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Original Research Article

A study on obstetric profile of mothers undergoing primary caesarean section and their neonatal outcome in a tertiary care centre, South Kerala

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Abstract

Objectives: 1.) To study the obstetric profile of mothers undergoing primary caesarean section in a tertiary care centre. 2) To study the associated maternal diseases in mothers undergoing primary caesarean section. 3) To study the outcome of the neonates delivered by primary caesarean section

Materials and Methods: Cross sectional study was done on 150 women who underwent caesarean section for the first time during the period July2012 to July2013.

Inclusion criteria: Women who underwent caesarean section for the first time either primi gravida or multi gravida are included.

Exclusion criteria: Women who underwent previous caesarean sections are excluded.

Study tool: Data collection method: All necessary details were personally collected from the records after obtaining permission from MRD incharge and maintaining confidentiality of the data

Results: Compared to multipara, the nullipara has undergone more number of primary caesarean section. Induction patients have undergone more number of primary caesarean section when compared to spontaneous onset of labour. More number of mothers with GDM and PIH has undergone primary caesarean section when compared to other maternal diseases. The rate of emergency primary caesarean section is 88.7% which is very high when compared to elective primary caesarean section which is 11.3%. The leading indication for primary caesarean section is fetal distress followed by failure to progress. Only 27% of neonates needed NICU admission in mothers who underwent primary caesarean section.

Keywords: Caesarean section, Neonatal, Obstetric profile.

1. Introduction

Caesarean section is one of the commonly performed surgical procedures in obstetrics and is certainly one of the oldest operations in surgery. One of the most dramatic features of modern obstetrics is the increase in the caesarean section rate.[1] In recent years, the caesarean section rate is increased in different parts of the world, both in developed and developing countries. There is an increase in trend in both primary and repeat caesarean section rates. The reasons for the increase are multifaceted. Fetal distress, especially its detection by continuous electronic fetal monitoring, more liberal use of caesarean section for breech presentation [8] and improved safety of caesarean section are commonly cited causes. The rate of caesarean section is steadily increasing from 4.5% in 1965 to 21% in 1998.The average caesarean section rate was approximately 26% of all births in 2004.In Australia, it was 31% in 2007 whereas in UK, it was 24% in 2008. China had the highest incidence of

1.1 Background

46% followed by Vietnam by 36% and Thailand by 34% in 2008.According to WHO, which reviewed 110,000 births from nine countries in Asia during 2007 – 2008, 27% births were delivered by caesarean section. India had 18% incidence. The WHO's recommendation is that primary caesarean sections to be kept at less than 15%. In Kerala, this is 30%.

1.2 Review of literature

A study by Emma L Barber *et al* concluded that primary caesarean births accounted for 50% of the increase in caesarean rate [1].

A study conducted by Thompson H, on women who underwent caesarean section in UK in 2002, concluded that 7.3% of all primary caesarean sections were performed at maternal request [2]. A study conducted by Festin *et al* on women who underwent primary caesarean section in South East Asian countries concluded that the causes for caesarean sections were 6.3% due to cephalopelvic disproportion, 4.7%

due to abnormal presentations and 3.3% due to fetal distress [3]. A study conducted by Geissbuehler and Eberhard on women who had caesarean section in Switzerland, 2002 concluded that fear of pain was expressed by 39.8% of women.[4]

A study conducted by McCourt *et al* on 17 articles of elective caesarean sections in 2000-2005, concluded that women's preference for caesarean section varied from 0.3 to 1.4% [5].

A study on primary caesarean section conducted by Saha L and Chowdhury SB concluded that the main indications were fetal distress (35%), pre-eclampsia (14%) and cervical dystocia (12%). The rate of emergency caesarean section rate was 70% while elective caesarean section was 30%. 88% of the babies were born with good.

