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Original Research Article

A Study to Assess the Prevalence of Primary Caesarean Section and the Feto-Maternal Indications: An Observational Study

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Abstract

Aim: The aim of the present study to evaluate the incidence and feto-maternal indications for primary caesarean section. **Methods:** A descriptive cross-sectional study was conducted in the Department of Obstetrics and Gynecology, Nalanda Medical College and Hospital, Patna, Bihar India for 15 months. The study includes 200 subjects planned for primary cesarean section. 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. **Results:** Out total 700 institutional deliveries the incidence of primary cesarean section calculated was 28.57%. The mean age of the patients was 26.98±2.36. Majority of the subjects belonged to below 25 year age (58.5%) followed by 25-30 year age (22.5%), 30-35 years age (15%) and >35 years age (4%). Fetal indications comprises Non-reassuring or Abnormal CTG (54%) followed by Malpresentation (24%), Abnormal umbilical artery colour Doppler (15%), Macrosomia (7%). Under maternal indications for primary caesarean; maternal request CDMR (47.5%), Abnormal placentation (25%), Maternal cardiac disease (8.75%), Genital tract obstructive mass (8.75%), Pelvic deformity (5%), Failed operative vaginal delivery (5%). Under the category of other indications, the most common was Cephalo-pelvic disproportion (60%) followed by Arrest disorders (40%). **Conclusion:** Even though the cesarean is of the most commonly performed surgical procedures today; it is not without risks. Our study confirmed the cesarean section rate of 28.57% and it is above the 15% recommended by World Health Organization (WHO) for developing countries.

Keywords: Caesarean, Abnormal Placentation, Feto-maternal, Indications

Introduction

Caesarean delivery is defined as birth of viable fetus through incision in abdominal wall (laparotomy) and uterine wall (hysterotomy)[1]. Caesarean section is a lifesaving procedure that is firmly ensconced in obstetric practice. Today, it is one of the most commonly performed surgical procedures; but unfortunately, caesarean sections are associated with a great deal of maternal morbidity. Before the availability of wide spectrum antibiotics, blood transfusion facilities and good anesthetic techniques, caesarean section was used only to save the life of the mother and was met with the mortality of 50- 70%. With the immense advances in anesthetic services and improved surgical techniques, the morbidity and mortality of this procedure has come down considerably. In a previous study it was found that maternal mortality due to caesarean delivery was 2.2 per 1,000,000 in the United States[2]. Elective caesarean is a term used when the procedure is done at a pre-arranged time during pregnancy to ensure the best quality of obstetrics, anesthesia, neonatal resuscitation and nursing services. The procedure is termed as emergency caesarean section when it is performed due to unforeseen or acute obstetric emergencies[3]. It is seen that morbidity and mortality are associated more with emergency procedures than with elective procedures[4]. This alarming rise in the rate of cesarean sections has been a matter of concern to the profession and the public and the need to scrutinize existing practices has been voiced very often. The reason is mainly attributed to the improved safety of anaesthetic intervention, surgical technique, advanced technology, knowledge of intensive care medicine, availability of blood and fear of litigation amongst obstetrician due to remote complication of birth asphyxia. Caesarean section performed in second stage of labour constitutes one fourth of all caesareans done and is associated with increased complication such as obstetric haemorrhage, injury to surrounding organs, extension of uterine incision leading to broad ligament haematoma formation, need for stepwise devascularisation, caesarean hysterectomy, ICU admission, increased infection and prolonged hospitalisation[5]. Neonatal morbidity includes birth asphyxia, respiratory distress, NICU admission, fetal injury, neonatal septicaemia and neonatal seizure. With this background the study was conducted to study the incidence and feto-maternal indications forprimary caesarean section.

Materials and methods

A descriptive cross-sectional study was conducted in the Department of Obstetrics and Gynecology, Nalanda Medical college and hospital, Patna, Bihar India for 15 months, after taking the approval of the protocol review committee and institutional ethics committee. The study includes 200 subjects planned for primary cesarean section. Patients with Previous Cesarean Section, Gestational age less than 28 weeks and Prior history of hysterotomy and myomectomy were excluded from this study.

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 spreadsheet 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.

Results:

Table 1: Incidence of primary cesarean section

Delivery Type	N (700)	%
Vaginal	500	71.43
Primary cesarean	200	28.57

Out total 700 institutional deliveries the incidence of primary cesarean section calculated was 28.57%.

Table 2: Age distribution in the study population

Age in years	N (200)	%
Below 25	117	58.5
25-30	45	22.5
30-35	30	15
Above 35	8	4
Mean±SD	26.98±2.36	

In the present study, mean age of the patients was 26.98±2.36. Majority of the subjects belonged to below 25 year age (58.5%) followed by 25-30 year age (22.5%), 30-35 years age (15%) and >35 years age (4%).

Table 3: Distribution of fetal indications

Fetal Indications	N (100)	%
Non-reassuring or Abnormal CTG	54	54
Malpresentation (MP)	24	24
Abnormal umbilical artery color doppler (AUCD)	15	15
Macrosomia (MS)	7	7

Fetal indications comprise Non-reassuring or Abnormal CTG (54%) followed by Malpresentation (24%), Abnormal umbilical artery colour Doppler (15%), Macrosomia(7%).

Table 4: Distribution of maternal indications

Maternal Indications	N (80)	%
CDMR	38	47.5
Abnormal Placentation (AP)	20	25
Genital Tract Obstructive Mass (GTOM)	7	8.75
Maternal Cardiac Disease (MCD)	7	8.75
Pelvic Deformity (PD)	4	5
Failed Operative Vaginal Delivery (FOVD)	4	5

Under maternal indications for primary caesarean; maternal request CDMR (47.5%), Abnormal placentation (25%), Maternal cardiac disease (8.75%), Genital tract obstructive mass (8.75%), Pelvic deformity (5%), Failed operative vaginal delivery (5%).

