

A Study of Primary Caesarean Section in Parous Females

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Abstract

Aims and Objectives: The objective of this study was to find out the incidence and indications of primary caesarean section in parous women and evaluate the maternal and perinatal outcomes there from.

Methods: Prospective study of primary caesarean sections in parous women was done at our institute, VikhePatil Memorial Hospital, a tertiary referral center from July 2016 to June 2017. Age, indications and the maternal as well as perinatal outcomes were analyzed. Data was expressed as number and percentage.

Results: Out of 974 caesarean deliveries, 154 (15.8%) primary caesareans in parous women were done. The most common age group was 20-25 (50%) years. The majority of parous women who underwent primary caesarean section, were primipara. Booked cases constituted around 55.19% of total study population. Among all, 142 (92.21%) patients were operated in emergency. The most common indication for caesarean section in this group of patients was fetal distress (35.06%).

There was no maternal mortality seen, but 2 cases of neonatal mortality occurred in study population.

Conclusions: Fetal distress was the most common indication for primary caesarean section in the parous woman, although malpresentation also contributed significant numbers. Our study shows that Primary caesarean section in parous women is not uncommon. Though to a small extent, they are contributing to rise

in total caesarean section rates. Good obstetric care is required in parous women to improve maternal and neonatal outcome and it will also help to keep caesarean section to a lower rate.

Keywords: Caesarean section; Multipara; Parous women; Primary caesarean section.

Introduction

Caesarean section is one of the most commonly performed operations worldwide. It is one of the oldest operations in surgery. With the advances in technique, sutures and antibiotics, modern anesthesia and blood transfusion facilities, caesarean births have become safer too. Modern obstetric practice for medical, social, economic and legal reasons has witnessed an increase in the primary caesarean section rate everywhere. In 1985, World Health Organization recommended optimum CS rate of 10-15% and stated that there was no justification for any region in the world to have higher rates than this [1]. The overall rate of caesarean section in Asia was estimated to be 27.3% with highest rate observed in China [2]. In Indian study, Total population caesarean section rate was 32.6% (95% CI 27-38) and primary caesarean section rate was 25% (95% CI 20-30). Total caesarean

section rates in the public, charitable and private sectors were 20%, 38% and 47%, respectively [3].

There is an increasing trend in both primary and repeat caesarean rates. The reasons for the increase are multifaceted. The fetal distress, commonly documented by continuous electronic fetal heart rate monitoring is becoming foremost indication for caesarean section. Factors like increased maternal age, high BMI (Body Mass Index), multiple pregnancy, IVF conceptions, though not indications, are associated with increased risk of Caesarean section [4].

Multipara means those who had delivered once or more after the age of viability. In a paper entitled "The dangerous multipara" published in 1934, Dr. Bethel Solomons stated "My object in writing this paper and giving it a sensational title is to remove if possible once and for all, from the mind of the reader, the idea that a primigravida means difficult labour, but a multipara means an easy one" [5].

Primary caesarean section in the multipara means first caesarean section done in the patients who had delivered vaginally once or more. Multipara may still have cephalopelvic disproportion even having previously delivered a full term child vaginally. Since the foetus increases in size with multiparity, the size of foetus and foetal head should be carefully estimated. In multiparous patients, malpresentations are favored by a pendulous abdomen and lordosis of the lumbar spine and in any case that is usual for the head not to engage in the pelvis until the onset of labour [6]. Also, with increased safety following introduction of modern anaesthesia, blood transfusion facilities and higher antibiotics, the indications for caesarean section are liberalized to include dystocia, antepartum hemorrhage, fetal distress, BOH and others. Caesarean section is considered as a safer alternative to prolonged and difficult vaginal operative delivery, vaginal breech deliveries so as to reduce maternal and perinatal morbidity and mortality [7].

