

Study of Fetal and Maternal Outcome in Second Stage Caesarean Section

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Abstract: ***Aim:** To study of fetal and maternal outcome in second stage caesarean section. **Material and Methods:** This was a prospective observational study conducted at Umaid hospital SN medical college Jodhpur. All second stage caesarean section performed between February 2020 to November 2020 were analysed in terms of indication for caesarean section, intra operative, postoperative complication and fetal outcome. **Results:** During the study period there were total 8756 deliveries. Out of this, 2867 deliveries done by caesarean section, in which 170 were 2nd stage caesarean section. DTA was the most common indication for caesarean section in 2nd stage of labour. Patwardhan method was used in 25 % cases for deeply engaged head. Intra operative complication were atonic PPH in 18% cases, extension of uterine incision in 14% cases. Increased in NICU admission, neonatal morbidity and mortality were observed. Post operative complications like febrile illness, wound infections and paralytic ileus were also noted. **Conclusion:** Second stage caesarean section associated with significant psychological and physical maternal morbidity. A skilled obstetrician is required to take proper decision for caesarean section at full dilatation of cervix.*

Keywords: caesarean section, postpartum hemorrhage, maternal morbidity

1. Introduction

Labour is a process by which viable fetus is delivered from uterus. It consists four phases –

First stage begins with onset of regular uterine contraction accompanied by start of effacement and dilatation of cervix. Second stage starts with full dilatation of cervix and terminate at birth of baby. The third stage start with delivery of baby and ends with delivery of placenta. Fourth stage begin after delivery of placenta and last upto 2 hour.

Cesarean section is most commonly performed abdominal operation in women all over the world.¹ The RCOG reports that approximately 6% of caesarean section for singleton pregnancies occur at full dilatation.² Second stage CS has been reported as a concerning increasing trend within the increasing CS rate.^{3,4} Cesarean delivery with labour associated with increased maternal morbidity compared with cesarean delivery with no labour. Cesarean section to be performed in second stage of labour are more complicated compare to first stage of labour. Cesarean section in second stage of labour are performed because of DTA, non progress of labour, deflexed head, non decent of head, fetal distress, failed instrumentation. Consultant presence and supervision of junior medical staff may improve vaginal delivery rates.⁵ The morbidity related to a prolonged second stage is directly correlate with the incidence of extension of uterine angle and prolonged surgical time^{5,6}, bladder injury⁷ and increased incidence of postpartum hemorrhage, pyrexia⁸ and length of hospital stay.⁹ Neonatal complication following CS in second stage includes NICU admission, still birth, neonatal death, fetal acidaemia.

Aims and Objectives

Study of fetomaternal outcome in second stage caesarean section-

- 1) Maternal outcome in 2nd stage caesarean section
- 2) Fetal outcome:
 - NICU admission
 - Neonatal morbidity and mortality

2. Material and Method

This is prospective observational study conducted in department of obstetrics and gynecology, Umaid hospital SNMC Jodhpur. All second stage cesarean section performed between February 2020 to November 2020 were analysed in term of indication for cesarean section, intra operative, postoperative complications, and fetal outcome.

Inclusion Criteria:

All the cesarean section performed in second stage of labor term singleton pregnancy irrespective of parity in the department of obs and gyne in umaid hospital Jodhpur.

Exclusion Criteria:

Pregnancies with major fetal abnormalities
Referred case in second stage of labor
Pregnancy with GDM

Type of anesthesia and operative technique were same in all patients. Prophylactic antibiotics administered to all the patients. Informed consent was taken and data were entered in written proforma. Data analysis done in which we consider maternal and fetal outcome. In maternal composite we include indication of caesarean section, intraoperative complication like uterine artery injury, extension of uterine incision, bladder injury, PPH, requirement of hysterectomy, need for blood transfusion and post operative complication fever, wound infection, increased duration of hospital stay. Neonatal outcome like NICU admission, still birth, neonatal death were also observed.

3. Results

Total no of deliveries during study period were 8756. Among these 2867 were by caesarean section. Out of which 170 caesarean were in second stage of labour. Most common indication for caesarean section in second stage of labour was DTA.

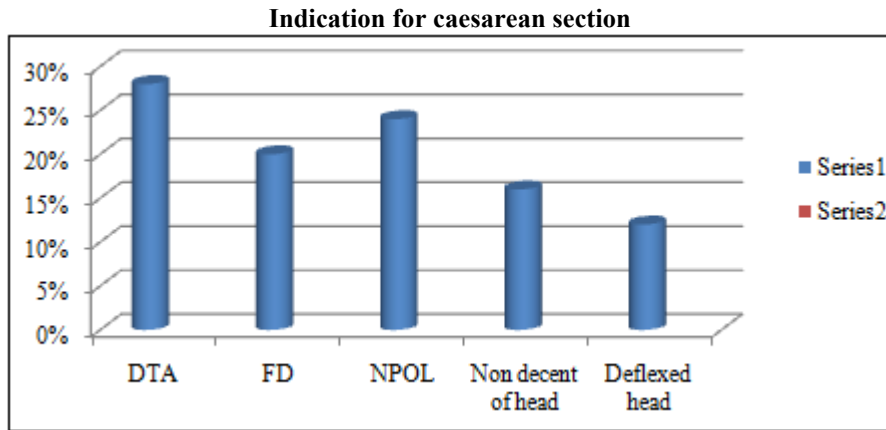


Figure 1: Indication of 2nd stage caesarean section

Figure 1 show indication of caesarean section in second stage of labor was DTA followed by NPOL, FD due to deeply engage head. In our study of 170 patients second stage caesarean section were performed. Out of which 48 (28.23%) due to DTA, 41(24.11%) due to NPOL, 34 (20%) due to fetal distress, 27(15.88%) due to non decent of head and 20 (11.76%) due to deflexed head .

