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Study of primary caesarean section in multigravida

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ABSTRACT

Aims: To know the incidence, indication and maternal and perinatal outcome of primary caesarean section in multigravida. To know the incidence and indications of primary caesarean section in multigravida. **Materials and Methods:** It is a prospective study of over 196 cases of caesarean section done for the first time in multigravida for a period of 2 years . For all the cases, blood was sent for basic investigations like Hb, blood grouping and typing, total count, differential count, urine examination. Special investigations like LFT, RFT done when required and for placental localization, abruption. Intrapartum cardiotocography done in cases where it was required**. Results:** This is a prospective study undertaken to analyze 196 cases of caesareansection done for first time in multigravidae during the study period of teo years. In Incidence of cesarean section, There were 6580 deliveries during this period around 1932 cesarean sections were done, which represented 29.3% of all deliveries. Incidence of primary cesarean section in parous women is 3% of all deliveries.. Status of booked / unbooked cases, Only 31.2% parous women had regular antenatal checkup and 68.8% did not receive any antenatal care. cases in multigravida women who underwent primary caesarean were ,the number of cases which was referred to us was 84 (42.86%), number of cases which were received directly was 96 (48.98%) and the number of cases which was already admitted in the ward were 16 (08.16%). Among the various maternal indications for caesarean section, malpresentations accounted for 23.4%,followed by antepartum hemorrhage (16.8 %), fetal indications (15.3%), medical disorders 16.5% and cephalopelvic disproportion 15.8%. Failed induction accounted for 11.7%. Among various fetal indications, fetal distress accounted for 7.6% and3.7% cases, the non stress test was non reactive. Gynaecological disorders in multigravida women who underwent primary caesarean were total 32 parous women had antenatal complications (16.3%). 126 patients had mild anemia, incidence coming upto 64.2%, 4 patients had severe nutritional anemia with hemoglobin less than 7 grams/dl, and they required blood transfusion before surgery5 patients had Antepartum eclampsia, 2 had chronic hypertension, 2 had Gestational diabetes. **Conclusion:** From the above study it is very clear that, many unforeseen complications occur in woman who previously had a normal vaginal delivery. . 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.

Key words: Caesarean section, Vaginal delivery, Malpresentations

Introduction

Caesarean delivery defines as the birth of a fetus via laparotomy (abdominal wall) and then hysterotomy (uterine wall). There are two types of caesarean delivery primary refers to a first time hysterotomy and secondary denotes a uterus with one or more prior hysterotomy incision. Caesarean section is one of the most commonly performed surgical procedures in the world and can be life-saving for the child, the mother, or both, in certain cases. Multipara means those who had delivered once or more after the age of viability. It includes primi-para (uniparapara1) multipara (para 2,3,4) and grand multipara (para more than 4).Primary caesarean section in the multipara means first caesarean section done in the patients who had delivered vaginally once or more[5]. The reasons for primary caesarean section are increase in size of fetus an fetal head which causes cephalopelvic disproportion & placental location[1].The present study evaluates the proportion of primary caesarean sections occurring in

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multipara in a tertiary care hospital and their indications. This study also assesses the maternal and perinatal outcomes of these women.

Materials and methods

It is a prospective study of over 196 cases of caesarean section done for the first time in multigravida for a period of 2 years .

lnclusion criteria: Multigravida with pregnancy of >28 weeks gestation (gravida 2 and above), each of whom has had a previous vaginal delivery of viable foetus and Multiple pregnancy (twins) and Pregnancy with medical disorders.

Exclusion criteria: Women with previous abortions/ non-viable pregnancies,Women with previous caeserean section.General nutritional status, height and stature were noted. Presence of anemia and edema recorded. Systemic examination of heart and lungs was done. Vital data like pulse rate, blood pressure, respiratory rate and temperature were recorded.For all the cases, blood was sent for basic investigations like Hb, blood grouping and typing, total count, differential count, urine examination. Special investigations like LFT, RFT done when required. USG done in most of the cases to rule out congenital anomalies, and for estimation of gestational age and for placental localization, abruption. Intrapartum cardiotocography done in cases where it was required.

Results

There were 6580 deliveries during this period around 1932 cesarean sections were done, which represented 29.3% of all deliveries. Incidence of primary cesarean section in parous women is 3% of all deliveries and accounted for 10.1% of all sections done.

