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Study of Primary Caesarean Sections in Multigravida

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ABSTRACT

***Objective**: Caesarean section is the most common surgery in modern obstetrics. This study evaluates it's prevalence, indications and outcomes in multigravidas.*
***Methodology**: A prospective study done at a tertiary care hospital of West Bengal for 1 year duration from April 2023 to March 2024. All multiparas who underwent first CS after having had a normal full-term delivery previously were included in the study.*
***Results**: Total 2000 deliveries during this period, out of which 69.4% were caesarean sections. 10.3%, ie 143 of these were primary caesarean sections in multiparas. 84% of these were emergency while the remaining were elective. Most common indication was fetal distress accounting for 50.3% of cases, while Induction failure (11.1%), hypertensive disorders of pregnancy (10.5%), oligohydramnios (9.8%), malpresentation (6.3%) were some of the others.*
***Conclusion**: Strict adherence to Labor care guide can decrease the incidence of caesarean sections in multiparas. Adaptation of the Robson's classification could also be helpful in reducing the morbidity associated with a caesarean section.*

***Keywords**: Caesarean section, fetal distress, Emergency, Malpresentation, Multipara.*

INTRODUCTION

Caesarean section is defined as a surgical procedure of extraction of fetus, after period of gestation of 28 weeks, making an incision on intact uterus through anterior abdominal wall. When a caesarean section is done in a woman who has already delivered vaginally, it is known as a primary caesarean in multipara. It was earlier believed that once a woman delivers normally, her subsequent deliveries will also be vaginal and uneventful. But terms like "dangerous multipara" [1] and "unpredictable multiparas" [2] have been used by Solomons and Feeney respectively, pointing towards the uncertainty and unpredictability, that is often overlooked in these patients. The rising caesarean section rate is a matter of global concern. As studied by WHO, global rates of caesarean sections have increased from about 7% in 1990 to 21% in 2021, and are only projected upwards in the upcoming decade. Region specific rates are highest in Eastern Asia, Latin America followed by western Asia [3]. These trends can be attributed to late marriage and childbearing, associated co-morbidities, obesity, urban dwelling and improved socio-economic status, increased number of ART conceptions and better access to hospital facilities. Other factors suggested by Betran AP et al after a meta study include women and families' preferences, health professional's views and beliefs, convenience, remuneration, healthcare organisation and financing structures.[4]

MATERIALS AND METHODOLOGY

This study includes primary caesarean sections performed on multiparous patients at the tertiary care ESI-PGIMSR Hospital in Kolkata, over a one-year period, from April 1, 2023 to

March 31, 2024. Multiparous women are those who have given birth vaginally one or more times (i.e., at 28 weeks gestation or beyond) or have had one to four children.
The recruited patients were followed up in their post-op period and any events noted.
The demographic data; including age, parity, maternal medical history, gestational age, mode of delivery, indications for caesarean sections, the birth weight and apgar score, NICU admission were collected and documented systematically using Microsoft excel to obtain results.

RESULTS

Out of 2000 total deliveries which occurred in our hospital, 1387 were by the Caesarean route, making the percentage remarkably high at 69.3%. Of these 790 (56.9%) and 454 (32.7%) were Primi caesarean and Post caesarean respectively and 143 (10.3%) were the Primary Caesarean in multipara, in question; illustrated in Figure 1.

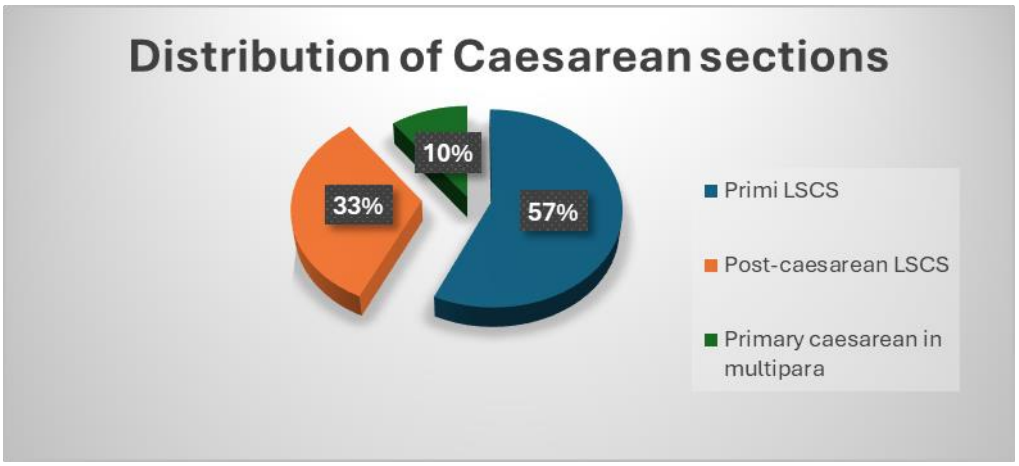

Figure 1: Distribution of Caesarean sections

Maximum of the multipara undergoing caesarean sections were in the 26-30 years age group, ie: 52 (36.4%), followed by 41(28.7%) in the 31-35 years age group. Only 1 patient was aged <20 years as depicted in Figure 2.

