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Original Article

Indication and Outcome of Caesarean Section in Multigravid Women with a History of Vaginal Delivery in a Tertiary Care Hospital

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Abstract:

It is commonly believed that if the first child of a mother is born by normal vaginal delivery, all the subsequent deliveries will follow the same. As a result, such multiparous mothers often neglect routine antenatal check ups and intranatal care which may cause poor delivery outcome. For these reasons, attention should be given to analyze the indication of caesarean section (CS) in women who had history of previous vaginal delivery. Our objective was to know the indications and outcome of CS in multigravid women having a child previously delivered vaginally. This observational cross-sectional study was carried out in the Department of Obstetrics and Gynaecology in Diabetic Association Medical College Hospital, Faridpur. One hundred and ten multigravid women who had undergone elective as well as emergency CS for various indications were included in this study. Most common indication of CS was fetal distress (33.64%). Others were obstructed labour (10.9%), breech presentation (10.9%), and pre-eclampsia (9.09%). In the postpartum period, 75.5% patients were healthy. Others developed sepsis (10.9%) and URTI (8.2%). Most of the babies (95.5%) were alive. Understanding these insights may help both the mother and the caregiver an idea about the associated risks and what actions should be taken for a safe delivery outcome.

Key words: Multigravid women, Caesarean section, Indications of CS, Outcome.

Introduction:

Caesarean section (CS) 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[1]. Multipara means those who had delivered once or more after the age of viability. Primary caesarean section in the multipara means the first caesarean section done in the patients who had delivered vaginally once or more. Mainly the baby and the placenta are responsible for caesarean section in multipara. Multipara may still have cephalo-pelvic disproportion even having previously delivered a full term child vaginally[2]. There has been a sustained increase in the rate of caesarean section in the last few years around the world. Caesarean section audit which plays an important role in the analysis of rate, indications and outcomes of caesarean section, helps to modify the trend of caesarean delivery[3]. With the implementation of modern technology in labour and neonatology unit the incidence of abdominal delivery has further raised to prevent potentially grave fetal and maternal morbidities[4]. A rising trend of caesarean sections has been noted with the advent of electronic fetal monitoring, better operative techniques and availability of tertiary care neonatal facilities. When medically justified, a caesarean section can effectively prevent maternal and perinatal mortality and morbidity[5]. However, women who had a history of vaginal delivery, usually assume that the next delivery will be the same. But there are certain conditions where caesarean section might be necessary for a better delivery outcome. In this study, we shall investigate those indications for a better understanding of the factors that may lead to caesarean section. Foreseeing of those indications will help to expect a safe and better pregnancy outcome.

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Materials and Methods:

This hospital based; descriptive, observational study was carried out in the Department of Obstetrics and Gynaecology in Diabetic Association Medical College Hospital, Faridpur, Bangladesh. The study period was from April 2016 to July 2017. All women who had a child previously delivered vaginally and undergone elective or emergency caesarean section for various indications according to labour and delivery management protocol of hospital were included in this

study. Women with complicated pregnancy who required referral to a higher center for further management and women who did not give informed consent were excluded. A total of 110 women were included in the study. Informed consent was taken from each participant. Age, parity, period of gestation, obstetric history, labour events, colour of liquor, indications for caesarean section, per-operative complications, post-operative complications and duration of hospitalization were recorded in maternal data. Sex, birth weight, five minute APGAR (Appearance, Pulse, Grimace, Activity and Respiration) score, necessity for neonatal resuscitation, referral to neonatal intensive care unit, neonatal complications and duration of neonatal admission were documented in neonatal data. Questionnaire was reviewed thoroughly for accuracy, completeness and consistency. A master table and quantitative data were entered and analyzed using Statistical Package for Social Sciences (SPSS) version 23. Different variables were evaluated with the use of frequency and percentage.

Results:

Majority 58 (52.7%) of the patients belonged to the age group 21-30 years and the mean age was 27.5±9.5 years. Most of the patients 95 (86.4%) were multigravida and 15 (13.6%) of them were grand multigravida. Almost two thirds 70 (63.6%) of the patients were at gestational age 37-40 weeks. Seventy three (66.4%) patients were unbooked. More than three fourths (76.4%) of them needed emergency caesarean section (Table-I).

