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Original Article

Evaluation of the Indications of Preterm Caesarean Section in a Tertiary Level Hospital

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ABSTRACT

The indication of caesarean section (CS) delivery in preterm pregnancy can be based on a medically indicated CS. A preterm CS can be protective, but can also be associated with high morbidity for both mother and foetus. Therefore, the optimal mode of delivery for preterm babies is controversial. This cross-sectional descriptive study was conducted in the Department of Obstetrics and Gynaecology, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, during the period from January 2018 to June 2018, to evaluate the indications of preterm CS. Thirty consecutive preterm CS were studied. Cases with multiple pregnancies, other medical disorders, and diabetes mellitus were excluded. The result showed that, majority (90%) of the cases were between 18-35 years of age, mean age was 26.67±4.98 years, and mean gestational age was 34.9±1.4 weeks. Indications of preterm caesarean delivery were severe preeclampsia (30%), previous caesarean section (23.3%), antepartum haemorrhage (placenta previa) (6.7%), malpresentation (6.7%), breech presentation with oligohydramnios (10%), preterm premature rupture of membranes (13.3%), and foetal distress (10%). The study observed that severe preeclampsia and previous caesarean section are the most common indications of preterm caesarean section.

Keywords: *Preterm delivery, Caesarean delivery.*

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INTRODUCTION

Preterm pregnancy is described as the time period of pregnancy from the age of viability of the foetus (In the UK, as 24 completed weeks of gestational age from the date of the last menstrual cycle or 22 completed weeks from the date of conception if that is accurately known) until the completion of 37 weeks of gestation[1]. Preterm delivery constitutes a large number of deliveries worldwide and is a significant cause of perinatal morbidity and mortality[2]. The survival of the preterm infant is known to be related to birth weight and gestational age. Gestational age, although at times not accurately available, is generally a better predictor of maturation and chance of survival than birth weight. A preterm caesarean section is a caesarean delivery performed between the age of viability and 36 weeks of gestation[3].

The optimal mode of delivery for preterm babies is controversial. Data from prospective randomized studies is very limited due to recruitment difficulties[4,5]. In practice, however, the rate of elective caesarean deliveries in preterm babies has markedly increased over the last decades. This further strengthens the need to try and determine whether this practice of elective

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caesarean deliveries is justified for a possibly better outcome for the infants, in the face of potential serious morbidities among the mothers[6].

Evidence that CS delivery benefits the preterm infant is lacking. A Cochrane review of six randomized controlled trials, including 122 women, compared the policy of elective or selective CS in spontaneous preterm delivery at 24-36 weeks. Lower rates of low APGAR scores, intracranial pathology, perinatal deaths, and intubations were observed in the elective CS group, but the differences were not statistically significant. The review concluded that it remains unclear whether CS benefits infants[4]. Even though scientific evidence supporting CS for extremely preterm deliveries is scarce, the CS rate tends to increase over time, underlining the importance of assessing the maternal risks.

Although the most appropriate delivery mode for preterm foetuses is still controversial, caesarean birth is usually recommended for preterm babies at high risk, low birth body weight labours such as preeclampsia, foetal distress, placenta previa with antepartum haemorrhage, placenta abruption, or malpresentation[7].

Increased maternal morbidity has been reported in association with CS for preterm delivery. The Cochrane review cited showed that an elective versus a selective caesarean delivery policy gave a risk ratio of 6.2 (95% CI: 1.3-30.1) for increased maternal morbidity defined as a 'major maternal complication'[4].

An extensive review of existing literature from the developing world showed no studies evaluating the causes of preterm caesarean section. Hence, the study was aimed at evaluating the causes of preterm caesarean section.

MATERIALS AND METHODS

This cross-sectional descriptive study was conducted in the Department of Obstetrics and Gynaecology, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, during the period from January 2018 to June 2018. Thirty consecutive preterm caesarean sections were studied. Preterm caesarean sections refer to those performed between 28 and 36 weeks of gestation. Cases with multiple pregnancies, pregnancy with other medical disorders like essential hypertension and diabetes mellitus (Fasting blood sugar >126 mg/dl) as they may have an effect on the results of the study were excluded. Informed consent and demographic profiles were taken from patients to include their data in this research work. The gestational ages of the pregnancies were determined using Naegele's rule and ultrasonography. Initially, all the patients presenting with preterm labour pains were tocolysed and given antenatal steroid cover to ensure foetal lung maturity. All the caesarean sections were transverse lower segment caesarean sections under spinal or epidural anaesthesia and the abdominal incision was Pfannestiel in all cases. A research questionnaire for recording data on sociodemographic characteristics, gestational age at delivery, indications for caesarean section and anaesthetic techniques were recorded. Data entry and analysis were carried out using the statistical package for social sciences (SPSS) version 22.