APGAR score (Appearance, Pulse, Grimace, Activity, and Respiration). Perinatal mortality was found to be 4%. Most of the patients (69%) were discharged from hospital within 8 days of operation.[6]

A study conducted by American College of Obstetricians and Gynaecologists concluded that Cesarean delivery rates in the United States were at the highest levels ever, with more than 1.3 million cesarean deliveries (32.9% of all births) performed in 2009. The incidence of cesarean delivery on maternal request and its contribution to the overall increase in the caesarean delivery rate are not well known, but it is estimated that 2.5% of all births in the United States are caesarean delivery on maternal request.[9]

A study conducted by CMQCC concluded that the medical indications that account for the majority of primary cesarean deliveries are labour complications that is, either dystocia or failure to progress in labour. These indications not only account for most of the rise in rates over the past decade, but are also responsible for 80 to 90 percent of the variation in first-birth cesarean delivery rates among hospitals and providers.

A study conducted by Boyle A, Reddy UM and Landy HJ, etc. Concluded that the primary cesarean delivery rate was 30.8% for primiparous women and 11.5% for multiparous women. The most common indications for primary cesarean delivery were failure to progress (35.4%), non reassuring fetal heart rate tracing (27.3%), and fetal malpresentation (18.5%), although frequencies for each indication varied by parity. Of all primary caesarean deliveries, 45.6% were performed on primiparous women at term with a singleton fetus in cephalic presentation.[7]

2. Materials and methods

2.1 Study design

Cross sectional study.

2.2 Study subject

Women who underwent caesarean section for the first time.

2.3 Study area

DR SMCSI Medical College.

2.4 Study period

July 2012 to July 2013.

2.5 Sample size

150, all primary caesarean cases in the hospital during the above said duration.

2.6 Inclusion criteria

Women who underwent caesarean section for the first time either primi gravida or multi gravida are included.

2.7 Exclusion criteria

Women who underwent previous caesarean sections are excluded.

2.8 Study tool

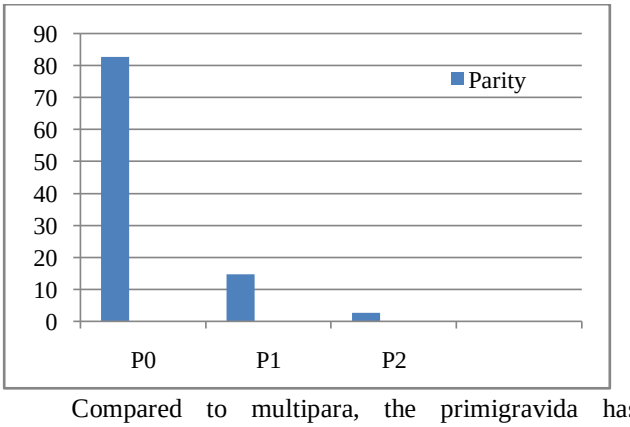
Data collection method

2.9 Data collection method

All necessary details were personally collected from the records after obtaining permission from MRD incharge and maintaining confidentiality of the data

