Journal of Cardiovascular Disease Research
ISSN: 0975-3583, 0976-2833 VOL 15, ISSUE 01, 2024

A STUDY OF INDICATIONS AND FETOMATERNAL OUTCOME OF LOWER SEGMENT CAESAREAN SECTION DONE IN ACTIVE FIRST STAGE OF LABOUR AT TERTIARY CARE HOSPITAL SPECTRUM- RETROSPECTIVE STUDY

Nagiri Indrani [1], Bathula Usha Rani[2], Nutakki Butchibabu[3], Dontamsetti Anjana Devi[4*]

[1]Assistant Professor, Department of Obstetrics and Gynecology, Guntur Medical College, Guntur, Andhra Pradesh, India

[2]Professor, Department of Obstetrics and Gynecology, Guntur Medical College, Guntur, Andhra Pradesh, India

[3]Assistant Professor, Department of Obstetrics and Gynecology, Guntur Medical College, Guntur, Andhra Pradesh, India.

[4*]Assistant Professor, Department of Obstetrics and Gynecology, Guntur Medical College, Guntur, Andhra Pradesh, India.

Corresponding Author: Dontamsetti Anjana Devi

Assistant Professor, Department of Obstetrics and Gynecology, Guntur Medical College, Guntur, Andhra Pradesh, India.

Email –anjanadevi1982@gmail.com

https://orcid.org/0009-0001-7617-5101

Abstract:

Background: Caesarean section is birth of the fetus through abdominal and uterine incisions after the period of viability. According to recent estimates, the increase in caesarean sections is almost 22.3 per 100 live births. So,there is a need for better understanding of the indications and fetomaternal outcome of it.

Aims and objectives: To study the indications and fetomaternal outcome of lower segment caesarean section in active first stage of labor at tertiary care hospital.

Materials and methods: This is hospital based retrospective study in patients who underwent lower segment caesarean section in active first stage of labor for 2 years from January 2022 to December 2023.Out of total 15688 deliveries ,120 cases were included in our study.

Results: It was observed in our study that out of 120 patients who underwent caesarean section in active first stage of labor were primi and in the age group of 20-25 years. Fetal distress is the commonindication. Maternal and fetal complications were significantly less if caesarean section is done in active first stage of labor.

Conclusion: Maternal and fetal outcome is better if caesarean section is performed in active first stage of labor.

Keywords : Caesarean section, active first stage of labor, maternal and fetal complications

INTRODUCTION

The use of caesarean section has increased dramatically worldwide in the last few decades. According to the recent estimates, the average global incidence of caesarean section has increased from 17.2% in 2016 to 21.5% in 2021 which is almost around 22.3 per 100 live births. But whereas the overall incidence of caesarean sections done in the active first stage of labour is less and associated with less fetomaternal complications. As there is an increase in caesarean section rate in current scenario, so there is need for better understanding of the indications and outcome of it.[5,6,7,8]

Caesarean section being a major operation, related morbidity and complications are to be taken into consideration for safety of mother and baby which depends on many factors [5,6,7,8] One of the major important factors is the timing of caesarean delivery when it is performed. Hence this present study was done at our tertiary care hospital to reduce maternal and neonatal complications.

According to the recent WHO recommendations and guidelines: the various factors affecting the increasing C-section deliveries are- Increasing health complications, Increased literacy, financial incentives, and modified socio-cultural factors[9,10,11]. Lifestyle plays a crucial role and with increasing rate of obesity in women and lack of physical activities, they are more prone for primary caesarean sections[9,10,11].

AIMS AND OBJECTIVES

To Study the indications and fetomaternal outcomes of lower segment caesarean section in the active first stage of labour in Tertiary Care hospital, to reduce the maternal and fetal risk factors and to improve the fetomaternal outcome.

MATERIALS AND METHODS

Study Design: Retrospective Study
Study Period: 2 years (January 2022 to December 2023)
Methods:
The material records of patients landed in lower segment caesarean section in active first stage of labour in GGH,Guntur was reviewed retrospectively for obstetric characteristics, indications and maternal and fetal outcome collected from the records of labour ward during the period of two years.