Since most of the multiparas have easy vaginal deliveries, they do not pay much attention to the antenatal care they deserve. The relative ease with which some multiparous are delivered in the presence of faulty positions and presentations may account for the false sense of security in the minds of patient as well as inexperienced obstetricians. Due to these factors, multiparous women pass through a stage of pregnancy and labour in subnormal state of health with a potential risk when a caesarean section has to be performed. It is for these reasons that the attention has to be directed to the indication for caesarean section in women who have previously delivered vaginally [8].

Aims and Objectives

1. To study the incidence of primary caesarean section in multipara and analysis of various related factors.
2. To study the various indications responsible for primary caesarean sections.
3. To know the maternal and perinatal outcome following caesarean section.
4. To know the Incidence of post-operative morbidity.

Inclusion criteria: 1) Parous females, 2) Pregnancy > 28 wks.

Exclusion criteria: 1) Gestational age < 28 wks, 2) Scarred uterus (Previous CS or Myomectomy) 3) Multiple pregnancies or Anomalous baby.

Materials and Methods

An observational study was conducted in the Department of Obstetrics and Gynecology of Dr. Vithalrao Vikhe Patil Foundation's Medical college and hospital, a tertiary referral center in Ahmednagar for a period of one year from July 2016 to June 2017. All parous women (gestational age > 28 weeks) with a singleton pregnancy who underwent caesarean section were included in the study. This included patients reporting directly to the labour room in labour as emergency cases and elective cases who were admitted in ANC wards for various high risk factors taken up for elective caesarean section. Among the referral patients admitted in labour room, history was taken at admission with reference to present pregnancy and also previous obstetric history. Systemic examination was done including detailed obstetric examination. For all cases basic investigations and ultrasonography were done to estimate gestational age, placental position, AFI measurement and to rule out anomalies. Labour was monitored by partogram and intra-partum CTG was done where required. Decision for caesarean section was based on clinical evaluation and progress of labour. Intra-operative details were noted in detail. Postoperative period was monitored and all complications were managed as per regular protocol. Patients were followed up till discharge from the hospital. Data collected and analysed were: demographic details like age, parity, booking status, indication of the caesarean section, timing of caesarean section, intra-operative and postpartum complications, Apgar score of the baby, neonatal

intensive care unit (NICU) admission, birth weight and neonatal morbidity/mortality. The obtained data was statistically processed using MS Excel program. Simple descriptive statistics was used for analysis and presented as frequency tables.

Results

Table 1: Proportion of caesarean sections in parous females.

Total no of caesarean section	974	100
No. of primary caesarean section in parous women	154	15.8%

During the study period, 974 caesarean deliveries were conducted in our hospital. This study included 154 cases of primary caesarean section in parous females. Table 1 shows that the proportion of caesarean sections in parous women was 15.8% (Table 1).

Table 2: Age distribution of the cases.

Age (in years)	No. of cases	%
<20	2	1.30
20-25	77	50
25-30	52	33.77
30-35	20	12.99
>35	3	1.95
Total	154	100

The maximum incidence of caesarean section was seen in the age group of 20-25 yrs. This may be because of the fact that majority of study population belonged to rural area (Table 2).

Table 3: Parity distribution of cases.

Parity Distribution	No of cases	%
P1	92	59.74
P2	44	28.57
P3	15	9.74
P4	2	1.30
P5	1	0.65
Total	154	100

Among the patients undergoing C-section, the number of Primiparous patients were 92 (59.44%), while number of 2nd para patients were 44 (28.57%). Only one Grand multipara was there in the study group (Table 3).

Table 4: Booking Status of cases

Status	No. of cases	%
Booked	85	55.19
Unbooked	69	44.81
Total	154	100

In our study, Booked cases contributed to 85(55.19%) of total cases. Case was considered as Booked case, if at least 3 ANC visits were there, Tetanus immunisation was done and one first trimester USG along with antenatal supplementation of Iron and Calcium was taken. 69 (44.81%) cases were unbooked, in which 9 cases were unregistered, where no antenatal care was sought for (Table 4).

