

## Original Research Article

**Primary Caesarean Section in Primigravida: A Clinical Study**Patar Jagannath<sup>1</sup>, Malakar Himangshu<sup>2</sup>, Pronamika Konyak<sup>3</sup>, Balsri Ch Marak<sup>4</sup>, Isha Goel<sup>5</sup><sup>1</sup>Associate Professor, Department of Obstetrics and Gynaecology, Gauhati Medical College, Guwahati, Assam, India<sup>2</sup>Registrar, Department of Obstetrics and Gynaecology, Gauhati Medical College, Guwahati, Assam, India<sup>3,4,5</sup>Post Graduate student, Gauhati Medical College, Guwahati, Assam, India**\*Corresponding author**

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**Abstract:** The Primary caesarean section (CS) delivery rate is increasing due to public interest to avoid fetal complications and acceptance by most of the couple to complete their family with one or two children. This study was undertaken to study 100 selected cases of primary CSs in primigravid women, keeping the objectives to study the risk of pregnancy, outcome of labour, indications for CS, maternal morbidity and mortality and fetal outcome, in the department of Obstetrics and Gynaecology, Gauhati Medical College and Hospital, Guwahati, Assam, over a period of one year w.e.f April 2015 to March 2016. Overall CS rate was 49.7% and 68.36% for primary CS among them. Most of the patients were in the age group of 20-25years (47%). Anaemia (67.68%), pregnancy induced hypertension (10.1%) were common among the antenatal complications. The rate of emergency CS was 85% while elective CS was 15%. Main indications for Caesarean section operation were: fetal distress (40%), pre-eclamptic toxemia (12%) and disproportion (10%). Maximum number of caesarean operation was performed under Spinal anaesthesia (95%). Maternal morbidity was 20%. Out of them, febrile 6(30%), post-operative infections 4(20%), were most common. The less common complications were post partum haemorrhage, spinal headache. There was zero maternal mortality. In this study, 87% babies were born with good APGAR (Appearance, Pulse, Grimace, Activity and Respiration) score. Perinatal mortality was observed in 5% cases. Severe asphyxia, very low birth weight, chorioamnitis and stillborn were the cause of death. Maximum number of the patients (86%) were discharged on 4th day post operatively.

**Keywords:** Primary caesarean section, tertiary centre, maternal morbidity and mortality

**INTRODUCTION**

First caesarean section is termed as 'Primary Caesarean Section' when it is performed for the first time on a pregnant women to deliver the baby by doing laparotomy (opening the peritoneal cavity by giving incision on anterior abdominal wall) and hysterotomy (opening the uterine cavity by giving incision on uterus). This definition does not include removal of the baby from the abdominal cavity in case of rupture uterus or in an abdominal pregnancy.

Caesarean delivery remains the most common major operation in United States, being performed approximately one million times annually [1]. This high incidence of caesarean section delivery is due to better technique, better anaesthetics, different antimicrobial agents, blood transfusion facilities etc. However, it must be accepted that caesarean section delivery carries somewhere between 5 and 10 times more risk than that of vaginal delivery [2]. The rate of Caesarean delivery

in the United States has steadily increased since 1996 when the rate was 21%. In 2007, the rate was the highest ever recorded at 32%, representing 1.4 million births and a 53% increase since 1996 [3]. This caesarean delivery trend encompasses increases in the caesarean rate for women of all ages, races, geographic areas and gestational age.

The common indications for primary caesarean section deliveries are as follows: fetal distress, dystocia or failure to progress in labour, malpresentation, performed out of concern for fetal wellbeing or maternal wellbeing, obstructed labour, placenta praevia, etc. Primary caesarean section deliveries carries the risk of future pregnancy and hence, increase the rate of repeat caesarean section. Breech presentation in primigravida also helped to increase the rate of caesarean section. It is also true that many private obstetric practitioner easily accept patients demand or do not want to take the risk of fetal complication which

may encounter with vaginal delivery. Trial of vaginal delivery is one of the strategies to control the rising rate of caesarean section in a well equipped hospital or tertiary centre where 24x7 fetal monitoring and emergency caesarean section facilities are available.

Every minute a women dies during labor or delivery. The highest maternal mortality rates are in Africa, with a lifetime risk of 1 in 16; the lowest rates are in Western Nations (1:2800), with a global ratio of 400 maternal deaths per 100,000 live births [4].

