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Morbidity Due To Second Stage Caesarean Section: A Prospective Observational Study.

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ABSTRACT

The goal of the study was to scrutinize maternal and neonatal outcomes following second stage caesarean section in Tamil Nadu. A prospective study was conducted in Sree Balaji Medical College and Hospital, Chennai, India from January 2013 to January 2014. Out of 3112, 75 patients underwent caesarean section delivery at second stage. While women with previous LSCS and fibroid uterus were excluded from our study. With regard to maternal outcomes, 33.33% (25/75) of patients had postpartum haemorrhage, 13.33% (10/75) of them had extension of uterine incision, 10.67% (8/75) of them received wound infections, 16% (12/75) had post partum fever and 6.67% (5/75) of them had prolonged bladder catheterisation which was the least one to be observed. As for neonatal 20% (15/75) underwent NICU Admission after their birth. Finally our study has also been statistical significant for maternal and neonatal morbidity.

Keywords: morbidity, caesarean, uterus, maternity.

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INTRODUCTION

It was the Pompilius II in the 730 B.C. who decreed that pregnant women who died would be buried only after the baby was removed from the abdomen. The origin of the word "Caesarean" has been apparently distorted over time. But it is believed to be derived from the first ever surgical birth of Julius Caesar. The meaning of the term Caesarean arised from combination of Latin verbs (Caedere) & (Seco) both means to cut. Caesarean sections are one of the most common surgeries performed in modern obstetrics. Originally performed for maternal indications, now foetal indications are more common 15% is the recommended C section rate(WHO) Rising incidence due to fear of litigation, increased monitoring, on demand sections from the patients. 10 to 20% of deliveries require intervention worldwide – more often C section [1]. Second stage cesarean is one that is performed in the second stage of labour-from full cervical dilatation to delivery of the fetus.Rate has gone up due to decline in the number of instrumental deliveries [2]. In primi case the initial second stage prolongation is up to 60 minutes whereas in the multigravida it is up to 30 minutes. But the present guidelines has increased the rate of vaginal deliveries due to the recent prolongation involved in second stage caesarean cases such as multigravida – 2 hours; primi gravid – 3hours(as stated by Arulkumaran); nulliparous – 54 – 142 minutes; multipara – 18 – 60minutes [2].

Some of the factors which are influencing the second stage caesarean deliveries are Age; Parity; BMI; Delayed pushing; Epidural analgesia; Birth weight >4kg; Rotation of head; Fetal station at complete dilatation; Maternal pelvic masses; Maternal position. Fetal distress; Secondary arrest of descent; Persistent occipitoposterior; Deep transverse arrest; Failed instruments; Threatened rupture are the indications which are normally seen before undergoing a second stage caesarean delivery [3]. Thus the aim of the current prospective study was to analyse the maternal and neonatal outcome of the second stage caesarean sections for one year from January 2013 to January 2014.

MATERIALS AND METHODS

The medical records of 75 patients with singleton cephalic presentations who underwent C section in the second stage at Sree Balaji Medical College and Hospital, Chennai, India between January 2013 to January 2014 were analysed.Those who had Fibroid uterus and Previous LSCS were excluded. The characteristics of the patients who were selected are elaborated in the (Table 1). Data collected included obstetric history, whether the labour was spontaneous or induced, indications for Caesarean section, whether an attempt was made at instrumental delivery, duration of the second stage of labour, findings of the vaginal examination just before the Caesarean section, the authority making the decision (i.e. seniority of the obstetrician), decision-to-delivery interval, foetal outcome at delivery (such as birth weight and neonatal trauma), operative complications (such as primary postpartum haemorrhage [PPH], need for blood transfusion or hysterectomy, lower uterine segment tear, broad ligament haematoma and bladder injury), and postoperative complications (such as wound infection and puerperal febrile morbidity).

Statistical analysis was performed on Epi-info software. Differences in the outcome, frequencies between the cases and controls were analysed using P values of less than (<0.05) were accepted as indicating statistical significance which is represented in the (Table 4).

RESULTS

During the study period there were an overall 3,112 deliveries for 1 year**.** Of these 778 (25%) underwent caesarean sections whereas the 428 underwent emergency C section**.** Finally the remaining 75 (9.6%) underwent a second stage caesarean section delivery. The indications for Caesarean section in these 75 patients included are Foetal distress, 30; Secondary arrest of descent, 10; POP, 15; DTA, 12; Failed operative procedures, 8 which have been explained in the (Table 2).

In the (Table 3) we have provided the analyses for maternal outcome due to second stage caesarean delivery are given which included:-

- Patients with PPH (33.3%, 25/75),
- Patients with Extension Of Uterine Incision (13.35%, 10/75),
- Patients with NICU admission (20%, 15/75),

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- Patients with Wound infections (10.6%, 8/75)
- Patients with Post partum Fever (16%, 12/75),
- Patients with Prolonged Bladder Catheterisation (6.6%, 5/75).

Table 1: Characteristics of patients who underwent Caesarean sections in the second stage of labour (n=75).

