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Institutional study of primary caesarean section among multigravida

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Abstract
Background: Caesarean section is one of the most commonly performed operations in women. Primary caesarean section in a multigravida means first caesarean section done in the patients who had delivered vaginally once or more.
Aims and Objectives: To know the various indications of primary caesarean section in multigravida, and the maternal and fetal outcome among these patients.
Methods: It is a prospective study of primary caesarean section in multigravida admitted at Victoria Government Hospital during the period of May 2018 to April 2019. Cases requiring elective and emergency caesarean sections are included in the present study. In this study, analysis of the cases in relation to different factors have been done.
Results: During this period 308 multigravida had primary caesarean section out of total deliveries of 6976.Most of these patients (57.14%) belong to age group of 21- 25 yrs and majority were second (50%) and third (36.36%) gravidas. Majority had emergency caesarean section and main indications were fetal distress (18.18%), mal-presentations (15.90%), CPD (15.25%). Most common intra operative complication was atonic PPH and most common post-operative morbidity was puerperal pyrexia with wound infection. There were no maternal deaths in the present study.
Conclusion and Interpretation: Even though parous women had previous normal vaginal delivery, there were many complications like increased incidence of malpresentations, fetal distress, CPD, and others which may need caesarean section. Careful analysis of present pregnancy is needed to improve maternal and fetal out-come.

Keywords: caesarean section, multipara, fetal distress, malpresentations

1. Introduction
Caeserean delivery is defined as birth of a fetus through incision in the abdominal wall (laparotomy) and uterine wall (hysterotomy) [1]. Caesarean section is one of the most commonly performed operation in women and can be life saving for the child, the mother or both in certain cases. Caesarean births have become safer due to improved anesthetic and surgical techniques, availability of broad-spectrum antibiotics, blood and blood products. Caesarean section is considered as a safer alternative to prolonged and difficult vaginal operative delivery so as to reduce maternal and perinatal morbidity and mortality [2]. Other indications for caesarean section include dystocia, placenta previa, fetal distress, BOH and others.
Primary caesarean section in the multipara means first caesarean section done in the patients who had delivered vaginally once or more after the period of viability. It is a common belief among the public that once a mother delivers by normal delivery, all her subsequent deliveries will be normal. As a result, such multiparous mothers often neglect routine antenatal checkup. It is for these reasons that one's attention has been directed to the indication for caesarean section in women who have previously delivered vaginally [3, 4]. Multipara may still have cephalo pelvic disproportion even though they have delivered a full-term child vaginally. Other obstetric complications like APH, malpresentations, obstructed labor were more common in multigravida. Most of the multiparous women come to the hospital in second stage of labour. Not only is second stage surgery technically more difficult, but the foetus is at risk of hypoxia problems. Solomone in 1932 coined the phrase "dangerous multiparous [5]. While Feeney in 1953 preferred the term" unpredictable multiparous because of unforeseen complications that may occur in multipara [6]. It is for these reasons that we are interested in the indication for caesarean section in women who have previously delivered vaginally.

2. Inclusion Criteria
All multigravida with pregnancy of > 28 wks gestation (gravida 2 and above), each of whom has had a previous vaginal delivery of >20 wks.

3. Exclusion Criteria
Women with previous abortions and previous caesarean sections.

4. Aims and Objectives
1. To know the indications of primary caesarean section in multigravida.
2. 2.To study incidence according to age and gravida
3. To study maternal and fetal outcome.

5. Materials and methods
This is the prospective study of 308 cases of primary caesarean section in multigravida, admitted at Victoria government hospital during period of May 2018 to April 2019. This includes the patients reporting directly to labor room in various stages of labor as well as those who were admitted in the antenatal wards for various high-risk factors and taken up for elective caesarean section. Amongst patients presenting directly to labor room, detailed history was taken at admission with reference to present pregnancy

and also previous obstetric history. Detailed obstetric examination was done including pelvic assessment. For all cases basic investigations and ultrasonography were done to estimate gestational age, placental position, AFI measurement. Some patients were first subjected to trial of labor and then subsequently were operated upon. Some were taken up for LSCS straight away. All the patients taken up for study were followed up till they are discharged from the wards.

6. Observation and Results

About 308 cases of primary caesarean section done in multiparae during the study period was analysed and the results were as follows.