Table 1;Status of cases

Status of booked	No. ofcases(n=196)	percentage
UnBooked	134	68.8%
Booked	62	31.2%
Types of cases		
Referred	84	42.86%
Direct	96	48.98%
Admitted	16	08.16%

Only 31.2% parous women had regular antenatal checkup and 68.8% did not receive any antenatal care.

The number of cases which was referred to us was 84 (42.86%), number of cases which were received directly was 96 (48.98%) and the number of cases which was already admitted in the ward were 16 (08.16%).

Table 2: **Various indications for primary cesarean section**

Indication for Cesarean section		No. of cases (n=196)	Percentage
Maternal	Malpresentation	46	23.4%
	Antepartum haemorrhage	33	16.8%
	Medical disorders	32	16.5%
	Cephalopelvic disproportion	31	15.8%
	Failed induction	18	9.2%
	Obstructed Labour	2	1%
	Bad obstetric history	2	1%
	Malposition	2	1%
Fetal	Fetal distress	15	7.6%
	Non reactive non stress test	7	3.7%
	Intrauterine growth retardation(IUGR)	4	2%
	Cord prolapse	4	2%

Among the various maternal indications for caesareansection, malpresentations accounted for 23.4%,followed by antepartum hemorrhage (16.8 %), fetal indications (15.3%), medical disorders 16.5% andcephalopelvic

disproportion 15.8%. Failed induction accounted for 11.7%. Among various fetal indications, fetal distress accounted for 7.6% and3.7% cases, the non stress test was non reactive.

Table 3: Distribution of types of malpresentations

Malpresentation	No. of cases (n=48)	Percentage
Transverse lie	16	34.8%
Breech	14	30.2%
Brow	10	21.8%
Compound presentation	08	17.2%

Transverse Lie 34.8% Breech Presentation 30.2%. Brow Presentation 21.8% , Compound Presentation17.2

Table 4: Medical and gynaecological disorders in multigravida women of primary caesarean section

Complications		No. of cases	Percentage
Medical complications n= 32	Pregnancy induced hypertension	19	59.3%
	Antepartum eclampsia	5	15.6%
	Severe anaemia	4	12.5%
	Chronic hypertension	2	6.3%
	Gestational diabetes	2	6.3%
Gynaecological complications n=2	Fibroid with pregnancy	1	50%
	Prolapse with pregnancy	1	50%

Total 32 parous women had antenatal complications (16.3%). 126 patients had mild anemia, incidence coming upto 64.2%, 4 patients had severe nutritional anemia with hemoglobin less than 7 grams/dl, and they required blood transfusion before surgery. In these patients surgery done for obstetric indications. 19 patients had Pregnancy induced hypertension, 5 patients had Antepartum eclampsia, 2 had chronic hypertension, 2 had Gestational diabetes. The most common complication being Pregnancy induced hypertension followed by anemia (severe) which required blood transfusion. These were nutritional anemia.

