Original Research Paper

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RETROSPECTIVE ANALYSIS OF PRIMARY CAESAREAN SECTION IN A TERTIARY CARE HOSPITAL, TIRUNELVELI GOVERNMENT MEDICAL COLLEGE HOSPITAL, TIRUNELVELI, TAMIL NADU, SOUTH INDIA

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ABSTRACT **Background:** One of the commonest surgery performed worldwide is caesarean section. In recent times, caesarean section has increased. In this view we have started our study to analyse the primary caesarean section rate in a tertiary care centre, TvMCH, Tirunelveli, Tamil nadu.

Methods: This is a retrospective study of all the caesarean deliveries performed between September 2018 to September 2020 in the Department of Obstetrics and Gynaecology in Tirunelveli government medical college hospital, Tirunelveli, Tamil nadu. The most common indications for primary caesarean section include foetal distress, cephalopelvic disproportion, failed induction, malpresentation and MSAF.

Results: During the study period, 7257 patients had undergone caesarean section. Among that, 3653 patients had primary caesarean section which contributes to almost 50.3% of total caesarean sections. Maximum number of patients were between 21 to 30 years and 89.5% were primigravida. 10.3% were preterm. Fetal distress was the commonest indication (25.4%) followed by cephalopelvic disproportion (23.4%).

Conclusions: The rate of caesarean section is increasing with time. As primary caesarean section usually determines the lady's future obstetric course, it is of prime importance to give effort for safe reduction of primary caesarean section. Individualization of the indication and careful evaluation, following standardized guidelines and practice of evidenced based obstetrics followed by audits in the institution, can help us to limit the caesarean rates.

KEYWORDS : Primary caesarean section, indications, parity, gestational age.

INTRODUCTION:

Primary caesarean deliveries are an important target for reduction in numbers, because they lead to an increased risk for a repeat caesarean delivery. "Caesarean section rates should no longer be thought of as being too high or too low, but rather whether they are appropriate or not, after taking into consideration all the relevant information" - Dr Michael Robson. Caesarean is the most common surgery performed worldwide. The World Health Organization (WHO) has identified an ideal caesarean section (CS) rate for a nation of around 10-15%[1]. The common indications for caesarean section in primigravida are foetal distress, cephalopelvic disproportion, failed induction. At the same time, the common indication for primary caesarean section in multiparous is malpresentation. It has been suggested that factors, such as social, cultural, unequal accessibility to health services and clinical practice patterns might have been major contributors to the wide variation in caesarean section rates across different countries[2,3]. The increasing trend of Caesarean section rates may indicate a trend towards a costlier medical delivery systems and lowered threshold of abnormality detection among the health care providers[4]. Studies have shown that there is no evidence of benefit for the health of mothers and babies in populations with Caesarean section rate above 15%[5,6]. In fact, caesarean deliveries are associated with increased risk of maternal and perinatal morbidity as compared to vaginal deliveries even in low risk cases[7]. The present study evaluates the proportion of primary caesarean sections occurring in a tertiary hospital and their indications.

METHODS:

This is a retrospective study of all the primary caesarean deliveries that occurred in the period between September 2018 to September 2020 in the Department of Obstetrics and Gynaecology, Tirunelveli government medical college hospital, Tirunelveli, Tamil Nadu, India.

Study setting:

The study was conducted at Government Tirunelveli medical college hospital, Tirunelveli, Tamil Nadu, India. It is a tertiary care centre that provides tertiary health care services. It also acts as a major referral for high-risk obstetric cases from health institutions located within and outside Tirunelveli District. This is a tertiary care hospital receiving referred patients from nearby rural sub divisional hospitals, primary health centres, Headquarters Government hospital and also from private nursing homes.

STUDY DESIGN:

This is a hospital based Retrospective study carried out over a period of 2 years (August 2018 to August 2020). Data were analysed from the hospital records. Maternal data collected included age, parity, type of labour, indications of caesarean section. The indications of primary caesarean section include fetal distress, CPD, failed induction, malpresentation, MSAF and others including unfavourable cervix, placenta previa, abruptio placenta, multiple pregnancy,

RESULTS:

During the study period (August 2018 to August 2020), 7257 women underwent caesarean section. Out of 7257, 3653 women underwent primary caesarean section which contributes to 50.3% out of total caesarean section.

Table 1: Proportion of primary caesarean section

Incidence	No of cases	Percentage
Total C sections	7257	100
Primary C sections	3653	50.3

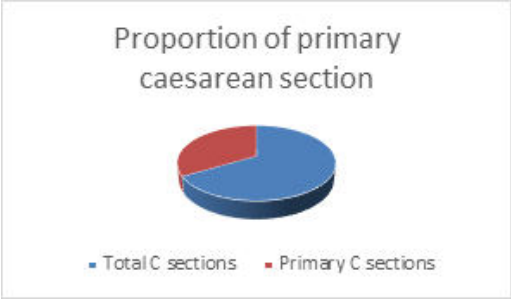


Table 1 shows that during the study period 7257 caesarean sections were conducted in our hospital, Out of 7257 caesarean sections, 3653 were primary caesarean sections which contributes to 50.3 % of the total caesarean sections.