Table 5: Types of cases and surgery done

Status	No.of cases	%
Elective	12	7.79
Emergency - referred	74	48.05
Emergency - direct	68	44.16
Total	154	100

There were total 12(7.79%) cases which were already admitted in wards and taken electively for cesarean section. The number of cases operated in Emergency was 142(92.21%) in total. Among those, 74(48.05%) cases were referred to our institute from peripheral centers, while 68(44.16%) cases came directly (Table 5).

Table 6: Indications for caesarean section.

Indication	No.of cases	%
Fetal Distress	54	35.06
Malpresentation	27	17.53
APH (Antepartum Hemorrhage)	15	9.74
CPD (Cephalopelvic Disproportion)	13	8.44
Severe Oligohydramnios with IUGR	12	7.79
NPOL (NonProgress of Labour)	12	7.79
PPROM (Prolonged Premature Rupture of Membranes)	8	5.20
Eclampsia with Unfavourable Cervix	6	3.90
DM (Diabetes Mellitus)	4	2.60
Non-reassuring NST	3	1.95
Total	154	100

The three most common indications for caesarean sections as represented in (Table 6) were fetal distress (35.06%), Malpresentation (17.53%) and Antepartum Hemorrhage (APH - 9.74%). In total 15 cases of APH, 8 suffered from Abruption and rest 7 cases presented with placenta previa. 5 cases of placenta previa were operated as Emergencies, while only 2 were admitted before for elective surgeries (Table 6).

Table 7: Incidence of various obstetric presentations

Presentation	No. of patients	%
Cephalic	127	82.47
Breech	16	10.39
Breech - footling	2	1.30
Transverse	8	5.19
Brow	1	0.65
Total	154	100

In 127 (82.47%) patients, it was cephalic presentation. Breech was commonest malpresentation while transverse lie was there in 8 (5.19%) cases (Table 7).

Table 8: Various causes of post-operative Maternal morbidity

Causes of Maternal morbidity	No. of cases	%
PPH	12	7.79
Puerperal pyrexia	15	9.74
UTI	7	4.55
Abdominal distension	12	7.79
Respiratory tract infection	21	13.64
Wound infection	14	9.09

It was observed that the patients undergoing C-section had various incidences of morbidity due to various reasons for it. The most common cause of morbidity was respiratory tract infection, 21 (13.64%) patients suffered from it. The number of patients who suffered from P.P.H. was 12 (7.79%). The number of patients who had wound discharge after C-section was 14 (9.09%), out of which 6 required resuturing for wound gape. The number of patients having pyrexia was 15 (9.74%), while the number of patients with abdominal distension was 12 (7.79%) and number of patients having U.T.I. was 7 (4.55%). There was no case of puerperal psychosis in the study group (Table 8).

Table 9: Distribution according to Birth weight

Birth Weight	No. of cases	%
< 2 kgs	10	6.49
2-2.5 kgs	35	22.73
2.5-3 kgs	63	40.91
3-3.5 kgs	36	23.38
> 3.5 kgs	10	6.49
Total	154	100

In all, 63(40.91%) babies belonged to category of 2.5-3 kgs birth weight. LBW babies (<2.5 kgs) were 45(29.22%). 10(6.49%) babies weighed more than 3.5 kgs (Table 9).

Table 10: Perinatal Outcome

Neonatal outcome	No. of cases	Percentage(%)
Low birth weight (<2.5 kgs)	45	29.22
Apgar <7	6	3.8
NICU Admission	26	16.88
Neonatal deaths	2	1.2

Table 12:

No.	Indications	Our study	Rupal Samal et al.	Jyoti Rao et al.	P. Hima Bindu et al.	Erica Desai et al.
1.	Fetal Distress	35.06	42.6	17	24.7	25.58
2.	Malpresentation	17.53	26.4	33.5	19.3	17.44
3.	APH	9.74	5.9	19.5	11.2	22.09
4.	CPD	8.44	14.7	18.5	3.2	19.77

In our study, there were total 45 LBW babies, in which 35 weighed less than 2 kgs. Out of 26 NICU admissions, 6 babies had APGAR score <7. There were 2 neonatal deaths, one due to RDS and other because of sepsis (Table 10).