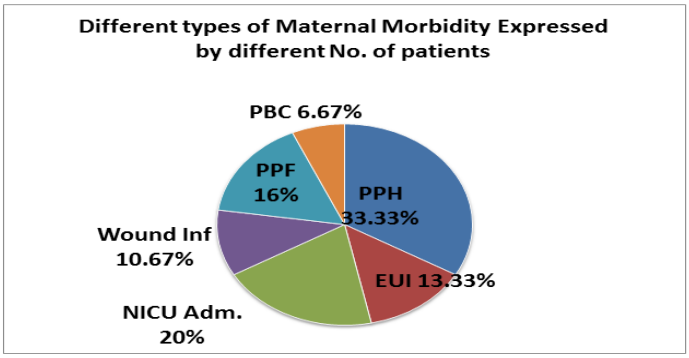
Characteristics	No.of patients
Mean age (yrs)	24.5(+- 6.3)
Parity	0-3
Gestational Age	37.3(+- 2.5)
Birth Weight >4kg	4
Epidural Analgesia	36
Oxytocin Augmentation	49
CTG	69

Table 2: Indications for caesarean delivery in 75 patients.

Indications Expressed	No. of Patients
Fetal Distress	30
Secondary Arrest of Descent	10
POP	15
DTA	12
Failed Operative procedures	8

Table 3: Maternal outcomes due to the second stage caesarean section delivery (n=75).

Maternal Outcomes	No. Of Patients	Percentage (%)
PPH	25	33.33
Extension Of Uterine Incision	10	13.33
NICU Admission	15	20
Wound Infections	8	10.67
Post-Partum Fever	12	16
Prolonged Bladder Catheterization	5	6.67
Blood Transfusion	5	15%



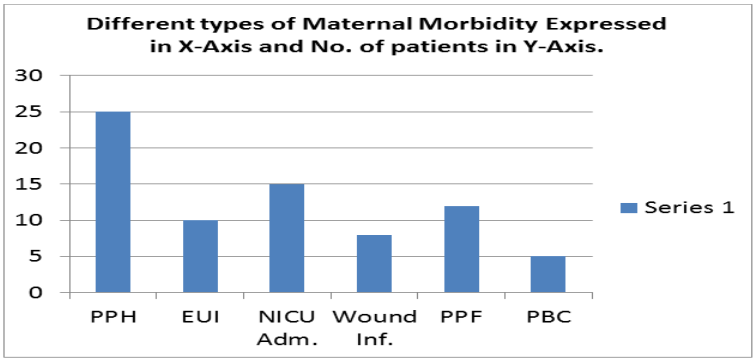


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Table 4: P-Value for Morbidity Outcomes.

Morbidity	Observed Morbidity	Expected Morbidity	Percentage (%)	P-Value
PPH	25	15	33.33	0.001
Extension Of Uterine Incision	10	12	13.33	0.023
NICU Admission	15	13	20	0.010
Wound Infection	8	12	10.67	0.001
PPF	12	12	16	0.016
Prolonged Bladder Catheterization	5	11	6.67	0.002

DISCUSSION

Now-a-days there is an increase in the number of cesarean cases worldwide. The National Sentinel Caesarean Section Audit revealed that nearly one in five (21.5%) births was delivered by Caesarean section. Over the past 2 or 3 decades second stage the rates of 2nd stage caesarean sections have risen steadily in the past two decades due to a decline in the use of instrumental deliveries. Recent data from Nova Scotia suggests that caesarean delivery in labour is associated with increased maternal morbidity compared with caesarean delivery with no labour [4]. When compared with caesarean deliveries in the first stage of labour, caesarean deliveries in the second stage have been associated with longer surgery time, increased postoperative fever, maternal intraoperative trauma and maternal morbidity. Thus the second stage interventions which are associated with caesarean section have an increased maternal and neonatal morbidity and mortality. According to our finding most of the women that is almost 33.3% were affected with PPH (Post-Partum Hemorrhage) – Atonic PPH. Other morbidity observed in our study are extension uterine incision(13.3%), NICU admission(20%), wound infection(10.6%), PPF(16%), prolonged bladder catheterisation(6.6%),Blood Transfusion. Authors have also suggested an increased risk of adverse maternal and perinatal outcomes, which are to be associated with a lengthened second stage of labour, unrelated to the mode of delivery especially if > 3 hours in nulliparous women and > 2 hours in multiparous women [5]. As the decision making is critical, it is important that it should be made by a senior obstetrician. This point was enlightened by a recent study by Govender et al, who concluded that although maternal morbidity was higher in second stage Caesarean sections, and neonatal complications were not when compared to first stage Caesarean sections, there was little guidance from consultants in the decision-making stages related to second stage Caesarean sections [6].

CONCLUSION

Pregnancy is the most vulnerable period in a women life. It involves the association of both mother and foetus with immediate and long term outcomes which have been explained in this research article. Thus in conclusion, a combination of factors, such as the involvement of experienced obstetricians at the decision-making phase, avoidance of possibly difficult instrumental deliveries, may have played important roles in determining these outcomes. Labour monitoring with partogram and early referral of high risk women, will also reduce the incidence of second stage caesarean sections.

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