

Original Research Article

To evaluate the fetomaternal indications for primary cesarean section in a tertiary care hospital

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Received: 14-11-2020 / Revised: 31-12-2020 / Accepted: 08-01-2021

Abstract

Objective: To evaluate the fetomaternal indications of the primary cesarean section. **Materials and methods:** The present descriptive cross-sectional study was conducted in the Dept. of Obstetrics and Gynecology, Narayan Medical College and Hospital, Sasaram, Bihar, India. The study includes 160 subjects planned for primary cesarean section for various reasons. **Results:** Incidence of primary caesarean section calculated was 24.8%. Majority of the subjects belonged to 20-25 year age (51.3%) followed by 26-30 year age (26.9%). Mean age was 25.12±3.31. 81.3% were gravida 1 and 24.4% were gravida 2. Mean gestational age was 37.09±2.14 weeks. Fetal indication of caesarean section in our study was Non-reassuring or Abnormal CTG (28.1%), Malpresentation (11.3%), Abnormal umbilical artery colour Doppler (8.1%), Macrosomia (3.3%) and Congenital anomaly (0.6%). Under maternal indications CDMR (9.1%), Abnormal placentation (5.8%), Under maternal indications CDMR (9.4%), Abnormal placentation (5.6%), Maternal cardiac disease (1.9%), Genital tract obstructive mass (1.3%), Pelvic deformity (1.3%), Failed operative vaginal delivery (1.3%) and 0.6% had previous vesicovaginal fistula (VVF) repair. **Conclusion:** Fear of litigation and violence against doctors has increased obstetricians stress. Appropriate guidelines should be followed to reduce primary cesarean and subsequently repeat cesarean section rate.

Keywords: audit, primary cesarean section, maternal indications, fetal indications.

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Introduction

It is a well-established fact that cesarean section (CS) rates have risen in both developed and developing world over the past three decades[1,2]. Developed countries have seen a drastic rise in Cesarean sections from 1996 to 2011[3].

Vaginal delivery is defined as birth through natural birth canal with natural power of uterine contractions. Cesarean section also known as C-section, is a form of childbirth in which a surgical incision is made through mother's abdomen (laparotomy) and uterus (hysterotomy) to deliver one or more babies. There are two general types of cesarean section related to number – primary and secondary. ⁴Primary cesarean section is when cesarean section is performed on a pregnant woman for the first time (whether she is primigravida or not). Primary cesarean section is the mother's first, even if she has given birth vaginally before. Secondary cesarean section includes one or more prior uterine incisions[4].

The global cesarean section rate is distributed very unevenly and results 15% of abdominal delivery. Latin America and Caribbean shows the highest rate (29.2%) and Africa shows the lowest (3.5%). In developed countries the proportion of cesarean birth is 21.1% whereas in least developed countries only 2% of deliveries are by cesarean section[5].

Rural-urban difference between cesarean section rates is quite conspicuous. Moreover, the demographic and socio-economic backgrounds of the persons living in the rural and urban places affect the CS rate to a great extent.⁵ In Andhra Pradesh, Kerala and Tamil

Nadu, even in rural areas, cesarean delivery rates are much higher than recommended standard of 15 percent[6].

It is well understood that optimum maternal and perinatal outcome depends on good obstetric practice rather than cesarean section. So to curtail the rising cesarean section rates, need of hour is analyzing and auditing cases which are being selected for cesarean mode of delivery. Hence the present study was conducted in our institution with the aim to evaluate the fetomaternal indications of the primary cesarean section.

Materials and Methods

The present descriptive cross-sectional study was conducted in the dept. of Obstetrics and Gynecology, Narayan Medical College and Hospital, Sasaram, Bihar, India from August 2017 to September 2018. The study includes 160 subjects planned for primary cesarean section for various reasons. Written informed consent and detailed history was taken from each subject included in the study.

Exclusion Criteria

- 1-Previous Cesarean Section.
- 2-Gestational age less than 28 weeks.
- 3-Prior history of hysterotomy and myomectomy.

Methodology

Patients were followed up in the ward till they are admitted and thereafter till 6 weeks for any complications. Neonatal status was followed up in the ward or Neonatal ICU and later on till 6 weeks of neonatal life.

Statistical analysis

The recorded data was compiled and entered in a spread sheet computer program (Microsoft Excel 2010) and then exported to data editor page of SPSS version 20 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics included computation of percentages, means and standard deviations were calculated. The confidence interval and p-value were set at 95% and ≤ 0.05 respectively.

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Table 1: Distribution of cases according to gravidity and gestational age

Variables	N(160)	%
Age		
20-25 yr	82	51.3
26-30 yr	43	26.9
31-35 yr	29	18.1
>35 yr	6	3.8
Mean±SD	25.12±3.31	
Gravida		
G-1	130	81.3
G-2	39	24.4
G-3	23	14.4
G >3	8	5.0
POG		
Mean ± SD	37.09±2.14	

In the current study, Majority of the subjects belonged to 20-25 year age (51.3%) followed by 26-30 year age (26.9%). Mean age was

25.12±3.31. 81.3% were gravida 1 and 24.4% were gravida 2. Mean gestational age was 37.09±2.14 weeks.