Discussion

A multipara, delivered by vaginal route previously, may still require a caesarean section for safe delivery. Caesarean section may not be the panacea for all obstetric problems, but it is an appropriate solution when applied carefully. Incidence of primary caesarean sections in multipara in the present study is 15.8%. This is compared with other studies in the table [6,7,9,10]. The higher incidence is mainly due to negligence in antenatal care, as it is observed that most of the patients in that study were unbooked and hospitals were referral tertiary centers for high risk cases.

Table 11:

Studies	Incidence of Primary C-section (%)
Our study	15.8
Rupal Samal et al.	6.04
Jyoti Rao et al.	10.28
P. Hima Bindu et al.	40
Erica Desai et al.	29.05

In the present study, 50% of women undergoing primary caesarean section amongst multigravida wherein the age group of 21-25 years. This may be due to the trends of early marriage and lack of education resulting in high fertility in early ages. In the Parrish series, maternal age was found to be a strong risk factor for primary caesarean deliveries. Higher primary caesarean section rates were associated with increasing maternal age [11]. Among the patients undergoing C-section, the number of Primiparous patients were 92 (59.44%), which is comparable with the study conducted by Rupal Samal et al. (58.88%) and Desai et al. (34.88%) [6,9].

The percentages of booked and unbooked cases in our present study are 55.19% and 44.81% respectively. In comparison, Erica Desai et al. had 27.90%, 72.09% of booked and unbooked cases respectively and in P. Hima Bindu et al study, 71% were unbooked [6,7]. The number of unbooked

was least (2.9%) in the study conducted by Rupal Samal et al. [9]. In our study, elective caesarean sections accounted for 7.79% of study population, which is comparable to the study done by Samal et al. (5.9%) [9]. Comparison of common indications in different studies is done. Commonest indication in our study was Fetal distress, like that of Rupal Samal et al. and Erica Desai et al. [6,9].

The increased incidence of fetal distress can be attributed to frequent use of fetal monitoring (cardiotocogram) as an integral part of labour and delivery care in recent years as compared to previous decades. Fetal heart rate changes in CTG which indicate fetal distress, prompt the obstetrician to perform rapid delivery by CS. As universal use of fetal scalp blood sampling is not available thereby leading to obstetrician's distress, no obstetrician would like to take the risk of not performing CS. [12]. According to Cochrane database, continuous CTG during labour is associated with a reduction in the incidence of neonatal seizures, has no obvious impact on cerebral palsy or perinatal mortality but is associated with an increase in the incidence of caesarean section and instrumental vaginal births [13].

Klein states that multigravida in labour with unengaged fetal head should receive the same careful investigation for Cephalopelvic Disproportion as the primigravida. Failed diagnosis can lead to longer labour, with excessive moulding and caput formation making the observer to believe that progress has been made. This can lead to failed attempt in Forceps application [14]. Duckman et al. state that cephalopelvic disproportion in a multipara can be more significant and more dangerous than in the primi because of the delay in recognition [15]. Hence CPD in Multiparous patients has to be evaluated properly. In such scenario, caesarean section is the appropriate step to improve neonatal outcome and reduce maternal morbidity.

There was no maternal mortality in study population. In our study, 16.88% babies were admitted to NICU. Only 3.8% babies had Apgar score <7 at 1 min. 29.22% neonates had LBW. There were 2 cases of neonatal mortality.

Conclusion

Though multiparity with previous vaginal delivery is regarded as an optimistic historical fact, it is not a diagnostic criteria for spontaneous delivery in next pregnancy. Routine antenatal care with proper monitoring for complications

both during antenatal and intrapartum period improves chance for improved maternal and perinatal outcome with possibly low caesarean rates. Hence a multiparous woman in labour requires the same attention as required by a primigravida.

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