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Original Article

Indications of Primary Caesarean Section in Multipara Patient

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ABSTRACT

Background: *It's believed that if a mother's first kid is born vaginally, subsequent births will be the same. As a result, multiparous moms typically ignore standard prenatal checkups and intranatal care, which can cause poor birth outcomes. Analysis of the Caesarean section (CS) in women with previous vaginal birth.* ***Objective:*** *To analyze the indications of primary caesarean section in multi para women.* ***Methods:*** *The present cross-sectional study was conducted in the Department of Obstetrics & Gynaecology, Chittagong Medical College & Hospital, Chittagong between July 2016 to June 2017. During this period 150 multipara women were selected as study population from total admitted patients.* ***Results:*** *The individuals' ages ranged from 19 to 45 years (mean: 28.7 +_5.6). 86% of patients were Muslim, 14% were other ethnicities. Nearly 25% of women were upper-class, 54% middle-class, and 21.3% lower-class. 35% of moms had regular ANC, 48% irregular, and 17.3% none. The patients were 80% multipara and 20% grandmultipara. 78% were hospitalized at term, 16.7% at preterm, and 5.3% postterm. Out of 150 patients, 18 (12%) had APH, 11.3% had preeclampsia (PE), 6.7% oligohydramnion, 5.3% polyhydramnion, 4.7% IUGR, 5.3% postterm pregnancy, and 1.3% HELLP syndrome. 35.3% of patients had anemia, 4.7% diabetes, 6% UTI, 3.3% chronic hypertension, and 0.7% asthma. Over 25.3% of pregnant women were blood group A, 27.4% B, 11.3% AB, and 36.3% O. 93.3% were Rh-positive. Foetal distress (24.7%) and prolonged 1st stage of labour (25%) were the main indications for caesarean section, followed by placenta praevia (16%), obstructed labour (14%), pre-eclampsia (13.3%), BOH (10.7%), malpresentation (9.3%), transverse lie (6%), eclampsia (2%) and previous VVF repair (0.7%)and others (3.3 percent). 4.7 hours passed between caesarean decision and delivery. 126 (84%) moms had*

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emergency surgery; 24 (16%) had elective surgery. 15% of women experienced significant bleeding and 2% anesthetic complications. Postoperative wound infection was 14%, followed by failure of lactation (11.3%), post spinal headache (7.3%), PPH (6%), UTI (4.7%), urine retention (4%), and postpartum eclampsia (0.7%). 12 births (8%) had perinatal death among them 8(66.7%) had stillbirths and 3(33.3%) neonatal deaths. 34.7% of newborns required resuscitation. About 20% of newborns were low-birth-weight, 75.3% were normal, and 5.1% were overweight. 42% of newborns had APGAR <7. Congenital abnormalities were present in 0.7%. Birth asphyxia in 19.6%, 6.5% prematurity, 4.3% IUGR, 8.6% jaundice, and 4.3% septicemia. ***Conclusion:*** *Primary caesarean section in multipara women may be indicated for a variety of reasons like foetal distress, prolonged 1st stage of labour, placenta previa, obstructed labour, pre-eclampsia etc. Whatever be the reason be, screening of high-risk mothers during antenatal and intranatal period could improve the foetal outcome.*

Keywords: *Multipara patients, Caesarean section, Indications of CS, Outcome.*

INTRODUCTION

The term "caesarean section" denotes the delivery of the foetus, placenta and membranes through an incision in the abdominal and uterine walls.[1] When it is performed for the first time on a pregnant woman, it is called primary caesarean section.[2] A multipara relates to a pregnant mother who has experience of one or more previous viable births. Caesarean section is the most frequently performed major operation in obstetrics. The aim of modern obstetric practice is to achieve a healthy mother and a healthy baby by proper management of obstetrical problems. Caesarean section plays an important role in this respect by reducing danger to the life of the mother or the child. The incidence of caesarean section depends on the different problems of mother and foetus which can be diagnosed and detected early now-a-days. Due to improved modern surgical technique, antibiotics and anesthesia in the last decades caesarean section rate has increased to substantial proportion.[3] Recent increase in primary caesarean delivery rates were explained by changes in maternal characteristics, specifically by changes in age, parity, prepregnancy weight and weight gain during pregnancy. Changes in obstetric practice (namely, reductions in midpelvic forceps use, increases in caesarean delivery for breech presentation, labour induction and epidural anesthesia) also contributed to the increase in primary caesarean deliveries.[4] The incidence of caesarean section varies from country to country, hospital to hospital and community to community.[5] Caesarean section rates and the indications that leads to caesarean sections, differ considerably from one hospital to another. This variability cannot be explained by differences in obstetric risk in the different centres or by other factors.[6] Specially in multipara patient first Caesarean section is done mainly for malpresentation, abnormal lie, foetal distress, placenta previa, diabetes, secondary infertility, history of repair of vesico-vaginal fistula and medical disorders etc. The frequency of caesarean section is gradually increasing because of extended indications. And also, a growing consensus that the caesarean section birth rate has probably exceed which can be justified purely on the grounds of improving perinatal and maternal outcome.[7] Every operative procedure has its own hazards.[8] Caesarean section is also not free from them. The risk of maternal death from caesarean section is four to six times greater than that of vaginal delivery. But the improved safety of surgery with modern anesthetic techniques, availability of antibiotic, blood transfusion and intravenous fluid these has made caesarean section safer than before. Lack of adequate health care personnel in the rural and remote areas for proper

