases were with previous two sections undergoing LSCS.⁸

In our study, failed induction was an indication for caesarean section in 21 (4.25%) cases. Kaur S et al concluded in their study that post-datism was the commonest indication of induction of labour and caesarean section rate was 45.46% in induced cases. As caesarean section is more in induced labour, there is a need for judicious use of induction of labour.¹⁰

Out of 500 caesarean section cases, 458 (91.6%) were full term patients and only 41 (8.2%) were preterm. Only 5.4% cases have undergone tubal ligation along with the caesarean section. For elective as well as emergency caesarean sections, spinal anaesthesia was given.

CONCLUSION

In this study, the caesarean section rate is 22.3%. Indications of 500 caesarean sections were noted. Most of them (82.8%) were done for emergency indications. Less than half (41.2%) patients were primiparous. Significant number (33.2%) had previous caesarean delivery and 66.8% underwent a primary caesarean. Most common indication was cephalo-pelvic disproportion (34.8%). Foetal distress and meconium stained liquor contributed 84 (16.8%) and 58 (11.6%) respectively. Prolonged rupture of membranes was seen in 34 (6.8%) cases. Breech presentation was the indication in 32 (6.4%) cases. Non-progress was in 30 (6.0%) cases; 14 (2.8%) cases had previous 2 caesarean sections. Failed induction in 21 (4.25%) cases. Out of 500 caesarean section cases, 458 (91.6%) were full-term patients and only 41 (8.2%) were preterm. Only 5.4% cases have undergone tubal ligation along with the caesarean section. For elective as well as emergency caesarean sections, spinal anaesthesia was given (99.6%).

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