Table I: Distribution of patients according to demographic characteristic (n=110)

Demographic characteristics	Frequency/ Percentage	Mean ± SD
Age (years)		
20	3/2.7	27.5±9.5
21-30	58/52.7	
31-40	43/39.1	
>40	6/5.5	
Parity		
Multigravida	95/86.4	
Grand multigravida	15/13.6	
Gestational age (weeks)		
<37	28/25.5	
37-40	70/63.6	
>40	12/10.9	
Booking status		
Unbooked	73/66.4	
Booked	37/33.6	
Type of CS		
Emergency	84/76.4	
Elective	26/23.6	

Majority 37 (33.6%) of the patients had fetal distress. Other indications were obstructed labour 12 (10.9%), breech presentation 12 (10.9%), pre-eclampsia 10 (9.1%), severe oligohydromnios 7 (6.4%), APH 7 (6.4%), placenta previa 6 (5.5%), failed induction 5 (4.6%), transverse lie 4 (3.6%), CPD 3 (2.7%), IUGR 3 (2.7%), eclampsia 2 (1.8%), face presentation 1 (0.9%), and cord prolapse 1 (0.9%) (Table-II).

Table II: Distribution of patients according to indication of caesarean section (CS) (n=110)

Indication for caesarean section	Number of patients	Percentage
Fetal distress	37	33.6
Obstructed labour	12	10.9
Breech presentation	12	10.9
Pre-eclampsia	10	9.1
Severe oligohydramnios	7	6.4
APH	7	6.4
Placenta previa	6	5.5
Failed induction	5	4.6
Transverse lie	4	3.6
CPD	3	2.7
IUGR	3	2.7
Eclampsia	2	1.8
Face Presentation	1	0.9
Cord prolapse	1	0.9

In the post-operative period, 83 (75.5%) patients were healthy. Rest of them had sepsis in 12 (10.9%), URTI in 9 (8.2%), wound infection in 3 (2.7%), postoperative ileus in 2 (1.8%) and PPH in 1 (0.9%)(Table-III).

Table III: Distribution of patient according to maternal outcome (n=110)

Maternal outcome	Frequency	Percentage
Healthy	83	75.5
Sepsis	12	10.9
URTI	9	8.2
Wound infection	3	2.7
Postoperative ileus	2	1.8
PPH	1	0.9

In the outcome of the delivery, 105 (95.5%) babies were alive. While 3 (2.7%) were stillbirth and 2 (1.8%) neonatal death. Majority of the babies 85 (77.3%) had a weight between 2.6-4 kg. At 5 minute 83 (75.5%) children had APGAR score ≥7, and 27 (24.5%) of them had an APGAR score <7 (Table-IV).

Table IV: Distribution of fetal characteristics (n=110)

Fetal characteristics	Frequency	Percentage
Outcome		
Alive	105	95.5
Still birth	3	2.7
Neonatal death	2	1.8
Sex		
Male	63	57.3
Female	47	42.7
Weight (kg)		
1.5-2.5	14	12.7
2.6-4	85	77.3
>4	11	10
APGAR score at 5 minutes		
<7	27	24.5
7	83	75.5

Discussion:

In this study, majority 58 (52.7%) of the patients belonged to the age group 21-30 years where the mean age was found 27.5 ± 9.5 years. Similar observation was found by Rajput et al; where most of the patients 216 (55.95%) belonged to the age group of 26-30 years followed by 123 (31.86%) in age 21-25 years and 41 (10.62%) patients in age group of 31-35 years[2]. Only 5 patients (1.29%) were above 35 years of age. Sethi et al also reported in his study that maximum number of women undergoing primary caesarean section were from the age group of 25-29 years (41%)[6]. Unnikrishnan B et al also reported a similar results[7].

