

## Caesarean Delivery in the Second Stage of Labour at a Tertiary Care Hospital

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### About the Author



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**Abstract** Caesarean section performed in the second stage of labour has many implications for maternal and neonatal morbidity as well as for subsequent pregnancies. A study

was conducted to analyse the indications and maternal and neonatal prognosis of caesarean sections performed in the second stage of labour. Four percentage of caesarean sections were performed in the second stage of labour; 60% of these were referred cases. Most common indication was non-descent of head. Forty-three percentage of newborns were admitted in the neonatal intensive care unit. Hospital stay was prolonged which further increased the hospital burden. A proper judgement is required by the obstetrician to take decision for instrumental delivery or caesarean section. Early diagnosis and timely referral with a good infrastructure would help to decrease the maternal and neonatal morbidity.

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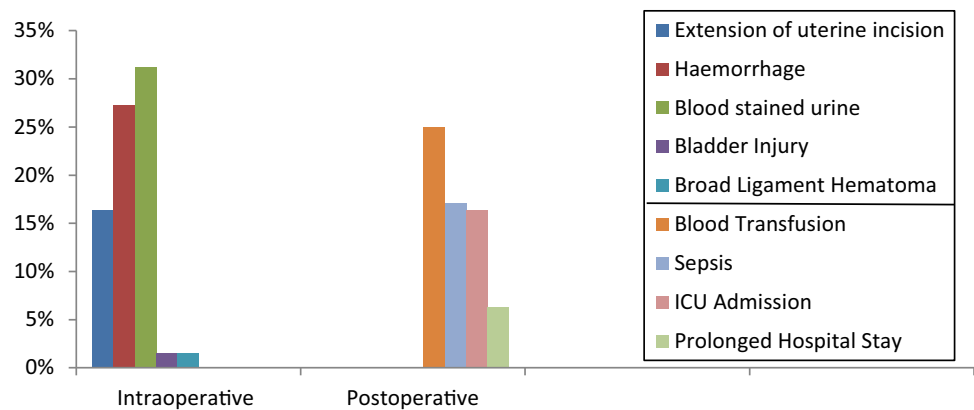
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**Table 1** Indications for second stage LSCS

	Indication	Total <i>n</i> = 128	%	Referred cases <i>n</i> = 77(60.15%)
I	Non descent of head	99	77.34	61 (61.61%)
IA	With foetal distress	59	46.09	37 (62.71%)
i	Non reassuring foetal heart rate	28	21.87	23 (82.14%)
ii	Thick meconium stained liquor	31	24.21	14 (45.16%)
IB	With caput succedaneum	40	31.25	24 (60%)
II	Unsuccessful ventouse/forceps	7	5.46	5 (71.42%)
III	Deep transverse arrest	21	16.40	10 (47.61%)
IV	Retained second twin	1	0.78	1 (100%)

**Fig. 1** Intraoperative and postoperative complications

Caesarean section is a globally recognised maternal healthcare indicator. Based on the WHO systematic review, increase in caesarean section rates up to 10–15% at the population level is associated with a decrease in maternal, neonatal and infant mortality [1]. Every effort should be made to provide caesarean sections to women in need, rather than striving to achieve a specific rate [2].

Optimal management of second stage of labour should maximise the probability of vaginal delivery with minimal risk to mother and foetus. There are no guidelines whether to attempt for difficult instrumentation or immediate caesarean section [3]. Recent decline in the use of instrumental delivery, a combination of lack of training and supervision for junior staff in second stage decision-making, a loss of technique associated with difficult-assisted delivery and concerns relating to maternal and neonatal morbidity with associated litigious issues might have contributed to this disturbing trend [4].

A study was conducted over 1 year at tertiary care referral hospital to analyse caesarean sections performed in the second stage of labour and to assess maternal and neonatal complications. Number of women in labour during this period was 7759: 3196 were delivered by caesarean section and 128 caesarean sections (4%) were performed in the second stage of labour, 60% of whom had been referred in advanced labour.

Our hospital is a tertiary care referral centre where high-risk patients are referred, mostly for operative deliveries from the peripheral healthcare units or private centres (often due to patients' financial constraint).

Caesarean section in the second stage of labour is a challenging operation. There is distortion of pelvic anatomy, thinned-out oedematous lower uterine segment and deeply impacted foetal head in the maternal pelvis. The most common indication for caesarean section in the second stage in our study was non-descent of head (associated with either foetal distress or caput succedaneum), 61% of whom were referred cases (Table 1).

Delivery of the deeply engaged head (found in 30%) depended on the ease of the surgeon. Patwardhan technique was applied in 72% of these.

Most common intraoperative complication was blood-stained urine which was due to advanced bladder during 2nd stage of labour. Similar to Jayaram et al. [5], (26%) major obstetric haemorrhage of > 1000 ml due to atonic uterus and extension of uterine incision leading to increase in blood component transfusions was observed in 27% patients. Increased duration of stay further increased the burden of the hospital, though only 6.25% of our patients stayed for more than 5 days at hospital postoperatively as against 25.5% in another study [6] (Fig. 1).

**Table 2** Neonatal morbidity and mortality

	Neonatal condition	No.	%
1	Intrapartum stillbirth	3	2.3
2	Neonatal intensive care unit admission	55	43
a	Birth asphyxia	25	19.5
b	Meconium aspiration syndrome	18	14.0
c	Neonatal sepsis	5	3.9
d	Intracranial haemorrhage	2	1.5
e	Neonatal death	5	3.9

The most common foetal complications were birth asphyxia and meconium aspiration syndrome. This might be due to intraoperative foetal hypoxia caused by strong uterine contraction and deeply impacted foetal head. Forty-three percentage of newborns were admitted in neonatal intensive care unit. Twenty-seven percentage of these were of referred mothers as were also the three intrapartum stillbirths and the five neonatal mortalities (Table 2).

## Conclusion

Descent of head by abdominal palpation, caput and moulding are documented infrequently. These are essential for monitoring of labour. Training and supervision for junior staff in second stage decision-making are important. Having a good infrastructure for management of all complications related to the mother and foetus will help lower their morbidity and mortality.

## Compliance with ethical standards

**Conflict of interest** All authors declare that they have no conflict of interest.

**Ethical approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

**Informed consent** Informed consent was obtained from all individual participants included in the study.

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