Table 2: Distribution of cases according to fetal and maternal indications of primary cesarean section

Indications	N(160)	%
Fetal		
Non-reassuring or Abnormal CTG	45	28.1
Malpresentation (MP)	18	11.3
Abnormal umbilical artery color doppler (AUCD)	13	8.1
Macrosomia (MS)	5	3.1
Congenital anomaly (CA)	1	0.6

Fetal indication of caesarean section in our study was Non-reassuring or Abnormal CTG (28.1%), Malpresentation (11.3%),

Abnormalumbilical artery colour Doppler (8.1%), Macrosomia (3.3%) and Congenital anomaly (0.6%).

Table 3: Distribution of cases according to maternal

Indications	N(160)	%
Maternal		
Caesarean delivery on maternal request (CDMR)	15	9.4
Abnormal placentation (AP)	9	5.6
Genital tract obstructive mass (GTOM)	2	1.3
Maternal cardiac disease (MCD)	3	1.9
Pelvic deformity (PD)	2	1.3
Failed operative vaginal delivery (FOVD)	2	1.3
Previous vesicovaginal fistula (VVF) repair	1	0.6

Under maternal indications CDMR (9.4%), Abnormal placentation (5.6%), Maternal cardiac disease (1.9%), Genital tract obstructive mass (1.3%), Pelvic deformity (1.3%), Failed operative vaginal delivery (1.3%) and 0.6% had previous vesicovaginal fistula (VVF) repair.

Discussion

In our institution, incidence of primary caesarean section calculated from August 2017 to September 2018 was 24.8%. High caesarean section in our institute can be explained by the fact that our institute is a referral centre and many of the high risk cases are referred here. However genuine need of obstetrical indications of performing caesarean section is considered.

In the current study, Majority of the subjects belonged to 20-25 year age (51.3%) followed by 26-30 year age (26.9%). Mean age was 25.12±3.31. 81.3% were gravida 1 and 24.4% were gravida 2. Mean gestational age was 37.09±2.14 weeks. AyanoMoges (2015)[7] in a study on prevalence and outcome of caesarean section reported that the age of the patients ranged between 16-45 years with a mean age of 28.12 years with SD ± 5.14. 84% of the patient's were between 20-35 years, 9.6% were younger than 20 years and 6.4% were older than 35 years. Batiha AM et al. (2017)[8] in their study on caesarean section, revealed gestational age <31 weeks among 326 subjects

(1.5%), 32-36 weeks among 1238 subjects (5.6%) and ≥37 weeks in 19140 subjects (87.3%).

In our study was Non-reassuring or Abnormal CTG was reported among (28.1%). Study conducted in Jimma Hospital, Ethiopia reported the same among 6% and 26.6% was revealed in a comparative study from TikurAnbessa Hospital, Ethiopia. Tahmina Begum[9] found fetal distress as the second leading cause of C-section (20.6%) in the study population and was accounted for about 16% C-section at tertiary level hospitals in Bangladesh.

The Mal presentation was found among 11.3% of the subjects in the present study. Out of these, maximum cases were of breech presentation. In a large multicenter US study, malpresentation was as an indication in 17% of pre labor caesareans compared with 7.5% of intrapartum caesareans[10].

In the present study 8.1% of the subjects were suffering from abnormal umbilical artery colour Doppler. Abnormal umbilical cord is threatening to fetal growth and life. In recent years, with the rapid development of ultrasonic imaging technology, it is possible to make prenatal diagnosis of the umbilical artery atresia by colour Doppler ultrasound, which provides help to the clinical intervention for obstetrician and better prognosis of neonatal complications[11].

In the current study, one of the common maternal indications was CDMR (9.4%). These results were in accordance with the study done by Batiha AM et al. (2017)[12] on caesarean section, they concluded that the proposed factors contributing to the increase in caesarean is patient desire.

In the current study indication of caesarean section was abnormal placentation among 5.6% of the subjects. Nevertheless placenta accreta is most commonly seen in the setting of placenta previa in women with multiple prior Cesareans[13].

In our study 1.3% caesarean sections was done due to severe pelvic deformity. Maternal pelvic deformity leading to anatomical malformation and making vaginal birth impossible has been reported earlier[14].

In our study 1.3% caesarean sections were done due to failed operative vaginal delivery. Various studies show the decreasing trends of operative vaginal delivery. In the United States rate was 9% in 2005, a 42% reduction over the previous decade[15]. The reason for this decline may include concern for fetal injury such as skull fracture and intracranial haemorrhage and maternal tissue trauma, a decrease in the training and experience of obstetricians in use of forceps and vacuum. This leads to an overall increase in Caesarean delivery rates[16].

Conclusion

Rising rate of primary cesarean section is a cause of concern as it is associated with future obstetric morbidities. In the present study the major fetal and maternal indications for primary cesarean were Non-reassuring or Abnormal CTG, malpresentation abnormal umbilical artery colour Doppler and CDMR, abnormal placentaion. Appropriate guidelines should be followed to reduce primary cesarean and subsequently repeat cesarean section rate. Fear of litigation and violence against doctors has increased obstetricians stress.

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Conflict of Interest: Nil

Source of support: Nil