Inclusion Criteria:

All pregnant women with singleton pregnancy with vertex presentation who underwent lower segment caesarean section in active first stage of labour.

Exclusion Criteria:

All patients in 2nd stage of labour, with scarred uterus, malpresentations, APH, IUD were excluded in this study.

A total of 120 pregnant women were admitted in Government General Hospital, Guntur during January 2022 to December 2023 , in whom caesarean section was done in the Active first stage of labour in GGH were 120 and their indications for caesarean section and fetomaternaloutcome was studied.

- ➢ In this study Caesarean section was done during the Active first stage of labour, majority of them were in the age group of 20-25 years (45.8%) and are Primigravida's (63.3%).
- ➢ Table 1 and Table 2 shows the distribution of cases according to their age groups and parity who underwent caesarean section in the Active first stage of labour.
- ➢ In this study: Fetal distress due to PROM, Fetal growth restriction ,Oligohydramnios and postdates is the most common indication for Caesarean section which accounted for 61.6%. The second major indication was Referrals admitted in the Active phase of labour with contracted pelvis, CPD with Big baby which accounts for almost 25%.
- ➢ Table 3 shows distribution of cases according to the indications for which caesarean section was done during the Active first stage of labour.
- ➢ Table 4 shows distribution of cases who underwent caesarean section in the Active first stage of labour according to gestational age . In this study 83.3% were with Term gestation.
- ➢ Table 5 shows intraoperative and maternal complications of caesarean section done during the Active first stage of labour. In our present study 66.6% of cases who underwent caesarean section in the Active first stage of labour had no complications. 8.33% of patients required blood transfusion. There was more than one complication in a few cases.
- ➢ Table 6 shows APGAR of babies at birth in caesarean section in the Active first stage of labour. In our present study 21.6% of Newborns had a 5 min APGAR score of less than 7.
- ➢ Table 7 showsfoetal outcomes in our present study. 25% of newborns had NICU admissions and 5% were Neonatal deaths.

Table 1:- Distribution of cases according to the age group

Maternal Age	No of cases (n=120)	Percentage
<20 years	12	10%

20-25 years	55	45.83%
26-30 years	45	37.50%
>30 years	08	6.67%

Table 2:- Distribution of cases according to the parity

Parity	No of cases (n=120)	Percentage
Primi	76	63.33%
Multi	44	36.67%

Table 3:- Distribution of cases according to the Indications for Caesarean section

	Indication for caesarean section	No of cases (n=120)	Percentage
1	Referrals admitted in the Active phase of labour with CPD with Big Baby	30	25%
2	Arrest of dilatation	10	8.33%
3	Cord Prolapse	06	5%
4	Fetal distress	74	61.67%

Table 4:- Distribution of cases according to Gestational Age at delivery

Gestational age	No of cases (n=120)	Percentage
Term (>=37 weeks)	100	83.33%
Preterm (<37 weeks)	20	16.67%

Table 5:- Maternal Complications

	Maternal Complications	No of Cases (n=120)	Percentage
1	Extension of Incision	03	2.50%
2	PPH (all managed medically)	07	5.83%
3	Difficulty during Delivery	07	5.83%

4	Patients requiring Blood Transfusion	10	8.33%
5	Secondary PPH	02	1.66%
6	Subinvolution	02	1.66%
7	Febrile morbidity	10	8.33%
8	Wound infection	10	8.33%
9	Nil Complications	80	66.67%

*In a few cases there are more than one complication.

Table 6:- APGAR at birth

5 min APGAR	No of cases (n=120)	Percentage
<7	26	21.67%
>=7	94	78.33%

Table 7:-Fetal outcome

		No of cases (n=120)	Percentage
1	NICU admissions	30	25%
2	NICU deaths	06	5%
3	Weight of the baby ● <2.5 kgs ● >2.5 kgs	 32 88	 26.67% 73.33%

DISCUSSION

The present study is a Retrospective Hospital based study to review Obstetric characteristics, indications, and maternal and fetal outcome in caesarean sections in the active first stage of labor.