Table 2: Age distribution of cases

Age	No of patients	Percentage
<20	685	18.75
21 - 30	2572	70.4
31 - 40	396	10.85
Total	3653	100

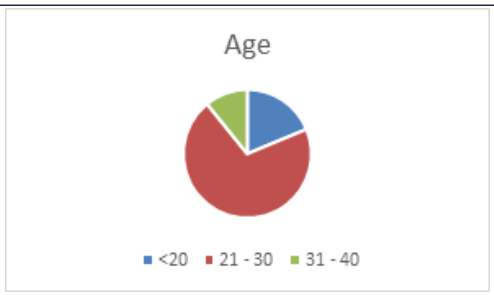


Table 2 shows the age distribution of the cases during the study period. Out of 3653 cases, 2572 cases belong to age group between 21 to 30 years which contributes to 70.4% of the total cases, 21 to 30 years age group is the major contribution. 685 cases were less than 20 years which contributes to 18.75% of the total cases. 396 cases belong to the age group between 31 to 40 years which contributes to 10.85% of the total cases. 31 to 40 years age group is the least contribution.

Table 3: Parity distribution of cases

Parity	No of patients	Percentage
Primi	3271	89.5
Multi	382	10.5
Total	3653	100

Table 3 shows the parity distribution of cases. Out of 3653 cases, 3271 cases were primi gravida which contributes to 89.5%, 382 cases were multi gravida which contributes to only 10.5% of the total cases.

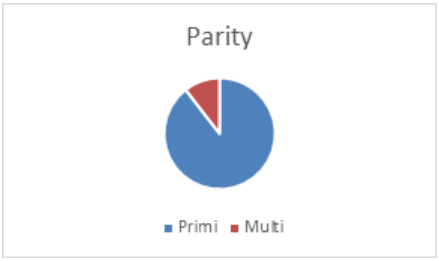


Table 4: Type of labour

Type	No of patients	Percentage
Induced	377	10.3
Spontaneous	3276	89.7
Total	3653	100

Table 4 shows the type of labour. Out of 3653 cases, 3276 cases were went into spontaneous labour which contributes to 89.7% and 377 cases were induced which contributes to 10.3% of the total cases.

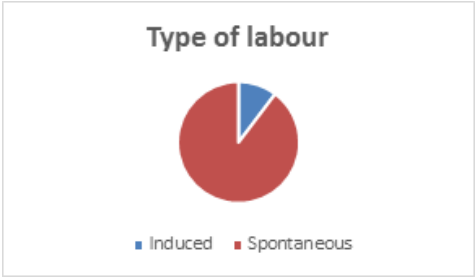
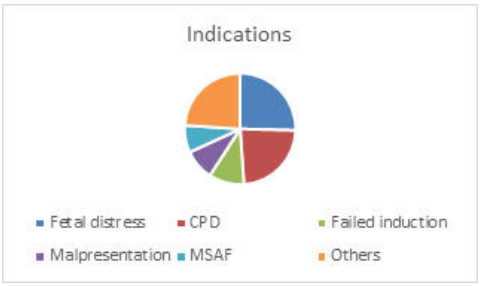


Table 5: Indications of primary caesarean section

Indications	No of Patients	Percentage
Fetal distress	931	25.4
CPD	855	23.4
Failed induction	377	10.3
Malpresentation	326	8.9
MSAF	290	7.9
Others	874	23.9
Total	3653	100

Table 5 shows the indications of primary caesarean sections. Out of 3653 cases, 931 cases were taken up for caesarean section due to fetal distress which contributes to about 25.4%. It is followed by CPD which contributes to 23.4% and failed induction which contributes to 10.3%. Malpresentation which includes breech, transverse lie, brow presentation, face presentation contributes to 8.9% whereas MSAF contributes to 7.9%. Other indications include multiple pregnancy, placenta previa, abruptio placenta, eclampsia with unfavourable cervix, IUGR with doppler changes,etc.



DISCUSSION:

Although the caesarean rate varies from region to region, worldwide there has been an increasing trend in caesarean section. The reasons for this increasing trend of caesarean sections is multifaceted. Detection of fetal distress with the help of CTG monitoring plays an important role for this increasing trend. Liberal use of caesarean sections in high risk cases like multiple pregnancy, malpresentation, etc along with avoidance of difficult manipulative or instrumental vaginal deliveries may be some other reasons. Our institution which is a tertiary care centre with large numberof complicated pregnancies as well as patients referred from elsewhere in critical stage which makes it difficult to keep the CS rates low. In our study, almost 50.3% of total caesarean cases were primary caesarean sections. Out of 3653 cases, 89.5% of cases were primi gravida.

Demographic data analysis of our study shows majority of cases belong to the age group between 21 to 30 years (70.4%) which is similar to the findings of Jawa A [8]. The location of the institution and the type of health care facility available in nearby areas play a vital role in this matter.

In our present study, Fetal distress (25.4%) followed by CPD (23.4%) and failed induction (10.3%) were the main indications for primary caesarean sections. Studies by Barber EL et al. and Liu S et al. also showed similar results [9, 10]. The most appropriate method to find out fetal distress is to estimate the pH of fetal scalp blood sample but it is not done in our set up. Judicious use of oxytocics and partogram will reduce the incidence of failure to progression.

CONCLUSION:

With passing time, the rate of caesarean section is increasing. As primary caesarean section usually determines the future obstetric course of a lady, it is of prime importance to give effort for safe reduction of caesarean. Individualization of the indication and careful evaluation, following standardized guidelines and practice of evidenced-based obstetrics followed by audits in the institution, can help us limit the caesarean rates.

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