management of labour obviously increase the number of referrals to the tertiary center at a later stage. At this stage caesarean section should be done for life saving purpose, even in multipara patient. The decision to attempt an instrumental vaginal delivery or to proceed to caesarean delivery may be affected by training, education, experience or concern about fetal status.[9] This study has been conducted in a tertiary level of hospital of Bangladesh in order to find out the common indications of primary caesarean section in multipara patient. Every institute should have their own guideline for indications of caesarean section that can reduce unnecessary primary as well as repeat caesarean section.

OBJECTIVE

- To analyze the indications of primary caesarean section in multipara patient.

METHODS AND MATERIALS

This cross-sectional descriptive study was conducted in the Department of Obstetrics & Gynae, Chittagong Medical College & Hospital, Chittagong over a period of 1 year from July 2016 to June 2017. Multipara women admitted for delivery in the above-mentioned hospital during the study period were the study population.A total of 150 cases meeting the above-mentioned eligibility criteria were purposively included. The eligibility criteria of the study population are given below.

Inclusion criteria

- Multiparous women.
- Previous history of vaginal delivery.

Exclusion criteria

- Primi patient.
- Past history of caesarean section or hysterotomy.

Data collection and analysis

A structured data collection form was developed containing all the variables of interest. Data were processed and analyzed using SPSS-23 (Statistical Package for Social Sciences). The test statistics used to analyses the data were descriptive statistics. The summarized data were then presented in the form tables and charts with due interpretation.

RESULT

Demographic variable:

About 56% of patients was below 30 years of age and 44.6% 30 or more than 30 years. The mean age was 28.7 ± 5.6 years and minimum and maximum ages were 19 and 45 years respectively. Majority (86%) of patients were Muslim, 11.3% Hindu and the rest 2.7% belonged to other ethnic groups. Almost 25% of patients was of upper socioeconomic class, 54% middle class and 21.3% lower class. Sixty percent of mothers resided in rural area, 36.7% in urban and 3.3% in slum areas (Table 1).

Table 1. Distribution of respondents by demographic variable (n = 150)

Demographic variable	Frequency	Percentage
Age (years)		
<30	83	55.4
≥30	67	44.6
Religion		
Muslim	129	86.0
Hindu	17	11.3
Others	04	2.7
Socioeconomic status		
Upper class	37	24.7
Middle class	81	54.0

Lower class	32	21.3
Residence		
Rural	90	60.0
Urban	55	36.7
Slum	05	3.3

*** Mean age =** (28.7 ± 5.6) **years; range = (19 – 45) years.**

Obstetric profile:
Approximately 35% of mothers received regular antenatal care (ANC), 48% irregular and 17.3% did not receive any antenatal care. Approximately 42% of mothers' pregnancy was planned and 58.7% unplanned. In terms of parity 80% was multipara and 20 grandmultipara. Majority (78%) was admitted at term (between 37 – 42 weeks of gestation).

Table 2. Distribution of respondents by obstetric profile (n = 150)

Obstetric profile	Frequency	Percentage
ANC received		
Regular	52	34.7
Irregular	72	48.0
None	26	17.3
Pregnancy status		
Planned	62	41.3
Unplanned	88	58.7
Parity		
Multipara (2 – 3 children)	120	80.0
Grandmultipara (4 or more)	30	20.0
Gestational age (weeks)		
Preterm (< 37 weeks)	25	16.7
Term (37 – 42 weeks)	117	78.0
Postterm (> 42 weeks)	08	5.3

Obstetric complications during current pregnancy:
Out of total patients, 18(12%) had history of APH, 11.3% had preeclamptic (PE) complication during current pregnancy, 6.7% oligohydromnion, 5.3% polyhydramnion, 4.7% IUGR, 5.3% post term pregnancy and 1.3% HELLP syndrome (Table 3).