In our study caesarean section in full dilatation of cervix was more in primigravida than in multigravida. In this study 119 primigravida had caesarean section in second stage of labour that was 70% of total case and 30 % multigravida had caesarean section in second stage.

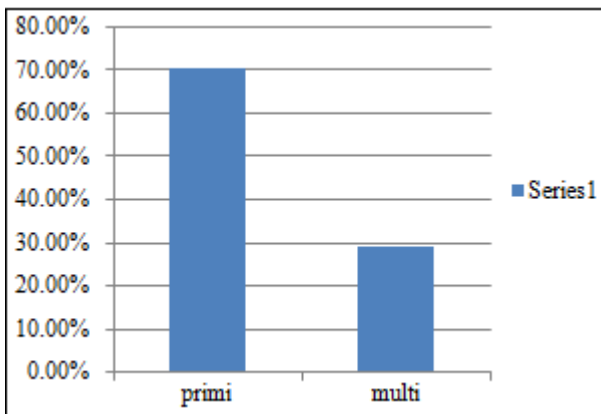


Figure 2: Parity show % of C-section in 2nd stage of labour

In our study, second stage caesarean section performed most commonly in 38-39 weeks of gestation.

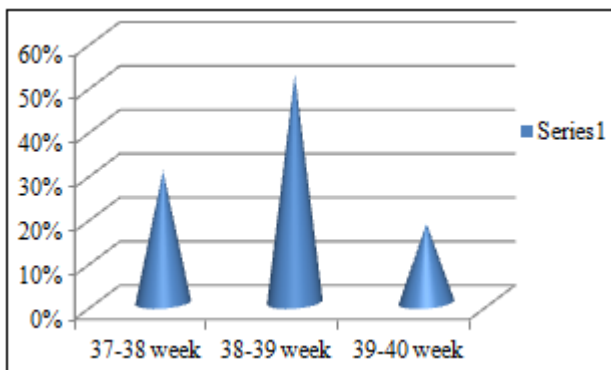


Figure 3: Gestational age shows % of caesarean section in second stage of labour

During caesarean section fetus can be extracted out vertex in 60%, patwardhan in 25%, and push method in 15%.

Table 1: Technique for delivery of deeply engage head

Method of extraction of fetus	%
Vertex	60%
Patwardhan	25%
Push method	15%

The fetal head is deeply engaged and there is difficulty in holding of head so head can be push through per vaginally and baby can be delivered out by patwardhan method.

There are many complications during intrapartum period. These includes PPH, extension of uterine angle, requiring blood transfusion due to loss in PPH. In our study atonic PPH occur in 18% of cases, which was managed by uterotonics and some of them require blood transfusion. 10% of patient in this study group require blood transfusion due to atonic PPH, and hemorrhage due to extension of uterine angle.

Table 2: Intraoperative complication

Intraoperative complication	No. of patient	%
Atonic PPH	31	18
Extension of uterine incision	24	14
Require blood transfusion	17	10
Hemorrhagic urine	21	12
Bladder injury	7	4

Post operative complications include wound infection, febrile illness and paralytic ileus. Severity of wound infection leads to increase in hospital stay.

In our study, wound infection observed in 10% cases, febrile illness observed in 15% cases and paralytic ileus observed in 12% cases.

Table 3: Post operative complication

Post operative complication	No of patient	%
Wound infection	17	10
Febrile illness	26	15
Paralytic illeus	21	12

Fetal and neonatal complications occur more in second stage caesarean section than in first stage. Complication occurs due to birth asphyxia. In present study, 40% new born

admitted in NICU, 5% had fresh still birth and 5% neonatal death.

Table 4: Fetal and new born complication

Complication	No (%)
NICU admission	68(40%)
Fresh Still birth	9(5%)
Neonatal death	9(5%)

4. Discussion

During our study period 2867 babies were delivered by C-section, out of which 170 were performed at full dilatation, 70% patients were primi and 30% multigravida. Most common indication of 2nd stage caesarean section was DTA followed by NPOL. In second stage caesarean section there is more difficulty due to overstretching of lower segment and fetal head deeply engage into the pelvis. Thus fetal head can be extracted out by vertex, patwardhan and push methods. In our study 60% baby delivered by vertex, 25% by patwardhan and 15% by push methods. Vijiya Monish Babre et al 10 done retrospective study on review of caesarean section at full dilation and found that most common indication for second stage caesarean section was fetal distress (31%) and intra operatively a tonic PPH was observed in 11.5% of cases.

In our study, intra-operative complication were atonic PPH in 18%, extension of uterine incision in 14%, 10% patients were require intra operative blood transfusion, 12 % had hemorrhagic urine and 4 % patients were suffer from bladder injury. Post-operative complication like febrile illness was observed in 15% cases, wound infection in 10% cases, paralytic ileus in 12% cases. NICU admission and neonatal death were high due to birth asphyxia.

5. Conclusion

There are many complications in caesarean section during second stage of labour because engagement of fetal head in maternal pelvis has already been completed and maternal uterine muscles are very weak. Risk factors like difficulty in differentiate between bladder and lower segment of uterus leads to increase in duration of surgery and intraoperative complications.

2nd stage caesarean section associated with maternal, neonatal morbidity. An expert obstetrician is required to take timely decision by proper evaluation of patients and decision for caesarean section especially when risk factors for failure to progress are present.

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