Maternal mortality has decreased dramatically in last 50 years from 650 per 100,000 births in 1940 to 14.1 per 100,000 births in 1988. In the United States, maternal death associated with caesarean section delivery is rare. In 1980 reported a series of 10000 consecutive caesarean sections with no maternal death. In the confidential enquiry in England and Wales 1976-78 the maternal mortality rate for caesarean section deliveries was 0.8 per 1000 caesarean sections, which is same as reported for 1973-75, but in 1982-84 fallen to 0.37 pr 1000. It was 10 times more than vaginal delivery [5]. Although, maternal death is an infrequent sequel of caesarean section deliveries, the maternal morbidity is increased dramatically compared to the vaginal delivery. The principal sources are endometritis, haemorrhage, urinary tract infection and nonfatal thromboembolic events [6]. Morbidity also increased in obese women.

Most of the patients referred to this tertiary hospital from the nearby periphery villages and townships in a very late stage. In present day practice, institutional delivery for all pregnant women is a slogan for safe delivery to avoid fetal and maternal complications. Moreover, in many more cases the indications for caesarean section is doubtful where the proper fetal monitoring and assessment of the cases are lacking. Hence, the primary caesarean section rate is increasing unnecessarily.

Many more cases of caesarean section deliveries are performed by the young and less experienced surgeons in a poor lighting facility which results improper apposition of wound edges and haematoma formation near the wound. Most of the patients in this study are illiterate and proper hygiene is not maintained. Economic condition and nutrition is also very poor. Communication is not up to the mark to visit antenatal clinic and they cannot reached the hospital on time when emergency occurs. Blood donors not present on time. Hence, the complications are high in our setup.

## **MATERIALS AND METHODS**

This study was conducted in the department of Obstetrics and Gynaecology, Gauhati Medical College

and Hospital, Guwahati , w.e.f April 2015 to March 2016. A total of 100 cases were selected for the study who regularly attended outdoor(Booked) and admitted, those who booked in antenatal clinic but admitted as emergency and those who never attended antenatal clinic (Unbooked) but admitted as emergency.

Thorough history taking , examination and clinical assessment were done in all the study cases and recorded all information found important for the study. Investigations needed were carried out. After proper assessment and evaluation primary caesarean section deliveries were performed as per necessity.

Regular admissions are given from the antenatal clinic. But, maximum number of cases are admitted directly from the emergency labour room who presented in labour. Out door primigravida cases were admitted normally at 39<sup>th</sup>-40<sup>th</sup> weeks of pregnancy. High risk cases were admitted early irrespective of period of gestation.

In the study cases, special pro-forma were filled up noting hospital no., MRD no., name, age, gravida, parity, complications during pregnancy and labour, indication for CS, post partum period upto puerperium. General examination, obstetrical examination, breast examination and systemic examination were carried out for diagnosis and management. Cerviprim gel was used for ripening and misoprostol and low dose oxytocin were used for induction of labour in some cases. The study cases were monitored by standard partograph of World Health Organization (WHO). Vaginal examination was done 4 hourly to assess the progress of labour. Whenever there was any sign of fetal distress or failure in progress of labour, caesarean section was done immediately. Counselling were done with guardians and consent were taken for elective or emergency CS.

All the cases were received broad-spectrum antibiotic injection Ceftriaxone 1gm intravenously 12 hourly, Amikacin 500mg intravenously 8 hourly and infusion metronidazole 500mg intravenously 8 hourly for 3 days. Uncomplicated caesarean section delivery cases were discharged on 4<sup>th</sup> day post operatively. All the mother and neonates were advised to come in Gynaecology out patient department clinic for check-up and Paediatric out patient department clinic for immunization of the baby after 6 weeks.

## **RESULTS**

It has been seen that most common age group in the present study was 20-25 years (47%). The incidence of primary caesarean section in this study was 68.36%. Among the study cases, 40% were booked, 17% were booked but admitted as emergency and 43% were unbooked. All (100%) the women for present

study were primigravida and mode of delivery was lower segment caesarean section. The average duration of labour was 10 hours 25 minutes. Out of 100 selected cases of primary caesarean section 15% were elective and 85% were emergency after failure of trial of vaginal delivery. Out of elective cases 1 patient had contracted pelvis. Other indications were pre-eclamptic toxemia in 5 cases, borderline disproportion in 4 patients, breech presentation in 3 cases and 1 of each in postdated oligohydramnios and transverse lie with placenta praevia. Emergency caesarean section were done in 40 fetal distress, 7 pre-eclamptic toxemia, 6 disproportion, 7 premature rupture of membrane, 5 each in breech, dystocia and antepartum haemorrhage, 4 decrease fetal movement, 3 oligohydramnios, and 1 each in brow, footling and cord presentation cases. Most common presentation was cephalic (88%). Complications during labour were 4 antepartum bleeding, 1 postpartum bleeding and 2 loss of fetal movement. Intraoperative