Table 3. Obstetric complications during present pregnancy (n = 150)

Obstetric complications	Frequency	Percentage
PE	17	11.3
APH	18	12.0
Oligohydromnion	10	6.7
Polyhydromnion	08	5.3
IUGR	07	4.7
Post term	08	5.3

HELLP syndrome	02	1.3

Total will not correspond to 100%, because of multiple complications in individual patients

Investigation findings:

Table 4 shows that 25.3% of pregnant women had blood group A, 27.4% B, 11.3% AB and rest 36% blood group O. Majority (93.3%) of them exhibited Rh positive.

Table 4. Distribution of patients by investigation findings (n = 150)

Investigations	Frequency	Percentage
Blood group		
A	38	25.3
B	41	27.4
AB	17	11.3
O	54	36.0
RH typing		
Rh (+ve)	140	93.3
Rh (-ve)	10	6.7

Indications for LUCS:

The indications for primary cesarean delivery are illustrated in table 5. Prolonged 1st stage of labour including failed induction (18%) and foetal distress (24.7%) were observed to be the main indications (each about 25%). Then follows placenta praevia (16%), obstructed labour (14%), pre-eclampsia (13.3%), BOH (10.7%), malpresentation (9.3%), transverse lie (6%), eclampsia (2%), previous VVF repair (0.7%), and others (3.3%) (Table 5).

Tableb5. Distribution of patients by indications for LSCS (n = 150)

Indications	Frequency	Percentage
Foetal distress	37	24.7
Prolonged 1st stage of labour including failed induction	27	18.0
Placenta praevia	24	16.0
Obstructed labour	21	14.0
Preeclampsia	20	13.3
BOH	16	10.7
Malpresentation	14	9.3
Transverse lie	09	6.0
Eclampsia	03	2.0
Previous VVF repair	01	0.7
Others	05	3.3

Caesarean section related variables:
Table 6 shows that the mean duration between taking decision for caesarean delivery and performed the same was 4.7 hours and the minimum and maximum duration was 0.5 hours and 24 hours respectively. Emergency operation was performed in 126(84%) mothers and elective in 24(16%) mothers.

Table 6. Distribution of patients by caesarean sectionrelated variables (n = 150)

Caesarean section related variables	Frequency (%)	Mean ± SEM	Range
Interval between decision taken and caesarean performed (hrs)	-	4.7 ± 0.4	0.5 – 24.0
Type of operation (n = 150) Emergency Elective	 126(84.0) 24(16.0)	-	-

Figures in the parenthesis denote corresponding percentage

Complications during operation:
Table 7 shows that 14.7% mothers encountered excessive hemorrhage and 2% anesthesia complications. Of the three women with anesthetic complications, 2 had spinal hypotension and one cardiac arrest.

Table 7. Distribution of patients by complications during operation (n = 150)

Complications	Frequency	Percentage
Excessive hemorrhage	22	14.7
Anesthesia complication (spinal hypotension and cardiac arrest)	03	2.0

Complications following delivery (within 7 days):
Table 8. shows the distribution of mothers by complications within 7 days of delivery. Wound infection accounted for 14% of mothers, followed by failure of lactation in 11.3%, post spinal headache in 7.3%, PPH in 6%, UTI in 4.7%, retention of urine in 4% and postpartum eclampsia in 0.7% of mothers.

Table 8. Complications following delivery (within 7 days) (n = 150)

Complications	Frequency	Percentage
Wound infection	21	14.0
Failure of lactation	17	11.3
Post spinal headache	11	7.3
PPH	09	6.0
UTI	07	4.7
Retention of urine	06	4.0
Postpartum eclampsia	01	0.7

Neonatal outcome:

Of the 150 deliveries, 12(8%) had perinatal death. Of them 8(66.7%) had still birth and 4[5](33.3%) died soon after birth. Over one-third (34.7%) of babies needed resuscitation. About 20% of babies were of low birth-weight, 75.3% of normal weight and 5.1% over weight. Nearly 42% of babies had APGAR score < 7 at birth. Congenital anomalies were present in 0.7%, birth asphyxia in 19.6%, pre-maturity in 6.5%, IUGR in 4.3%, jaundice in 8.6% and septicemia in 4.3% of babies (Table 9).