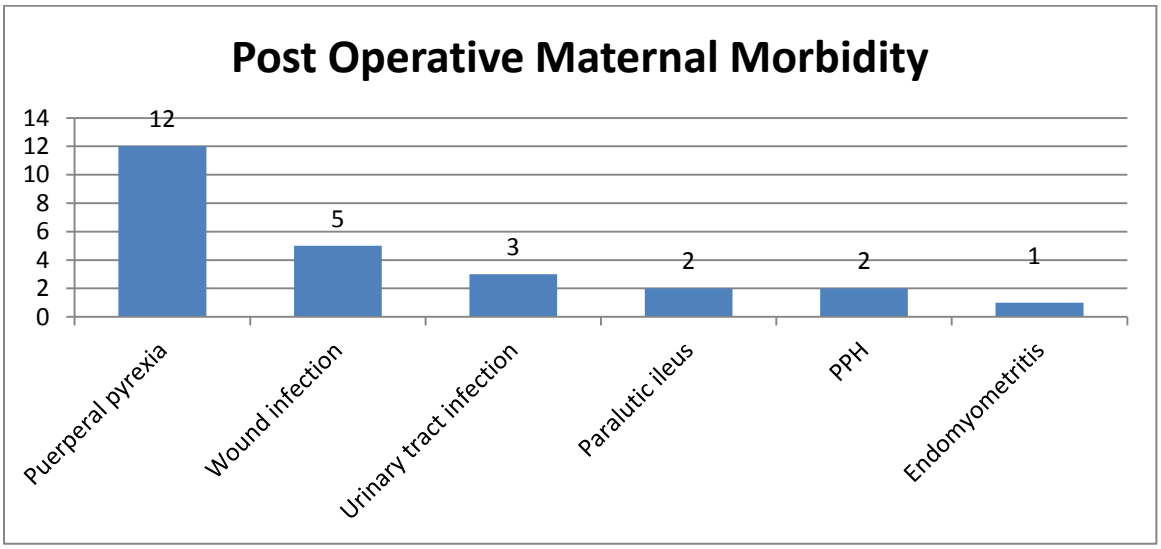

Fig 1:Post operative maternal morbidity

In this study fetal outcome with birth weight of > 2.5kg is seen in 159 (81.5%) and according to APGAR >7 at birth are seen in 154 (78.5%).

Table 5: Incidence of perinatal and maternal morbidity

Perinatal morbidity	No. of cases	Percentage
NICU admission	24	12.2%
Birth asphyxia	6	3%
Sepsis and pyrexia	5	2.5%
Meconium aspiration syndrome(MAS)	4	2%
Convulsions	4	2%
Respiratory distress syndrome(RDS)	4	2%
Still born	3	1.5%
Maternal morbidity		
Placenta previa		
Abruptio	2	1%
Obstructed labour	1	0.5%
Cord prolapsed	1	0.5%
Early neonatal death		
Convulsions	2	1%
RDS	1	0.5%

In this study, 47 babies had perinatal morbidity, in which 24 (12.2%) cases required NICU admission, birth asphyxia was seen in 6babies , sepsis and pyrexia was observed among 5 babies, convulsions, MAS and RDS was seen in 4 babies each. There were 7 still birth and 6 were early neonatal deaths, common cause of still birth being placenta previa. Out of 24 babies admitted to NICU, 4 died and 20 improved. Perinatal mortality seen in 13 babies.Perinatal mortality rate being 105/ 1000 live birth

Discussion

This study includes 196 cases of primary caesarean section in multigravida giving an incidence of 3% of all caesarean section. These cases were studied with respect to the age, status of unbooked/booked, parity, timing indications for caesarean sections, postoperative morbidity, maternal morbidity and mortality, and perinatal morbidity and mortality. 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, primary caesarean sections in multipara constitute small percentage of total deliveries (3%) which is quite less than primary caesarean in nulliparous, but they are actually associated with high maternal and perinatal morbidity.

Table 6: Incidence of total and primary caesarean section with other studies

Authors	Year and number of patients	Incidence of total caesarean section (%)	Incidence of primary caesarean section (%)
Adnan A. Abu Omar[2]	2012 , n = 450	18.75%	48%
Erika Desai[3]	2013, n = 86	45.6%	29.05%
Rao, Jyothi H[4]	2013, n=200	29%	10.28%
J.K.Saluja[5]	2014, n = 50	25.4%	3.82%
P. Himabindhu[6]	2015, n = 186	40.55%	2.8%
Present	2015, n = 196	29.3%	3%

Incidence of caesarean section is low in our study and is comparable with other three studies. In Adnan A. Abu Omar[3](2012), Rao, Jyothi H[4](2013), J.K. Saluja[5] (2014) study's the incidence of CS was 18.75%, 29%, 25.4%. In our study it is 29.3%. In other studies like Erika Desai[6](2013) and P. Himabindhu[6] (2015) studies the incidence of caesarean section is 45.6% and 40.55%, which is high

comparable to our studies.The status of booked /unbooked is compatible with all the other studies. There are more number of unbooked cases compared to booked cases. As there is more number of unbooked cases there is perinatal mortality, morbidity and maternal morbidity. This is the reason there are why there is more number of caesarean section as there will be less antenatal checkups and there won't be proper diet. In cases of unbooked cases there won't be proper antenatal checkups where malpresentations and any medical disorders are missed. In Erika Desai[3](2013), J K Saluja[5] (2014), P. Himabindhu[7](2015) the percentage of booked / unbooked cases were 27.90% / 72.09%, 28% / 72% and 29 / 71%. And in study of Sethi Pruthwiraj[7] (2014) in present study it is 31.2% / 68.8% which is comparable with other studies.In the present series maximum number of women undergoing primary caesarean section in multigravida was in the age group of 25-29 years (42.4%). In three of other studies of Rao Jyothi H[4](2013), J K Saluja[5] (2014), Sethi Pruthwiraj[7](2014) it is corresponding with the present study, but in two other cases the age group of primary caesarean section in multigravida is at 20 – 24 years this may be because of early marriageand lack of education resulting in high fertility in early ages.In this series most of the 2nd parity had increased incidence of primary caesarean section in multigravida its percentage in present study is 36.7%.which is correlating with all the other studies with percentage in each study being Erika DesaI[3] (2013) 23.26%, J.K.Saluja[5] (2014) 68%, Sethi Pruthwiraj[7](2014)35%, P. Himabindhu[6] (2015) 63.9%