RESULTS

The mean age of the mothers for preterm caesarean sections was 26.67±4.98 years (Range 18-37 years), while the mean gestational age was 34.9±1.4 weeks (Range 18-36 weeks) (Table-I and Table-II). Primiparous was 22 (73.3%) and mulitiparous was 8 (26.7%) (Figure-1). Indications for preterm caesarean delivery were severe preeclampsia (30%), previous caesarean section (23.3%), antepartum haemorrhage (Placenta previa) (6.7%), malpresentation (6.7%), breech presentation with oligohydramnios (10%), preterm premature rupture of membranes (13.3%), and foetal distress (10%) (Table-III).

Table-I: *Age of mothers for preterm caesarean sections (n=30).*

Maternal Age (In years)	Frequency	Percentage
18-25	14	46.7
26-35	13	43.3
≥35	3	10
Mean ± SD	26.67 ± 4.98	

Table-II: *Gestational age for preterm caesarean sections (n=30).*

Maternal Age (In years)	Frequency	Percentage
<30	0	0
30-32	3	10
33- 34	7	23.3
35-36	20	66.7
Mean	34.90 ± 1.4	

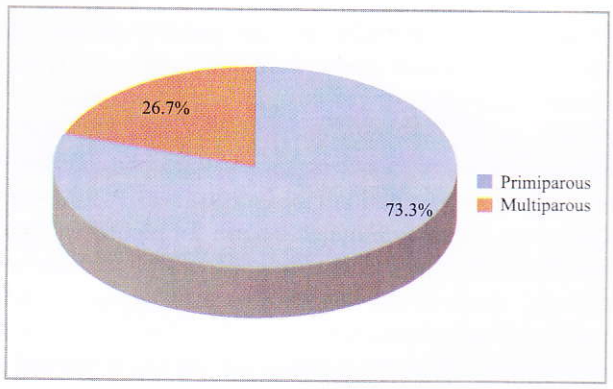

Figure-1: *Parity of mothers for preterm caesarean sections (n=30).*

Table-III: *Indications for the caesarean section in preterm delivery (n=30).*

Indication	Frequency	Percentage
Severe preeclampsia	9	30
Previous caesarean section	7	23.3
Preterm premature rupture of membranes	4	13.3
Breech with oligohydramnios	3	10
Foetal distress	3	10
Malpresentation	2	6. 7
Antepartum haemorrhage	2	6. 7

DISCUSSION

Caesarean section appeared to be associated with an increased risk of neonatal mortality among infants of low risk term pregnancies, but the most extremely preterm infants might provide survival benefit[8]. The caesarean section rate in 2005 was recorded at 33% among infants between 34-36 weeks of gestation and 40% among 32-33 week infants[9]. In the current study, the mean age of the mothers for preterm caesarean sections was 26.67±4.98 years. This result correlated with studies by Tasneem et al.[8] and Nwafor et al[3]. Our study revealed that, the mean gestational age for preterm caesarean section was 34.90±1.4 weeks. This result was also consistent with the studies of Nwafor et al.[3] and Tasneem et al[8].

In this study, primiparous was 73.3% and mulitiparous was 26.7%. This result was supported by the study of Nwafor et al[3]. Indications of preterm CS in the present study were severe preeclampsia (30%), previous caesarean section (23.3%), ante-partum haemorrhage (Placenta previa) (6.7%), mal-presentation (6.7%), breech presentation with oligohydramnios (10%), preterm premature rupture of membranes (13.3%), and foetal distress (10%). In this regard, Nwafor et al.[3] found indications of CS in preterm caesarean section were hypertensive diseases (42.8%), mal-presentation with preterm rupture of membranes (6.8%), previous caesarean section (14.8%), ante-partum haemorrhage (20.8%), oligohydramnios (10.1%) and mal-presentation with preterm labour (4.7%). Nearly similar indications of caesarean section in preterm pregnancy were reported in the study by Wazed et al[1].

An important study limitation was the cross-sectional nature of the study. Another limitation was the single-centre study. Furthermore, the sample size was small and obstetrical outcome was not recorded in this study.

CONCLUSION

The study observed that severe preeclampsia and previous caesarean section are the most common indications of preterm caesarean section. However, further study involving multicentre and large samples is warranted.

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