Table 9. Distribution of patients by neonatal outcome

Neonatal outcome	Frequency	Percentage
Death (n = 12)		
Still birth	08	66.7
Neonatal death	04	33.3
Alive (n = 138)		
Needed resuscitation (transferred to NICU)	48	34.7
Not needed	90	65.3
Birth weight (n = 138)		
LBW (< 2.5 kg)	27	19.6
Average (2.5 – 4 kg)	104	75.3
Over weight (> 4 kg)	07	5.1
APGAR score (at birth) (n = 138)		
< 7	57	41.3
≥ 7	81	58.7
Congenital Anomaly **(n = 138)**	01	0.7
Birth asphyxia **(n = 138)**	27	19.6
Pre-maturity **(n = 138)**	09	6.5
IUGR **(n = 138)**	06	4.3
Jaundice **(n = 138)**	12	8.6
Septicemia **(n = 138)**	06	4.3

*** Total will correspond to 100%, for multiple response**

Causes of still birth and neonatal death:
Of the 8 still births, 3 died due to placenta praevia, another 3 for obstructed labour and 2 for eclampsia. Out of 4 neonatal death, 2 died of septicemia, 1 of birth asphyxia and another 1 due to prematurity.(Table 10).

Table 10. Causes of still birth and neonatal death

Causes	Frequency	Percentage
Still birth (n = 8)		
Placenta praevia	03	37.5
Obstructed labour	03	37.5
Eclampsia	02	25.0
Neonatal death (n = 4)		
Septicemia	02	50.0
Birth asphyxia	01	25.0
Prematurity	01	25.0

DISCUSSION

The findings of data analysis described in the earlier chapter leaves some scope for further explanation to arrive at a conclusion. In the present study, the mean age was 28.7 ± 5.6 years and minimum and maximum ages were 19 and 45 years respectively. This is consistent with findings of Sreevidya[10] who demonstrated mean age of the mothers at delivery to be 24.6 years. Majority (86%) of our study population was Muslim, 11.3% Hindu and rest 2.7% belonged to other minor ethnic others. Almost 25% of the patients belonged to upper social class, 54% to middle class and 21.3% to lower class. From the socioeconomic data it is seen that middle class women are predominant. In the past poor class families mainly utilized the hospital services. But now a days the trend is being changed and more and middle class families are inclined to hospital services. Exact reason of this changing trend is not known. It may that the services of tertiary hospitals are now a days out of reach of the poor or the hospital services have been improved to attract the middle class family as well. Sixty percent of mothers was the resident of rural areas, 36.7% urban and 3.3% slum areas. Sreevidya's reported 27% of mothers residing in slum areas and rest 73.7% in other areas. Approximately 35% of patients received regular antenatal care (ANC), 48% irregular and 17.3% did not receive any care. About 42% of patients' pregnancy was planned and 58.7% unplanned. Eighty percent was multipara. Majority (78%) was admitted at term. Sreevidya39 showed that 48% of the mothers received antenatal care. Hager[11] reported that 36.1% of pregnancy was planned and 63.9% unplanned. These studies bear consistency with our study in terms of antenatal care received. Of the 150 patients, 11.3% had a history of PE complication during present pregnancy, 12% APH, 6.7% oligohydromnion, 5.3%, polyhydromnion another 5.3% post-term pregnancy, 4.7% IUGR and 1.3% HELLP syndrome. Rouf[12] demonstrated a low PET (6.8%) and APH (6.3%) thus contrasting with the findings of our study. A similar pattern of antenatal complications was observed by Basso,[13] hyperemesis gravidarum (6%), postterm pregnancy (2.9%), oligohydromnion (1.1%), polyhydromnion (0.9%) and IUGR 1% of patients. Non-obstetric complications during present pregnancy demonstrate that 35.3% of patients had anemia, 4.7% diabetes, 6% urinary tract infection (UTI), 3.3% chronic hypertension and 0.7% asthma. Dhont[14] reported 29% of patients with anemia, 4.1% diabetes, 1% hypertension and 0.5% asthma thus favouring the findings of our study. Prolonged 1st stage including failed induction and foetal distress were observed to be the main indications (18% and 24.7% respectively). Then follows placenta praevaia (16%), obstructed labour (14%), preeclampsia (13.3%), BOH (10.7%), malpresentation (9.3%), transverse lie (6%), previous VVF repair (0.7%), eclampsia (2%) and disorders of pregnancy like chorioamnionitis, history of prolonged infertility and big baby (3.3%) Joseph[15] and his associates reported foetal distress similar to our study (21%) malpresentations were nearly consistent (12.7%). Barley[16] reported in his study obstructed labour (11%), failed induction (26%), transverse lie (6%) and placenta praevaia (13%) as the main indications of primary caesarean section in multipara patients. Rouf[12] observed eclampsia (4.8%), preeclampsia (17.3%) to be the main indications. Yudkin[17] reported indications of caesarean section in the developed countries in the past decades were foetal distress and breech presentation. The mean duration between taking decision for caesarean and performance of the same was 4.7 hours. Emergency operations were performed in majority (84%) of the mothers and elective operations in rest (16%) of the mothers. Sreevidya[18] reported elective caesarean sections to be 12.2% thus keeping