Table 7: Comparison of timing of caesarean section with other studies

Maternal morbidity	Erika Desai[3](2013) n=86	Rao, Jyothi H[4](2013) n=200	J.K.Saluja[5](2014) n=50	Sethi Pruthwiraj[7](2014) n=100	P. Himabindhu[6](2015) n=186	Present (2015) n=196
Puerperal Pyrexia	11.63%	3.5%	14%	5%	18.27%	6.3%
Wound Infection	10.47%	7.5%	4%	6%	8.6%	2.6%
Urinary tract infection	2.33%	2%	12%	-	9.6%	1.6%
Paralytic ilius	-	-	-	1%	7.4%	1%
PPH	5.81%	0.5%	-	-	15%	1%
Respiratory tract infection		0.5%	-	-	9.1%	-
Abdominal distension	13.95%	-	-	-	-	-

The timing of caesarean section in the present study have more percentage for emergency caesarean section of 96.4% with less percentage of 3.6% in elective section and our study is comparable with all the other studies with increase in the emergency caesarean section.The reason may be due to more number of unbooked cases who either refer or come without any antenatal checkups which may lead to emergency caesarean section or they may come in labour with complications like malpresentation, fetal distress etc., which lead to emergency caesarean section.In our study of post-operative maternal morbidity the percentage is more in puerperal pyrexia of 6.3% which is comparable with other studies of Erika Desai[3] (2013), J.K.Saluja[5] (2014) and P. Himabindhu[6](2015) with more percentage being for puerperal pyrexia of 11.63%, 14% and 18.27%, but it is not compatible with two studies of Rao Jyothi H[4] (2013) and Sethi Pruthwira[7](2014) with more percentage being for wound infection of 7.5% and 6% may be due to improper wound care in the government hospitals

Intra and postpartum care have eliminated maternal deaths in our study. There isno maternal mortality observed. This may be because of availability of antibiotics, blood transfusion facilities, and safe methods of anesthesia, timely intervention, better surgical techniques and operative skill of obstetrician.It may also be true that intensive care available for critical obstetrical patients at hospital have contributed to decrease in maternal mortality.The incidence of malpresentation in our study is more in transverse lie of 34.8% which is compatible with J. K. Saluja[5](2014) where her study says has 34% in transverse lie which is

the highest malpresentations compared to other presentations, next being breech with percentage of 30% and brow being 22% and compound being 14%. The most common indication followed by premature rupture of membranes with Oligohydramnios, fetal distress, Placenta praevia, obstructed labour and the factors responsible for malpresentations were lax and pendulous abdominal wall in multiparous women with raise in incidence above 35 years of age and with high birth order pregnancies.

Table 8: Comparison of incidence of perinatal mortality with other studies

Perinatal mortality	Rao, Jyothi H[4](2013) n=200	J.K.Saluja5 (2014) n=50	Sethi Pruthwiraj[7] (2014) n=100	P. Himabindu[6](2015) n=186	Present (2015) n=196
Still born	7%	12%	3%	3.7%	3.5%
Early neonatal death		8%	2%	1.6%	2%

In our study there are more number of still births which is accounting for 3.5% and it is correlating with all the other studies where there is more percentage of still born as in Rao Jyothi H[4] (2013) it is 7%, J.K.Saluja(2014)[5] is 12%, Sethi Pruthwiraj[7](2014) it is 3% and in P. Himabindhu[6] (2015) it is 3.5% in all the studies the early neonatal deaths are low when compared [8-10]

Conclusion

From the above study it is very clear that, many unforeseen complications occur in woman who previously had a normal vaginal delivery. . 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.

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