complications was also observed. Bleeding vessels in 2 placenta praevia cases were managed by applying ligature on the lower uterine segment placental beds. 1 patient had atonic uterus and was managed by oxytocin and prostodin injection. 1 patient had difficult delivery due to oligohydramnios and J-shaped incision was given. Another case had undiagnosed multiple uterine fibroid and incision site was selected on the lower uterine segment where a lesser number of fibroid is going to cut and green armitage haemostatic forceps were applied in those points to avoid retraction of vessels. Maternal morbidity were seen in 20 (20%) cases. Out of them 6(30%) febrile, 4(20%) wound infection, 4(20%) serous discharge, 4(20%) haemorrhage, 1(5%) pulmonary infection and 1(5%) paralytic ileus morbidity were observed. Perinatal mortality was found in 5 cases (2 very low birth weight in APH, 2 MAS and 1 still birth in eclampsia ).

**Table 1: Age incidence of study population**

Age (years)	No. of Patients(%)
<14	0(0%)
14-19	30(30%)
20-25	47(47%)
26-31	22(22%)
32-37	01(1%)

**Table 2: Distribution of patients in relation to parity**

Parity	No. of patients	Percentage
0	100	100%

**Table 3: Complications during pregnancy**

Complications	No. of cases (%)
Anaemia	67(67.68%)
PIH	10(10.1%)
APH	05 (6.06%)
IUGR	03 (3.03%)
Oligohydramnios	04 (4.04%)
Postdatism	01 (1.01%)
PROM	05 (5.05%)
Malpresentation	
Breech	03 (6.06%)
Transverse lie	01 (1.01%)

**Table 4: Complications during labour**

Complications	No. of patients	Percentage
antepartum bleeding,	4	57.14%
postpartum bleeding	1	14.28%
loss of fetal movement	2	28.57%

**Table 5: Mode of delivery in present study**

Mode of delivery	No. of patients	Percentage
Primary Caesarean Section	100	100%

**Table 6: Mode of Operation**

Mode of operation	No. of patients	Percentage
Elective CS	15	15%
Emergency CS	85	85%

**Table 7: Types of operation in present study**

Total no.	LSCS	Classical	Hystrectomy
100	100	Nil	Nil

LSCS: lower segment caesarean section

**Table 8: Fetal presentation and mode of delivery**

Presentation	No. of patients	LSCS(%)
Cephalic	88	88%
Breech	08	8%
Transverse	01	1%
Footling	01	1%
Brow	01	1%
Cord presentation	01	1%

**Table 9: Indications for caesarean section delivery**

Type of section with indication	No. of cases	Percentage
<b>Elective</b>	15	15%
Contracted pelvis	01	6.66%
Breech	03	20%
Disproportion	04	26.66%
Severe PIH	05	33.33%
Postdated oligohydramnios	01	6.66%
Transverse lie with APH	01	6.66%
<b>Emergency</b>	85	85%
Fetal distress	40	47.05%
PET/eclampsia	07	8.23%
Induction failure	06	7.05%
Disproportion	05	5.88%
Breech presentation	05	5.88%
Cervical dystocia	05	5.88%
APH	05	5.88%
Less fetal movement	04	4.7%
PROM	07	8.23%
IUGR with Oligohydramnios	03	3.52%
Brow	01	1.17%
Footling	01	1.17%
Cord presentation	01	1.17%

PET: pre-eclamptic toxemia, PIH: pregnancy induced hypertension, APH: antepartum haemorrhage, PROM: premature rupture of membrane, IUGR: intrauterine growth retardation

**Table 10: Booked and Unbooked cases**

Nature of admission	No. of patients	Percentage
Booked	40	40%
Booked, admitted as emergency	17	17%
Unbooked	43	43%

**Table 11: Intra operative complications**

Complications	No. of patients	Percentage
Haemorrhage due to placenta praevia	2	40%
Atonic uterus	1	20%
Oligohydramnios, difficult delivery	1	20%
Haemorrhage due to multiple fibroid	1	20%

**Table 12: causes of maternal morbidity**

Causes	No. of patients	Percentage
Febrile morbidity	6	30%
Wound infection (Abdominal)	4	20%
Serous discharge	4	20%
Haemorrhage	4	20%
Placenta praevia—3		
Uterine atonicity—1	1	5%
Pulmonary infection	1	5%
Paralytic ileus		

**Table 13: Perinatal mortality**

Cause of death	No. of babies	Percentage
Low birth weight in APH	2	40%
IUD (still birth) in Eclampsia	1	20%
Meconium stained syndrome, severe asphyxia	2	40%

**CONCLUSION**

From the study it is revealed that vaginal delivery may be allowed in a good number of cases after proper assessment and under strict supervision. Early referral instead of late referral from the periphery hospitals to the tertiary hospital is necessary for trial of vaginal delivery. Maternal morbidities seen in this study were mostly preventable.

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