consistency with findings of the present study. Sharply contrasting with these findings, Nielsen[19] reported 50% emergency and 50% elective caesarean. In another study conducted in BSMMU, elective caesarean section was 52% and emergency caesarean section was 48%. The higher incidence of elective caesarean section in the BSMMU was due to admission cases with previous caesarean section and or pregnancy associated obstetric complications.[20] In our study, 14.7% of mothers encountered excessive hemorrhage and 2% anesthesia complication during operation. Of the three women with anesthetic complications, 2 exhibited spinal hypotension and one cardiac arrest. Robinson[10] reported similar findings in his article with hemorrhage being 12% and anesthesia complication 0.8%. Wound infection accounted for 14% of mothers, followed by failure of lactation for 11.3%, post spinal headache 7.3%, PPH for 6%, UTI for 4.7%, retention of urine for 4% and postpartum eclampsia for 0.7% of mothers. Cannon[21] reported in his study puerperal sepsis in 21% of mothers, PPH in 3%, UTI in 6%. In another study, Geddes[22] demonstrated puerperal sepsis (17.2%), post spinal headache (11.4%), UTI (6%) and postpartum eclampsia (1.2%) of patients as the main postpartum complications. Of the 12 perinatal death, 8(66.7%) were still born and 4(33.3%) died soon after birth. Forty eight babies needing resuscitation were sent NICU; of them 44 survived and 4 died. In terms birth weight of the babies 19.6% was of low birth-weight, 75.3% of normal weight and 5.1% overweight. Nearly 42% of babies had APGAR score < 7 and the rest 7 or more than 7 at birth. Congenital anomalies were present in 0.7%, birth asphyxia in 19.6%, pre-maturity in 6.5%, IUGR in 4.3%, jaundice in 8.6% and septicemia in 4.3% of babies. In Parvin's [23] study still birth (47.1%) and neonatal death (52.9%) were almost equal. Hager [11] showed that 4.2% of neonates had low birth weight, 88.6% of average weight and 7.2% overweight which go in favour of our study. In our study, foetal distress and prolonged 1st stage of labour including failed induction were the two main indications for caesarean section. Both of these conditions can be prevented to a large extent provided certain preventive measures are taken. Among the measures, prevention of premature induction could be done by careful taking of history (1st day of last menstrual period), examination (symphysiofundal height and abdominal girth) and early ultrasonography (dating ultrasongraphy). All these measures could help revealing exact EDD which, in turn, help us avoiding premature induction of labour and also failed induction which necessitates caesarean section. Evaluation of foetal distress by frequent heart rate monitoring using stethoscope and CTG could be helpful to assess real foetal distress and thus help attending physician to reduce caesarean section rate to a certain extent. Besides these, prostaglandin itself sometimes causes foetal distress. So if induction is done by prostaglandin, foetal heart rate to be cautiously monitored. All these measures may go a long way in reducing the need for caesarean section thereby improving foetal outcome.

CONCLUSION

The present study revealed that about one-quarter of the primary caesareans in multipara patients were indicated for foetal distress and 18% for prolonged 1st stage including failed induction. Placenta previa, obstructed labour and preeclampsia were the second most common indications for caesarean section. The third most common indications were BOH and malpresentation. However, the indications for caesarean in multipara are not the same everywhere. It varies from region to region. Prevention of premature induction, careful monitoring of foetal heart rate to evaluate foetal distress and judicious use of prostaglandin may reduce caesarean

section, at least, to some extent.As Bangladesh is one of the signatories to attain the millennium development goal (MDG) and the main strategy to attain this goal is to reduce the maternal and neonatal mortality. So, every step should be taken address the maternal and neonatal health issues with ultimate aim to reduce their mortality within the stipulated time-frame.

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