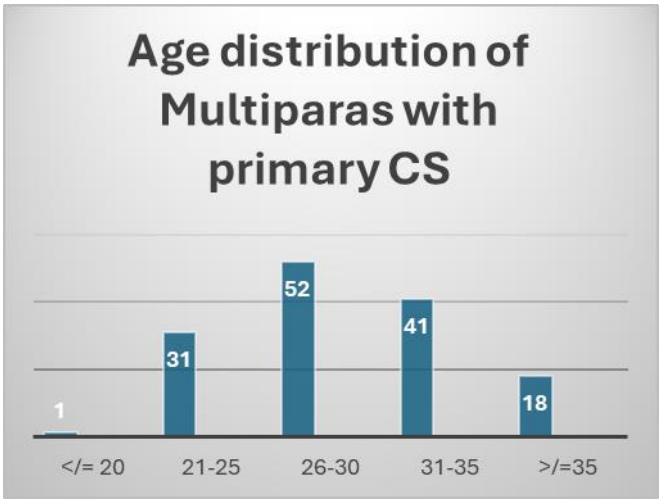

Figure 2: Age distribution of Multiparas with primary CS

Elaborated in Table 1; 91.6%, ie 131 of the 143 multiparas undergoing CS were Para-1 and had 1 previous vaginal delivery and 10 women (7%) had 2 previous vaginal deliveries. Para 3 and 4 ticked 1 patient each.

Table 1: Parity distribution among multiparas undergoing primary caesarean section

Parity	Number	Percentage
P1 (previous 1 Normal delivery)	131	91.6%
P2 (previous 2 Normal deliveries)	10	6.99%
P3 (previous 3 Normal deliveries)	1	0.69%
P4 (previous 4 Normal deliveries)	1	0.69%
Total	143	

Table 2 shows the gestational age at which the Caesarean sections were conducted, with most of them ie-118 (82.5%) being >37 weeks.

Table 2: Gestation age at which Primary CS in multipara conducted

Gestational age	Number	Percentage
<34 weeks	4	2.79%
34-37 weeks	21	14.68%
>37 weeks	118	82.51%
Total	143	

As depicted in Figure 3, Fetal distress accounted for the indication of 72 patients (50.3%). Induction failure indicated 16 patients (11.2%) and was followed closely by hypertensive disorders of pregnancy and Oligohydramnios with 15 (10.5%) and 14 (9.8%) cases respectively. Malpresentation accounted for 9 cases (6.3%).

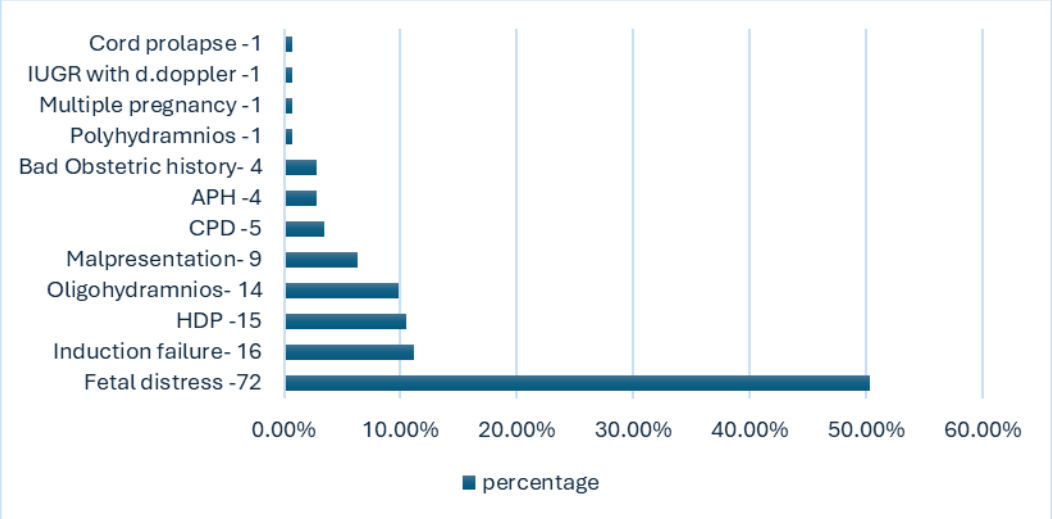

Figure 3: Indications of Caesarean section with frequency

Birth weight of the neonates was recorded as given in Table 3, with majority 110 (76.92%) having birth weight >2.5 kg and only 1 weighing in the range of 1 to 1.5kg. Depicted graphically in Figure 4 is the apgar at 1st and 5th minutes. Total of 15 neonates required NICU admission but no neonatal mortality was recorded in our study.

