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Original Research Article

A study of caesarean section at full cervical dilatation

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ABSTRACT

Background: Caesarean sections performed in the second stage of labour are difficult and have many implications on both mother and baby. This study was conducted to analyse fetal and maternal outcome in case of caesarean section at full cervical dilatation.

Methods: This prospective study was conducted at one of tertiary care teaching institute for period of 1st August 2019 to 31st January 2020. It includes all women delivered by caesarean section at full cervical dilatation at study institute during study period. Cases were looked for parity, maternal age, gestational age, baby birth weight, indication of caesarean section and associated factors.

Results: Out of total 3657 deliveries 1690 were delivered by caesarean section, out of which 65 (3.8%) caesarean sections were conducted at full cervical dilation. The most common indication of caesarean section was deep transverse arrest in 66.15% of cases. The maximum number of cases (69.23%) were seen between the age group of 20 to 25 years. Majority of second stage caesarean section (70.77%) were performed in primi gravida. 80% of caesarean sections at full cervical dilatation were performed after 37 weeks of gestation. 15.38% of patients had anemia, 20% had hypertension, 4.61% had history of previous caesarean section. Baby weight at time of birth was 2.5 to 3.5 kg in 67.70% of cases. 15.38% of patients required blood transfusion.

Conclusions: A skilled obstetrician is required to take timely and proper decision in such cases and also to conduct caesarean section at second stage of labour.

Keywords: Caesarean section, Cervical dilatation, Fetal distress, Fetal outcome, Maternal outcome, Second stage labour

INTRODUCTION

The increasing trend of caesarean section at second stage is of major concern in modern obstetrics. According to a data from 150 countries, collected from 1990 to 2014, 18.6% of all births were done under knife, ranging from 6% to 27.2% in the least and most developed regions, respectively. Based on the data from 121 countries, the trend analysis showed that between 1990 and 2014, the global average caesarean section rate increased 12.4% (from 6.7% to 19.1%) with an average annual rate of increase of 4.4%.¹ Incidence of second stage caesarean section has increased from 0.9 to 2.2%.² This increasing trend of caesarean section in second stage of labour is

multifactorial, probably a combination of lack of training for junior staff in second stage decision making, lack of expertise in assisted vaginal delivery.³ Caesarean section at full dilation is technically more challenging procedure than caesarean section in early labour.⁴ Maternal morbidity in second stage caesarean section may be in form of extension of uterine angels, post partum hemorrhage and prolonged surgical time.^{5,6}

METHODS

A prospective study of caesarean section at full cervical dilatation was carried out in the department of obstetrics and gynecology, at tertiary care hospital for a period of 1st

August 2019 to 31st January 2020. During the study period, total number of 1690 caesarean sections were done, out of which 65 were performed at full cervical dilatation. The total number of confinements were 3657.

Inclusion criteria

- All the second stage cesarean sections performed at study institute during study period.

Exclusion criteria

- Second stage cesarean sections done outside and referred to study hospital for further management during study period.

Cases were looked for parity, maternal age, gestational age, baby birth weight, indication of caesarean section and associated conditions. A detailed history was noted. Detailed systemic examination, abdominal examination, per vaginal examination was done. Progress of labour was monitored. All babies were assessed by paediatrician immediate after delivery and necessary treatment was given. Neonatal morbidity was noted. Advised regarding diet, rest, breast feeding, immunization, exercise, contraception was given to mother on discharge.

Statistical analysis

The data obtained was analyzed and then presented in simple descriptive statistics using tables after collection. The results were presented as number and percentages. The analyzed data was further compared with different studies and discussed thereafter.

RESULTS

This study includes 65 cases of caesarean section performed at full cervical dilatation to study maternal and neonatal outcome during study period.

Table 1: Indication of caesarean section.

Indication	Number	Percentage
Non descend of head with non-reassuring fetal heart rate	18	27.69%
Non descend of head with meconium stained liquor	4	6.15%
Deep transverse arrest	43	66.15%

Table 1 shows out of total 65 caesarean sections at full cervical dilatation, most common indication of caesarean section was deep transverse arrest in 66.15% of cases. 18 were performed for non-descend of fetal head with non-reassuring fetal heart rate, 4 were performed for non-descend of fetal head with meconium stained liquor. Both elective and emergency caesarean section have a higher risk of complications than vaginal birth. A caesarean section in second stage of labour has additional

associated risk for both the mother and fetus due to the nature of this emergency situation.

Table 2: Maternal age distribution.

Age (years)	Number	Percentage
< 20	3	4.61%
20-25	45	69.23%
26-30	13	20%
> 30	4	6.15%

Above table shows incidence of caesarean section performed at full cervical dilatation was maximum (69.23%) in the age group of 20-25 years. It may be because of, in India maximum number of women who conceive fall in this age group because of early marriage and early pregnancy.

