

ORIGINAL RESEARCH

Second stage caesarean section: Rate and Indication

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Abstract

This was a retrospective observational study conducted in Apollo Institute of Medical Sciences (AIMSR) & District Hospital Chittoor, on all patients undergoing caesarean section after attaining term and at full dilatation of cervix with inclusion and exclusion criteria. Data collected for a period of 6 months (1 August 2023 to 31 March 2024) from medical records of labor room and Operation theater (OT) data log book. Primigravida between 21 to 25yrs are the majority to undergo 2nd stage CS. Rate of 2nd stage CS is comparable to other studies in India. Rate of maternal (87.2%) and fetal (87.2%) complications are quite high. Post-partum haemorrhage and birth asphyxia are major maternal and fetal complication respectively.

Key words:Caesarean section, rate, indication

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INTRODUCTION

Cesarean section (CS) at the second stage of labor occurs when the mother requires delivery at full dilatation of cervix by CS and poses a risk to the mother and fetus. Cesarean section (CS) which is performed at the second stage of the labor period in terms of the fetal and maternal Indications ranges from that of a very long second stage followed by the fetal distress or some type of maternal medical issues or medical exhaustion. Because of changing practice and recent trend, it is necessary to find the rate and indication at regional hospitals.

METHODOLOGY

This was a retrospective observational study conducted in Apollo Institute of Medical Sciences (AIMSR) & District Hospital Chittoor, on all patients undergoing caesarean section after attaining term and at full dilatation of cervix with inclusion and exclusion criteria. Data collected for a period of 6 months (1 August 2023 to 31 March 2024) from medical records of labor room and Operation theater

(OT) data log book. The Rate, Indication for caesarean section at second stage with Neonatal as well as Maternal outcomes were evaluated.

INCLUSION CRITERIA: All term singleton pregnancies in cephalic presentation who underwent caesarean after full dilatation of cervix.

EXCLUSION CRITERIA: The study excluded multiple pregnancies, preterm deliveries, malpresentation, and maternal comorbid conditions.

ETHICAL CLEARANCE: The research ethics committee approval was obtained for this study.

STATISTICAL ANALYSIS: The statistical calculation has been conducted through the 25.0 SPSS edition of Windows (IBM Corp., The Armonk, New York, USA), along with the 2010 Microsoft Office Excel (Microsoft, Seattle, Washington, USA).

RESULTS

Table 1: Caesarean Sections

Caesarean Sections	Number
TOTAL CS	1389
2 nd Stage CS	49
Rate of 2 nd Stage CS	3.5%.

Table 2: Socio Demographic Profile

Socio-Demographic Profile		Number	percentage
1 AGE	18-20 yrs	10	20.4%
	21-25 yrs	24	48.9%
	26-30 yrs	12	24.4%
	>30 yrs	3	6.1%
2 EDUCATION	Not able to read and write	2	4%
	Up to School	7	14.3%
	Up to Intermediate	28	57.2%
	Up to Degree/Diplomo	12	24.5%
3 SOCIO-ECONOMIC STATUS	Lower class	2	4%
	Lower middle class	10	20.4%
	Middle class	32	65.3%
	Upper middle class	4	8.2%
	Upper class	1	2%
4 ANTENATAL CARE	Booked	44	89.8%
	Unbooked	5	10.2%