Table 3: Birth Weight of Newborns Born to Multiparas with Primary CS.

Birth weight (in kg)	Number	Percentage
<1	0	0%
1-1.5	1	0.69%
1.5-2.5	32	22.37%
>2.5	110	76.92%
Total	143	

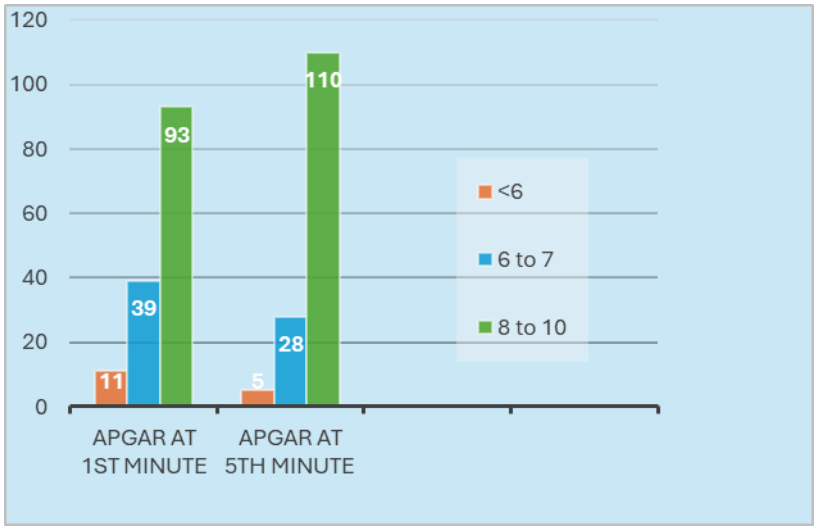

Figure 4: APGAR at 1st and 5th minute:

Intra-op findings noted were Meconium-stained liquor in 38.5% of cases, Post partum haemorrhage in 13 patients out of whom 10 required blood transfusions. Thinned out lower segment was noted in 34.3% of patients intra-operatively and extension of incision occurred in 11 (7.7%) patients.

Post operatively, 7 patients (4.9%) developed puerperal fever, 25 (17.4%) had wound gape. UTI was seen in 15 patients (10.5%) and Paralytic ileus complicated the post op periods of 4 (2.8%) patients.

DISCUSSION

This is a clinical study of Caesarean sections in multipara.

10.3% of the Caesarean sections done in our institution were performed on multipara with previous normal deliveries, while statistics in other similar studies showed rates of 10.28% and 11.38%. [5] [6] The maximum number of multipara were in 26-30 years age range and 2nd parity which was supported by Sharmila G et al and Sethi P et al in their studies. [7] [8] Most commonly observed indication in our study was Fetal distress, accounting for 50.3% of cases. Shah RK et al and Samal R et al also quoted it as the commonest indication with 40.6% and 42.6% respectively. [9] [10]

Corresponding to studies conducted by Preeti B et al, hypertensive disorders of pregnancy contributed 10.5% to the indication pool.[11] In our study all 4 Multipara caesareans at POG <34 weeks were necessitated by severe pre-eclampsia and were all aged <30 years showing age as one of the reisk factors of developing pre-eclampsia. Malpresentation accounted for 6.29% of cases which was relatively lower than most of the other studies in picture.

Antepartum haemorrhage was seen in 4 patients, similar to the study by Mohan S et al and all of these 4 required blood transfusions.[12] They were more often associated with hypertension disorders due to folic acid deficiency.

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Post op complication were surgical site infection of 17.5% which co-incided with Aiwo O et al reporting 16%.[13] It was higher than many other studies in picture, but lower than Ketema et al who reported a rate of 25.4%.[14] This is close to the globally reported rate of 3-15% by WHO, as confirmed by a meta-analysis performed by Saeed KBM et al. [15] Possible reasons could be Obesity, Prolonged labor, associated comorbidities and increasing age.

17.5% ie 25 out of 143 were preterm deliveries, which was corresponding to results of study conducted by Nayak V et who reported 18.6% preterm deliveries. In our study, NICU admission was warranted in 30 neonates in view of RDS, Prematurity and MAS, but neonatal mortality was not reported.[16]

CONCLUSION

Our study concluded that multiparae with previous vaginal delivery eventually require a Caesarean section due to various indications. These “unpredictable multipara” basks in a sense of false security and reassurance of future vaginal deliveries. This emphasises the importance of regular antenatal care and early detection of high-risk pregnancies and prior counselling.

Proper adaptation of Labor Care guide and strict adherence is necessary to monitor multipara and primi para alike. Application of Robson’s criteria should be employed to minimise the rate of Caesarean sections and prevent maternal and neonatal morbidity.

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