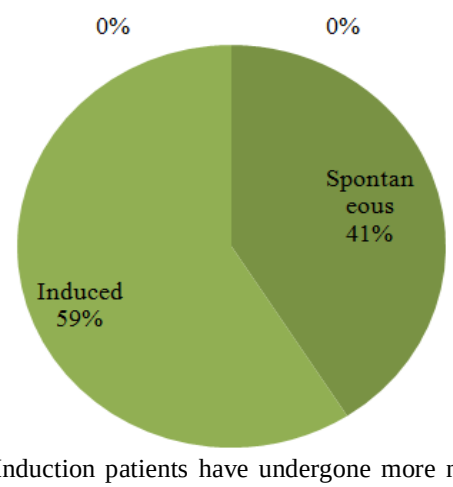
3. Results

Figure 1: Primary caesarean section based on parity



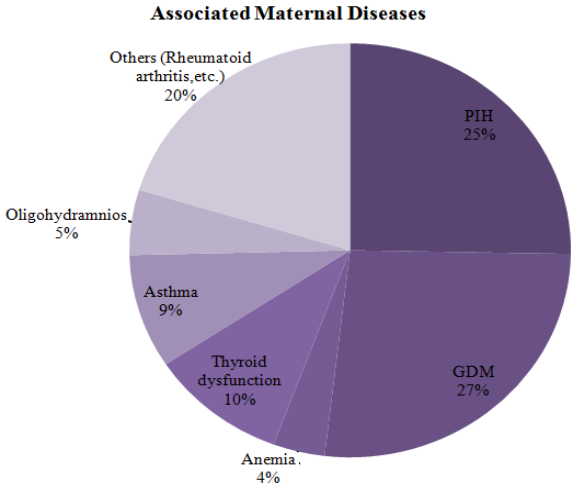
Compared to multipara, the primigravida has undergone more number of primary caesarean section about 83%.

Figure 2: Primary caesarean section based on onset of labour



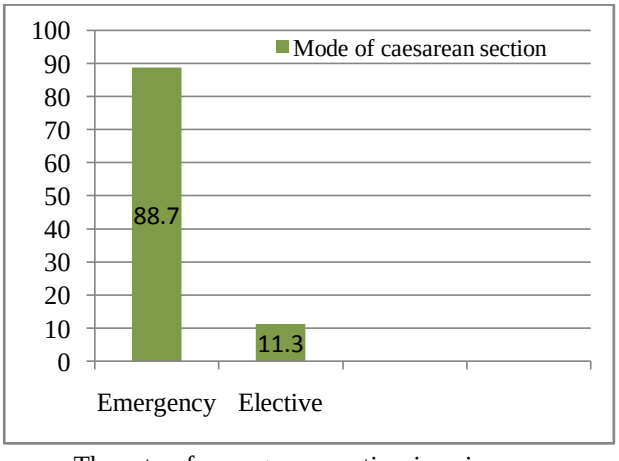
Induction patients have undergone more number of primary caesarean section 59% when compared to spontaneous onset of labour41%

Figure 3: Primary caesarean section in patients with associated maternal diseases



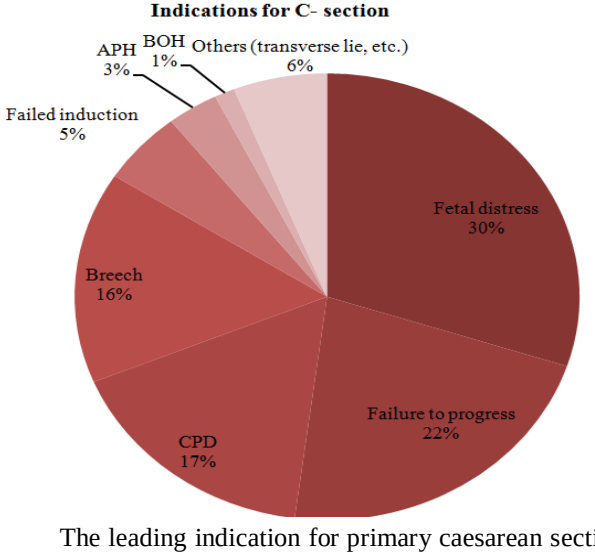
More number of mothers with GDM 27%and PIH 25% has undergone primary caesarean section when compared to other maternal diseases.

Figure 4: Mode of primary caesarean section



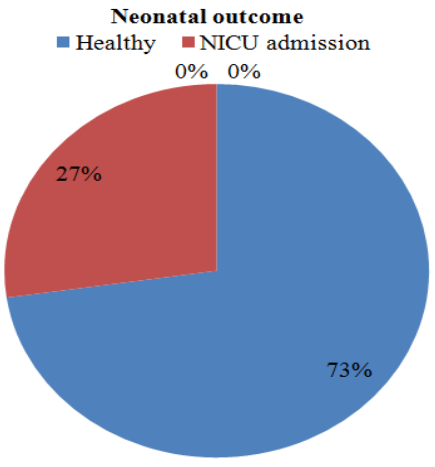
The rate of emergency section in primary caesarean section is 88.7% which is very high when compared to elective section which is 11.3%.