Table 1: Age wise distribution of primary section in multigravida

Age	No. of patients	Percentage
15 – 20 years	32	10.38 %
21 – 25 years	176	57.14 %
26 – 30 years	80	25. 97 %
>30 years	20	6. 49 %
Total (n)	308	100

Most of them (57.14) were in the age group of 21 – 25 years. 25.97 % were in the age group of 26 – 30 years.

Table 2: Distribution of cases according to gravid status.

Gravid	No. of cases	Percentage
Gravid 2	154	50 %
Gravid 3	112	36.36 %
Gravid 4	32	10.38 %
G 5 or>G5	10	3.24 %
Total (n)	308	100

Most of them are Gravida 2 (50 %) and Gravida 3 are 36.36 %.

Table 3: Gestational age in present pregnancy

Gestational age	No. of cases	Percentage
Post dates	95	30.84 %
Term (37 – 40) weeks	182	59.09 %
34 -36 weeks	20	6.09 %
32 -34 weeks	8	2.59 %
< 32 weeks	3	0.97 %
Total	308	100

Around 80 – 85 % of the cases underwent caesarean section after attaining clinical maturity (beyond 37weeks). About 10 % of cases underwent caesarean section before attaining clinical maturity. Caesarian section was done at 30 weeks period of gestation in view of Grade 3 Placenta Previa in labor. In another case caesarean section was done at 32 weeks period of gestation in view of severe preeclampsia with abnormal Doppler studies.

Table 4: Timing of caesarean section operation

S.no	Timing of operation	No. of cases	Percentage
1	Elective	69	22.40 %
2	Emergency	239	77.59 %

In about 77.59 % of the cases emergency primary caesarean section was done. Elective sections are of about 22.40 %

Table 5: Indications of caesarean section in multigravida

Indication	No. of cases	Percentage
Fetal distress	56	18.18%
Malpresentations	50	16.23%
Cephalo pelvic disproportion	49	15.90%
PROM with failed Induction	37	12.01%
IUGR with oligohydramnios	37	12.01%
Severe PIH	14	4.54%
Obstructed labor	23	7.39%
BOH with precious pregnancy	21	6.81%
Placenta previa	7	2.27%
Abruption	3	0.97%
Twins	11	3.57%
Total	308	100

Most common indication for caesarean section in multigravidas was fetal distress (18.18%) followed by malpresentations (16.23%) and then cephalopelvic disproportions in 15.25% of cases.

Table 6: Types of operations

S.no	Type of operations	No. of cases	Percentage
1.	LSCS	307	99.5
2.	Caesarean hysterectomy	1	0.43
	Total	308	100

In our study the operation of choice was lower segment caesarean section. In one case caesarean hysterectomy was done for uncontrolled atonic post-partum hemorrhage

Table 7: Maternal outcome

S.no	Complications	No. of cases	Percentage
1.	Healthy (no complications)	256	83.19%
2.	PPH Atonic	20	6.49%
	Traumatic	12	3.89
3.	Puerperal pyrexia	10	3.24
4.	Wound Sepsis	6	1.9
5.	Urinary tract infection	4	1.29
	Total	308	100

In our study complications were not observed in 256 cases. 20 cases had mild to severe PPH. In one case uncontrolled atonic PPH occurred for whom caesarean hysterectomy was done. Others required blood transfusions. In 6 cases wound infection occurred.

Table 8: APGAR score

S.no	APGAR Score	No. of cases	Percentage
1.	8-10	279	90.58
2.	6-8	18	5.85
3.	<6	8	2.59
4.	0	3	0.98
	Total	308	100

About 90% of babies had APGAR score of 8-10. 5% had APGAR of 6-8 and 3 cases had APGAR score of 0. One case came in labour at full dilation with shoulder with hand prolapsed At 32 weeks of pregnancy. We operated this case and delivered baby with poor APGAR of 2-0. In other case we did Emergency LSCS in view of transverse lie with cord prolapse in labour and delivered baby with poor APGAR of 2-0.

Table 9: Distribution of cases according to weight of baby.

S.no	Wt. of the baby	No. of cases	Percentage
1.	> 3kg	130	42.22
2.	2-3 kg	158	51.29
3.	<2 kg	20	6.49
	total	308	100

About 51% of babies had birth weight between 2-3 kg and 42% of babies had birth weight > 3 kg.