- ➢ As in current scenario clinical practice, the need of caesarean section is increasing for better maternal and fetal outcomes.
- ➢ The increasing rate of Caesarean section in Active First stage of labour in present study is mainly due to Fetal indications (61.6%). The causes of fetal distress are mainly due to PROM, Fetal growth restriction , Oligohydramnios and Postdates.
- ➢ Nupur Gupta and Taru Gupta conducted a similar study in New Delhi and found that 57.7% of caesarean sections were done in Primi in the Active First stage of labour and 77.7% were in the age group of 21-30 years. [1,2,3,4]

- Similar study was done by Deshpande Hemant and Shinde Madhukar in Maharashtra which showed 17.1% of maternal complications was due to Uterine Atony and 14.3% required Blood Transfusions. [5,6,7,8] This study also found that Gravidas who underwent caesarean sections in active first stage of labour had 42.8% of NICU admissions [5,6,7,8].
- Our present study showed that Caesarean sections performed in the active first stage of labour had 25% of NICU admissions.
- These unfavorable Neonatal outcomes are probably due to fetal distress and prolonged labour which leads to Hypotonia.
- Present study also showed that there are certain intraoperative complications like increased risk of uterine angle extension, and PPH which was medically managed.
- Compared to other similar studies conducted on caesarean sections the fetomaternal complications and NICU admissions are significantly lesser if caesarean sections are done in the active first stage of labour.
- Neonatal deaths are also significantly lesser and rates of APGAR score less than 7 in 5 minis also significantly less in current study.

CONCLUSION

In the current scenario the incidence of caesarean sections in the Active First stage of labour are increasing rapidly, so there is a need for better understanding of Indications and fetomaternal outcomes of it.

- Maternal complications and Fetal complications are significantly less if Caesarean section is performed early in Active First stages of labour.
- These minimum complications also can be avoided by an improvement of Antenatal care, Pelvic assessment in early labour and timely intervention by taking early decisions with counselling of the patient.

REFERENCES

1. GuptaN, Gupta, SinghR.Feto-maternal outcome in second versus first stage caesarean delivery in a tertiary medical care centre.Int J Reprod Contracept Obstet Gynecol2018;7:5084-7.
2. Winovitch KC, Wing DA, Lagrew DC, Chung JH. The risk of acute neonatal morbidities in the delivery room after primary cesarean at term: influence of labor and stage. Am J Perinatol. 2009;26(08):545-51
3. Dumont A, De Bernis L, Bouvier-olle MH, Bréart G, Caesarean section rate for maternal indication in sub-Saharan Africa: a systematic review.The Lancet. 2001;358(9290):1328-33
4. Malathi J, Sunita V. Comparison of obstetric outcome between first and second stage cesarean sections in rural tertiary hospital. Int J Pharm Biomed Res. 2012;3(4):222-5

5. Pergialiotis V, Vlachos DG, Rodolakis A, Haidopoulos D, Thomakos N, Vlachos GD. First versus second stage C/S maternal and neonatal morbidity: a systematic review and meta-analysis. Eur J Obstet Gynecol Reprod Biol. 2014;175:15-24.
6. Sinha S, Malik S, Dixit M. First versus second stage caesarean section: a comparison of maternal and neonatal outcomes. Int J Reprod Contracept Obstet Gynecol. 2017;6(8):3477-80.
7. Sucak A, Çelen S, Akbaba E, Soysal S, Moraloglu O, Danışman N. Comparison of Nulliparas Undergoing Cesarean Section in First and Second Stages of Labour: A Prospective Study in a Tertiary Teaching Hospital. Obstet Gynecol Int. 2011.
8. Guihard P, Blondel B. Trends in risk factors for caesarean sections in France between 1981 and 1995: lessons for reducing the rates in the future. BJOG. 2001;108(1):48-55.
9. Belizán JM, Althabe F, Cafferata ML. Health consequences of the increasing caesarean section rates. Epidemiology. 2007;18:485–6.
10. Chavarro JE, Martín-Calvo N, Yuan C, Arvizu M, Rich-Edwards JW, Michels KB, et al. Association of birth by cesarean delivery with obesity and type 2 diabetes among adult women. JAMA Netw Open. 2020;3:e202605.
11. Ronsmans C, Holtz S, Stanton C. Socioeconomic differentials in caesarean rates in developing countries: A retrospective analysis. Lancet. 2006;368:1516–23.