Table 5: Distribution of other indications

Other Indications	N (20)	%
Cephalo-pelvic disproportion (CPD)	12	60
Arrest disorders (AD)	8	40

Under the category of other indications, the most common was Cephalo-pelvic disproportion (60%) followed by Arrest disorders (40%).

Discussion:

Primary caesarean section usually determines the future obstetric course of any woman and therefore should be avoided wherever possible. The rising caesarean section rate is a worldwide phenomenon although WHO states that there is no additional benefit associated with rising caesarean section rate of above 15%[6].

In the present study the incidence of primary caesarean section calculated was found 28.57%. High caesarean section in our institute can be explained by the fact that our institute is the biggest referral centre in the region and receives several referrals from centres not well equipped. When compared to other countries our rates were lower than those of the USA (31.1%) and Australia (30%), higher than that of Norway (13.9%) and almost same as that of the Asian countries (27.3%)[7-10].

In the present study, mean age of the patients was 26.98±2.36. Majority of the subjects belonged to below 25 year age (58.5%) followed by 25-30 year age (22.5%), 30-35 years age (15%) and >35 years age (4%).

Similarly, in a study conducted by Ayano Moges[11] 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. Sethi P et al.[12] in their study of primary caesarean section observed that 41% of cases were between 25-29 years of age.

In the present investigation fetal indications comprised of; Non- reassuring or Abnormal CTG (54%) followed by Malpresentation (24%), Abnormal umbilical artery colour Doppler (15%), Macrosomia (7%). Suspected fetal distress detected by cardiotocography (CTG) has been the most common indication for caesarean section for the past few decades. A Hospital based study from Jordan reported the CTG as the major fetal indication[13]. A study from Bangladesh found fetal distress as the second leading cause of Primary cesarean.

Under maternal indications for primary caesarean; maternal request CDMR (47.5%), Abnormal placentation (25%), Maternal cardiac disease (8.75%), Genital tract obstructive mass (8.75%), Pelvic deformity (5%), Failed operative vaginal delivery (5%).

Batieha AM et al on caesarean section, they concluded that CDMR was one of the main reasons for planned caesarean section accounting for 5.6% of all planned caesarean section. The reason provided by participating women for preference of caesarean section was simply to avoid pain of vaginal delivery. On the other hand, in a previous study of maternal morbidity in Jordan (2007-2008), mother desire accounted for less than 1% of caesarean deliveries[13].

Conclusion:

Our study confirmed the cesarean section rate of 28.57% and it is above the 15% recommended by World Health Organization (WHO) for developing countries. The most common fetal indication was Non-reassuring or Abnormal CTG and Malpresentation. Under maternal indication CDMR and Abnormal placentation was the major reasons for the primary caesarean.

Reference

1. Cunningham FG, Leveno KJ, BLOOM SL et al wenstorm KD, editors. Williams Obstetrics.22nd ed. Newyork: McGraw-Hill Companies; 2005. available on download.bioon.com.
2. Clark SL, Belfort MA, Dildy GA, Herbst MA, Meyers JA, Hankins GD. Maternal death in the 21st century: causes, prevention, and relationship to cesarean delivery.

Am J Obstet Gynecol. 2008 Jul;199(1):36.e1-5; discussion 91-2. e7-11. doi: 10.1016/j.ajog.2008.03.007. Epub 2008 May 2.

3. Elvedi-Gasparović V, Klepac-Pulanić T, Peter B. Maternal and fetal outcome in elective versus emergency caesarean section in a developing country. Coll Antropol. 2006 Mar;30(1):113-8.
4. National Vital Statistics Reports Volume 62, Number 1 June 28,2013 - nvsr62_01.pdf [Internet]. (Cited 2013 Dec-19)
5. Allen VM, O'Connell CM, Basket TF. Maternal morbidity associated with caesarean delivery without labour compared with spontaneous onset of labour at term. Int J Gynaecol Obstet. 2003; 102:477-82.
6. Belizan JM, Althabe F, Barros FC, et al. Rates and implications of caesarean sections in Latin America. BMJ: 1999; 319:1397-1402.
7. MacDorman MF, Menacker F, Declercq E. Cesarean birth in the United States: epidemiology, trends, and outcomes. Clin Perinatol. 2008; 35(2):293-307.
8. Stavrou EP, Ford JB, Shand AW, Morris JM, Roberts CL. Epidemiology and trends for Caesarean section births in New South Wales, Australia: a population-based study. BMC Pregnancy Childbirth. 2011; 11:8.
9. Kolås T, Hofoss D, Daltveit AK, Nilsen ST, Henriksen T, Häger R, et al. Indications for cesarean deliveries in Norway. Am J Obstet Gynecol. 2003; 188(4):864-70.
10. Lumbiganon P, Laopaiboon M, Gulmezoglu AM, Souza JP, Taneepanichskul S, Ruyan P, et al. Method of delivery and pregnancy outcomes in Asia: the WHO global survey on maternal and perinatal health. Lancet, 2007-08, 490-499.
11. Moges A, Ademe B, Akessa G. Prevalence and Outcome of caesarean section in Attat Hospital, Gurage Zone, SNNPR, Ethiopia. Arch Med. 2015; 7:4.
12. Sethi P, Vijaylaxmi S, Shailaja G, Bodhare T, Devi S. A study of primary cesarean section in multigravidae. Perspectives in medical research. 2014; 2(2):3-7.
13. Adnan A, Abu O, Suleiman H, Abu A. Frequency rate and indications of caesarean sections at Prince Zaid Bin Al Hussein Hospital - Jordan. J Med Sci Clin Res. 2012; 19:82- 6.