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*RESEARCH ARTICLE*

# CAESAREAN DELIVERY DURING SECOND STAGE OF LABOR- A STUDY OF FETOMATERNAL OUTCOME IN A TERTIARY CARE HOSPITAL

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## Abstract

**Background:** There is an alarming rise in Caesarean section (CS) leading to increased adverse outcomes for both the mother and fetus when compared with vaginal delivery despite the efforts to limit operative abdominal deliveries. Within this increasing CS rate, there is a concerning increase in the rate of second stage cesarean section. Cesarean sections performed at full dilatation (FDCS) are becoming increasingly common in obstetric practice

**Aim:** To analyze the indications and assess feto-maternal outcomes in caesarian section in second stage of labor.

**Material And Methods:** This was a retrospective hospital based observational study assessed all caesarean sections performed at full cervical dilatation between September 2020 and September 2021 at King George hospital, Visakhapatnam, Andhra Pradesh. Caesarean section cases were identified through the operating theatre data log. The medical record, specifically the record of labor and operation reports, was reviewed for all CS cases over the study period.

**Results:** During the index period, a total of 3800 women delivered by caesarean section, (2900 emergency and 900 elective cases) .A total of 340 women were at full cervical dilatation, >37 weeks gestation with a singleton fetus in cephalic presentation were studied. Mean duration of surgery was 57.68 min. Secondary arrest of descent was seen in 53.8% of cases and NICU admission in 6.76%,APGAR <7 at birth in 9.11% cases.

**Conclusion:** Although second stage of labor was sometimes appropriate, there are no specific guidelines for safe practice. It is a technically demanding procedure. It has additional associated risks for mother and fetus due to the nature of emergency situation.



## Introduction:-

There is an alarming rise in Caesarean section (CS) leading to increased adverse outcomes for both the mother and fetus when compared with vaginal delivery despite the efforts to limit operative abdominal deliveries.Within this increasing CS rate, there is a concerning increase in the rate of second stage cesarean section. Cesarean sections performed at full dilatation (FDCS) are becomingincreasingly common in obstetric practice.[1,2] Delivery of a

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deeplyimpacted fetal vertex can often be the most challenging type of deliveryfor the obstetrician and is associated with an increased riskof maternal complications such as uterine angle extensions, majorobstetric hemorrhage, and damage to adjacent viscera.[3,4,5]

**Aim**
To analyze the indications and assess feto-maternal outcomes in caesarian section in second stage of labor

## Materials And Methods:-

This was a retrospective hospital based observational study assessed all caesarean sections performed at full cervical dilatation between September 2020 and September 2021 at King George hospital, Visakhapatnam, Andhra Pradesh. Caesarean section cases were identified through the operating theatre data log.The medical record, specifically the record of labor and operation reports, was reviewed for all CS cases over the study period.

**Inclusion Criteria:**
Women with a singleton fetus in cephalic presentation at term (≥37 weeks) who underwent CS at full dilatation were included.

**Exclusion Criteria:**
Multigravida with comorbid conditions like diabetes and preeclampsia were excluded.

These second stage Caesarean sections were analyzed in terms of indications, instrumentation before caesarean section, intra operative complications like haematuria, uterine incision extension, atonic post-partum haemorrhage (PPH), postoperative complications like febrile illness, wound infection and neonatal morbidity and mortality. All the data collected were pooled together recorded and analyzed. Data analysis was done using SPSS version 17.

## Results:-

During the index period, a total of 3800 women delivered by caesarean section, (2900 emergency and 900 elective cases) .A total of 340 women were at full cervical dilatation, >37 weeks gestation with a singleton fetus in cephalic presentation were studied.Mean duration of surgery was 57.68 min and mean hospital stay was 7.59 days

**Table I:-** Indication For Cesarian Section.

| INDICATION FOR CESARIAN SECTION | NUMBER | PERCENTAGE |
|---|---|---|
| SECONDARY ARREST OF DESCENT | 183 | 53.8% |
| FETAL DISTRESS | 119 | 34.9% |
| FAILED INSTRUMENTAL DELIVERY | 10 | 3% |
| DECLINED TRIAL OF OPERATIVE VAGINAL DELIVERY | 12 | 3.4% |

Secondary arrest of descent was seen in 53.8% of cases, fetal distress in 34.9% of cases and 3.4 % refused operative vaginal delivery.(TABLE I)

**Table II:-** Maternal Complications.

| MATERNAL COMPLICATIONS | NUMBER | PERCENTAGE |
|---|---|---|
| ATONIC PPH | 16 | 4.7% |
| UTERINE EXTENSIONS | 42 | 12.35% |
| BROAD LIGAMENT HEMATOMA | 18 | 5.2% |
| BLADDER INJURY | 12 | 3.5% |
| SEPSIS | 23 | 6.7% |

Atonic PPH was seen in 4.7% cases, uterine extension in 12.35% cases, and broad ligament hematoma in 5.2% cases, bladder injury 3.5% cases and sepsis in 6.7% cases. (TABLE II)

**Table III:-** Fetal And Newborn Complications.

| FETAL AND NEWBORN COMPLICATIONS | NUMBER | PERCENTAGE |
|---|---|---|
| MECONIUM ASPIRATION | 112 | 32.94% |
| SNCU ADMISSION | 12 | 3.5% |
| NICU ADMISSION | 23 | 6.76% |
| APGAR <7 at birth | 31 | 9.11% |
| CEPHALHEMATOMA | 11 | 3.23% |
| STILL BIRTH | 3 | 0.8% |

Meconium aspiration was seen in 32.94%, SNCU admission in 3.5%, NICU admission in 6.76%,APGAR <7 at birth in 9.11% cases, cephalhematoma in 3.23% cases and stillbirths in 0.6% cases.(TABLE III)

## Discussion:-

In the present study mean duration of surgery was 57.68 min and mean hospital stay was 7.59 days The study by Sung et al. [6]found duration of surgery >90 minutes in 9% cases vs 1% when done in 2nd stage.

In the study by Babre et al [7] the incidence of 2nd stage cesarean sections is more seen in primigravida (74%) than in multigravida (26%) due to mild to moderate cephalopelvic disproportion, rigid perineum, lack of experience of previous labour in primigravida women.

In the study by Goswami ET a [8], atonic PPH was observed in 8% of patients and extension of uterine incision was found 16% of patients. As compare to study conducted by Baloch S et al [9] was observed 12.5% PPH and 5.4% extension of wound. Increased incidence of atonic postpartum hemorrhage due to prolonged 2 nd stage of labour. Bladder injury was observed in 3 cases.

In the present study, atonic PPH was seen in 4.7% cases, uterine extension in 12.35% cases, broad ligament hematoma in 5.2% cases, bladder injury 3.5% cases and sepsis in 6.7% cases.

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.[10] In the study by Jadav et al[11] maximum numbers of babies born (44) were having birth weight between 2.5-3.5 kg. Out of 65 babies born, 17 (34.69%) were admitted to neonatal intensive care unit. In a similar study done by Gupta et al 44% babies were admitted to neonatal intensive care unit.[12].In the present study meconium aspiration was seen in 32.94%, SNCU admission in 3.5%, NICU admission in 6.76%,APGAR <7 at birth in 9.11% cases, cephalhematoma in 3.23% cases and stillbirths in 0.6% cases.

## Conclusion:-

Although second stage of labor was sometimes appropriate, there are no specific guidelines for safe practice. It is a technically demanding procedure.It has additional associated risks for mother and fetus due to the nature of emergency situation. Audit of the second stage CS rate is mandatory measure to improve patient care and develop guidelines.

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