7. Discussion

Multiparity is a problem associated with poverty, illiteracy, ignorance and lack of knowledge of the available antenatal care and family planning methods, A multipara who has earlier delivered vaginally may still require a caesarean section for safe delivery.

In this study about 308 cases of multi gravidas underwent primary cesarean section in Government Victoria Hospital. Andhra Medical college, Visakhapatnam during the period from May 2018 to April 2019 with an incidence of 4.4%. Even though incidence is less they are actually associated with high maternal and morbidity.

Out of 308 patients, most of the patients (57.14%) belong to the age group of 21-25 years followed by 25.97% in the age group of 26-30 years. Similar age pattern were seen in recent studies conducted in Government General Hospital, Kakinada (2013 to 2015) and Siddhartha Medical College, Vijayawada, (2015)[7] by P. Himabindu.

Distribution of patients according to parity shows that most of the patients (50%), were gravid II followed by gravid III (36, 36%). Grand multiparty has been significantly reduced in the past few years, Sethi P *et al.* also reported the similar results 35% gravid II, 30% of gravid III status [8].

Most of the patients (59.09%) belong to gestational period of 37-40 was followed by 30.84% patients in gestational age of 40-41 wks.

In 77-59% of cases, primary emergency section was done, elective caesarean section was done in 22.40% of cases similar results were observed in Sherinsams *et al.* study (2017) [9].

In our study the operation of choice was lower segment caesarean section. In one case caesarean hysterectomy was done for uncontrolled atonic PPH. Among intraoperative complications, PPH was the most common complication (32 cases) Atonic PPH accounting for 20 cases and traumatic PPH for 12 cases PPH was seen in cases with late referral in obstructed labour and threatened rupture. PPH was treated by blood transfusions and transfusion of blood components as and when necessary.

Fetal distress (18. 18%), CPD (15-25%), abnormal presentations (15-90%) were the most common indication for caesarean sections. These results were compared with recent studies by Erika Desai (2013) [10]. and Jyothi H. Rao (2013) [11]. and P. Himabindu (2015) [7].

Puerperal pyrexia was the most common maternal morbidity seen in cases of prolonged labor. PROM>24hrs and obstructed labor cases where caesarean section was done late in labour had wound infection and secondary suturing was done in 6 cases.

Fetal outcome was good with APGAR (8)-(10) in 90.58% of cases, 5% had APGAR score of (6)-(8). There were 3 perinatal deaths due to prematurity with transverse lie (1 case), Meconium Apiration Syndrome (1 case), Transverse lie with cord prolapse (1 case). About 51% of babies had birth weight between 2-3kg and 42% of babies had > 3kg. Frigelleto and Associates reported a zero maternal mortality in 10231 cases of caesarean sections from Boston. Raksha Arora found decrease in maternal mortality from 0.46% (1983) to nil in (1988) [12].

There were no cases of maternal mortality in our study. Caesarean hysterectomy was done in one case for uncontrolled Atopic PPH. Mortality rate at tertiary care hospitals is less because of good antapartum and intrapartum care. Unrecognized CPD leading to obstructed labour is a contributing factor in increasing maternal morbidity. Hence a multipara woman in labour requires the same attention as that of primigravida. Good antenatal and intra partam care and early referral can reduce the maternal and perinatal morbidity and mortality in multipara.

8. Conclusion

Multipara especially grand multipara belong to high risk group who may have many obstetric complications which were frequently over looked due to false sense of security created by previous vaginal deliveries. A multipara who has earlier delivered vaginally may still require a caesarean section for safe delivery.

Recent concept of “Maternal Near –Miss” (MNM) or severe Acute Maternal Morbidity (SAMM) defined as a women who nearly died but survived a complication during pregnancy or child birth confers a warning in the management of multiparous women who may have many unforeseen complications which may contribute to serious maternal morbidity and mortality as out lined in the present study.

This study reemphasizes the need of thorough antenatal care and vigilance in the management of labour. Though vaginal delivery is always safer than caesarean section, difficult vaginal delivery and obstructed labour carries more morbidity and perinatal mortality when compared to elective caesarean section. Therefore early recognition of complications, timely intervention will decrease fetal loss and also improve pregnancy out-come.

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