Table 3: Parity

Parity	Number	percentage
Primiparous	40	80.6%
Multiparous	9	19.4%

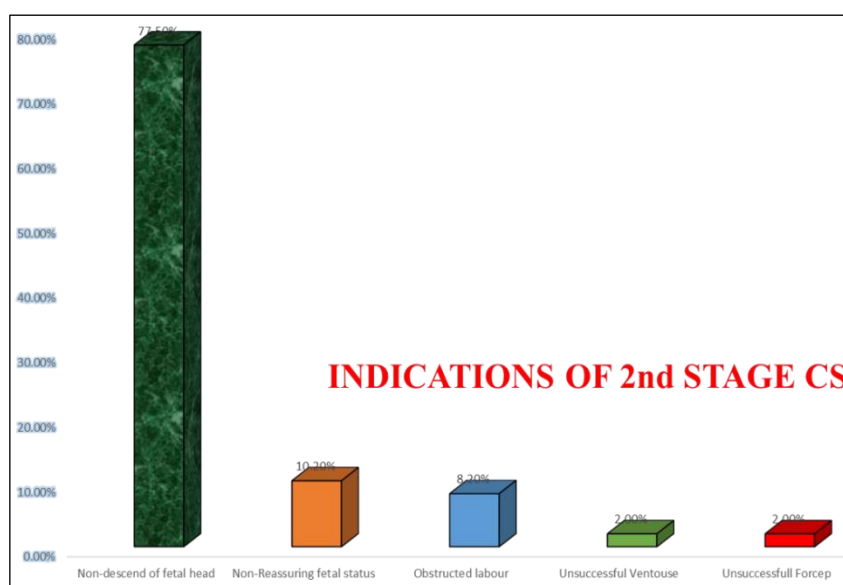


Fig 1: Indications for Second stage Caesarean Sections

Table 4: Indications for CS

INDICATIONS FOR CS	number	percentage
Non-descend of fetal head	38	77.5%
Non-Reassuring fetal status	5	10.2%
Obstructed labour	4	8.2%
Unsuccessful Ventouse	1	2.0%
Unsuccessfull Forcep	1	2.0%
Total	49	100%

Table 5: Intra-Op Complications

Intra-op Complications	number	percentage
No complication	6	12.2%
Atonic PPH	13	25.5%
Extension Of Ut Incision	11	22%
Hematoma	8	16.3%
Bladder Injury/Hematuria	8	16.3%
Vaginal Injury	3	6.2%

Table 6: Post-operative complication

Complication	number	percentage
No complication	12	24.5%
Febrile illness	9	18.3%
Wound infection	9	18.3%
Wound re-suturing	9	18.3%
Prolonged catheterization	8	16.4%
Abdominal distention	2	4.0%

Table 7: Neonatal complication

Complications	Number	Percentage
No complication	6	12.2%
Birth Asphyxia	17	34%
Meconium Aspiration	12	24.4%
Neonatal Jaundice	10	20.4%
Respiratory Distress Syndrome	3	6.2%
Fresh Stillbirth	1	2%

- Primigravida between 21 to 25yrs are the majority to undergo 2nd stage CS.
- Rate of 2nd stage CS is comparable to other studies in India.
- Rate of maternal (87.2%) and fetal (87.2%) complications are quite high. Post-partum haemorrhage and birth asphyxia are major maternal and fetal complication respectively.

DISCUSSION

- Present study shows that age of women between 21 to 25 years and primigravida are at higher risk of caesarean at full dilatation of cervix.
- Also in-spite of being booked, having formal education and belonging to middle Socio-economic status, caesarean at full dilatation of cervix is higher in these women.

- Rate of caesarean at full dilatation of cervix is 3.5% in present study. Among studies in other countries, **McKelvey et al.**¹(15.3%) reported higher rate were as **Babre VM et al.**²(2.2%) reported lower rate of CS compared to present study. Among studies in India, **Gupta et al.**³ reported 3% were as **Gurunget al.**⁴ reported 1.9%.
 - Major Indication for 2nd stage CS in present study is Non-decent of fetal head (77.5%). Other common indication are non-reassuring fetal heart (10.2%), obstructed labour (8.2%), unsuccessfullventouse (2%) and forcep (2%).
 - Similar to the present study, Non-decent of fetal head was majority in the study by **Gurunget al.** (92.4%) and in the study by **Dahiya P et al.**⁵ (28.8%). Were as in the study by **Babre VN et al.**² majority of women were given a prior instrumental trial before 2nd stage cesarean section.
 - Most common intra-operative maternal complication was PPH in the present study as well as in the study by **McKelvey et al.**¹, **Gurunget al.**⁴ (12.5%). But in the study by **Thirukumaret al.**⁶ blood-stained urine was the major complication observed in 60% of the patients.
 - Most common post-operative complication was febrile illness (18.3%).
 - In present study 87.8% of women had fetal complication and birth asphyxia (34%) was majority. Similar to the present study, birth asphyxia was reported as common fetal complication in the study by **Jomboet al.**⁷(16%),
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CONCLUSION

- Cesarean section (CS) at the second stage of poses a risk to the mother and fetus.
- Decision-making for CS in the second stage of labor is one of the greatest challenges in current obstetric practice. The involvement of a skilled obstetrician in the management of the second stage of labor CS aids in minimizing morbidity and mortality.

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