Table 3: Distribution according to gravidity.

Gravida	Number	Percentage
Primi	46	70.77%
Second	14	21.54%
Third	4	6.15%
Fourth	0	0%
Fifth	0	0%
Sixth	0	0%
Seventh	0	0%
Eighth	1	1.53%

Table 3 shows that maximum second stage caesarean sections (70.77%) were performed in primigravida. This may be due to rigid perineum and lack of experience of labour in primigravida.

Table 4: Gestational age at the time of delivery.

Weeks of gestation at delivery	Number of cases	Percentage
< 34	3	4.61%
34-37	10	15.38%
> 37	52	80%

Table 5: Associated maternal conditions.

Condition	Number	Percentage
Anemia	10	15.38%
Pregnancy induced hypertensi	13	20%
Previous caesarean section	3	4.61%
Bad obstetric history	1	1.54%

Table 4 shows that the maximum number of caesarean sections at full cervical dilatation (80%) were performed above 37 weeks of gestation. With increasing gestational age baby birth weight also increases, this may contribute to increased incidence of caesarean sections at full cervical dilatation in advanced gestational age.

Table 5 shows 15.38% of patients had anemia, 20% had pregnancy induced hypertension, 4.61% had history of previous caesarean section, 1.54% had bad obstetric history. Out of 13 cases of hypertension in pregnancy 11 had mild preeclampsia, 1 had severe preeclampsia and 1 had antepartum eclampsia. Out of 3 cases of previous caesarean section 1 was previous 2 caesarean section and 2 were previous 1 caesarean section. Out of 10 cases of anemia 3 were sickle cell anemia.

Table 6: Baby weight wise distribution.

Baby birth weight	Number	Percentage
< 2500 gm	20	30.77%
2500-3500 gm	44	67.70%
> 3500 gm	1	1.53%

Above table shows baby weight at time of birth was 2.5 to 3.5 kg in 44 cases (67.70%). Out of these 17 babies had birth weight more than 3 kg. 24 babies out of 65, were admitted to neonatal intensive care unit.

Table 7: Number of blood transfusions.

Number of units transfused	Number of cases	Percentage
1-pint	7	10.77%
2-pint	3	4.61%

Table 7 shows that 10.77% of cases required 1-pint PCV and 4.61% of cases required 2-pint PCV. Out of all cases, 15.38% required blood transfusion.

DISCUSSION

During the six months study period from 1st August 2019 to 31st January 2020, 1690 babies were delivered by caesarean section. Out of these, 65 caesarean sections were performed at full cervical dilatation. Out of the caesarean sections performed at full cervical dilatation 18 were performed for non-descent of fetal head with non-reassuring fetal heart rate and 4 were performed for non-descent of fetal head with meconium stained liquor. The maximum number of caesarean sections, 43 were performed for deep transverse arrest. In a study done by Bhargava S et al, most common indication of caesarean section (77.34%) in second stage was non descent of fetal head, out of which 21.87% were with non-reassuring fetal heart rate and 24.21% were with meconium stained liquor.⁷

In this study 10 cases were anemic, 13 cases were having pregnancy induced hypertension, 3 cases were having previous caesarean section and 1 case was having bad obstetric history.

In the present study maximum number of cases (69.23%) were in the age group of 20 to 25 years.

In the present study maximum number (70.77 %) of cases were primigravida. Similar results were seen in the study done by Babre VM et al in which 74% of patients were primigravida and in the study done by Unterscheider J et al in which 76.5% cases were nulliparous.^{8,9}

In this study maximum number of babies born (44) were having birth weight between 2.5- 3.5 kg. Out of 65 babies born, 24 (36.9%) were admitted to neonatal intensive care unit. In a similar study done by Goswami KD et al, 44% babies were admitted to neonatal intensive care unit.¹⁰ In the study done by Unterscheider J et al, 13.2% of babies were admitted to neonatal intensive care unit.⁹ According to one study, babies born by caesarean section at full cervical dilatation are 1.5 times more likely to have perinatal asphyxia than those born by caesarean section during the first stage of labour.¹¹

In the present study, 15.38% of cases required blood transfusion. In a similar study done by Babre VM et al, 8.2% of cases required blood transfusion.⁸

CONCLUSION

To conclude caesarean section in second stage of labour is associated with increased maternal and fetal morbidity. Such caesarean sections should be conducted by skilled obstetricians. Furthermore, good infrastructure and skilled paediatricians are important to decrease neonatal morbidity and mortality. Training of junior staff in decision making in second stage of labour is also important.

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