Figure 5: Indications for primary caesarean sections



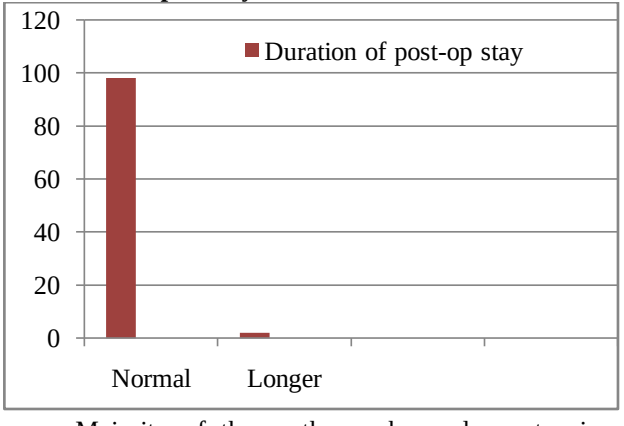
The leading indication for primary caesarean section is fetal distress 30%followed by failure to progress 22%.

Figure 6: Neonatal outcome of primary caesarean section



Only 27% of neonates needed NICU admission in mothers who underwent primary caesarean section. Remaining 73% of neonates were born with good APGAR score.

Figure 7: Duration of Post-operative stay following primary caesarean section



Majority of the mothers who underwent primary caesarean section i.e. 98% had a normal post op stay of 6 days

4. Discussion

Today, there is concern over the rising caesarean delivery rates, across the world. The rates of both primary and repeat caesarean delivery have been on the rise [1]. An uncontrolled rise in the caesarean section rates has been based on the improvement of skill and safety of the operation, broadened and not well defined indications. Hence there is an urgent need to review the indications of primary caesarean sections.

The study conducted by Festin *et al* [3] on women who underwent primary caesarean section in South East Asian countries concluded that the causes for caesarean sections were 6.3% due to cephalopelvic disproportion, 4.7% due to abnormal presentations and 3.3% due to fetal distress.

A similar study conducted on primary caesarean section by Saha L and Chowdhury SB concluded that the main indications were fetal distress (35%), pre-eclampsia (14%) and cervical dystocia (12%). The rate of emergency

caesarean section was 70% while elective caesarean section was 30%. 88% of the babies were born with good APGAR score (Appearance, Pulse, Grimace, Activity, and Respiration). Perinatal mortality was found to be 4%.Most of the patients (69%) were discharged from hospital within 8 days of operation.[6]

The present study concluded that the main indications for primary caesarean sections were30% due to fetal distress, 22% due to failure to progress, 16.7% due to cephalopelvic disproportion, 15.3% due to breech presentation. More number of primary caesarean sections was done on induced mothers when compared to caesarean sections done on mothers who had spontaneous onset of labour. 72.7% of babies were healthy and 27.3% needed NICU admission. Most of the patients (98%) were discharged from the hospital within 6 days of operation.

5. Conclusion

The present study was an effort to find out the leading indication for primary caesarean section and the obstetric profile. It shows that the leading indication for primary caesarean section is fetal distress (30%) followed by failure to progress (22%). 27% of neonates needed NICU admission in mothers who underwent primary caesarean section. Remaining 73% of neonates were born with good APGAR score. 82.7% of primary caesarean section is in primigravida women and 17.3% is in multiparous women. Induction patients have undergone more number of primary caesarean section when compared to spontaneous onset of labour. More number of mothers with GDM and PIH has undergone primary caesarean section when compared to other maternal diseases. The rate of emergency primary caesarean section is 88.7% which is very high when compared to elective primary section which is 11.3%. Majority of the mothers who underwent primary caesarean section i.e. 98% had a normal post operative stay of 6 days.

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