In this series, majority 95 (86.4%) patients were multigravida and 15 (13.6%) were grand multigravida. Rajput et al study observed that distribution of patients according to parity shows that most of the patients (49.73%) were at gravida-2 followed by gravida-3 (32.12%)[2]. It reflects that in the last few years, family size has been shifted from 5-6 children per couple to 2-3 children per couple. Grand multi-parity has been significantly reduced in the past few years. Sethi et al also reported similar results of 35% gravida-2, 30% of gravida-3 parity status[6].

In our study, almost two thirds (63.6%) of the patients were at gestational age 37-40 weeks, 28 (25.5%) were <37 weeks and 12 (10.9%) were >40 weeks. Rowaily et al reported in his study on primary cesarean section in multigravida that most the patients (78.8%) belonged to gestational age of 37-42 weeks followed by 18.2% patients in gestational age of <37 weeks[8]. The results are comparable to present study. Rajput et al found that the period of gestation in 229 of the patients (59.33%) was 37-40 weeks followed by 111 patients (28.76%) in 32-36 weeks, 12 patients (3.10%) in 28-31 weeks of gestational age and 8 patients (2.07%) were in gestational period of >40 weeks[2].

In this study, majority 73 (66.4%) patients were unbooked and 37 (33.6%) were booked. Rajput et al study showed 77.72% were unbooked[2]. This fact reveals poor level of antenatal booking of the patients in Bangladesh. This may be because of low level of female literacy and lack of public awareness regarding the need for antenatal checkup. Our results are comparable with the study done by Desai et al (72.09%) and Himabindu et al (71%)[9,10]. Sharmila et al reported that only 31.2% parous women had regular antenatal checkup and 68.8% did not receive any antenatal care[1].

We found that more than three fourths (76.4%) of the patients had emergency caesarean section and 26 (23.6%) had elective caesarean section. Study done by Sethi et al in 100 patients showed almost similar results showing 91% emergency operative and only 9% were electively operated[6]. Rajput et al reported out of 386 cases 370 (95.85%) patients underwent emergency caesarean section whereas only 16 (4.15%) patients were operated electively[2]. In our study, majority 37 (33.6%) of the patients had fetal distress. Other indications were obstructed labour 12 (10.9%), breech presentation 12 (10.9%), pre-eclampsia 10 (9.1%), severe oligohydromnios 7 (6.4%), APH 7 (6.4%), placenta previa 6 (5.5%), failed induction 5 (4.6%), transverse lie 4 (3.6%), CPD 3 (2.7%), IUGR 3 (2.7%), eclampsia 2 (1.8%), face presentation 1 (0.9%), and cord prolapse 1 (0.9%). Rajput et al found most common indication for caesarean section in their study was malpresentation 115 (29.79%), followed by fetal distress in 71 (18.39%) patients, APH in 71 (18.39%), preeclampsia and eclampsia in 39 (10.1%), obstructed labour in 33 (8.55%) patients and cephalopelvic disproportion each and twin pregnancy in 21 (5.44%)[2]. Rao et al also reported abnormal presentations (32.5%), APH (19.5%), fetal distress (17%), obstructed labour (18.5%) in her study[11]. Desai et al also reported fetal distress (25.58%), APH (22.09%), CPD (19.77%) and abnormal presentations (17.44%) as the most common indications for caesarean sections in thair study[9]. Himabindu et al also reported fetal distress (24.7%) as the most common indication for caesarean section in their study. They also showed that most common abnormal presentation was breech for which caesarian section was done[10]. Sharmila et al observed 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%[1].

In the post-operative period, 83 (75.5%) patients were healthy. Rest of them had sepsis in 12 (10.9%), URTI in 9 (8.2%), wound infection in 3 (2.7%), postoperative ileus in 2 (1.8%) and PPH in 1 (0.9%). Rao has shown almost similar results in his study[11]. In the study, no maternal mortality was observed. This may be because of availability of better antibiotics, blood and blood product transfusion facilities, safe methods of anesthesia, timely intervention, better surgical techniques and operative skill of the obstetricians[6]. In a study of Rajput et al, out of 386 patients, 91 (23.57%) patients had different complications. Most common maternal complications were pyrexia in 40 (10.36%) patients, followed by upper respiratory tract infection in 32 (8.29%) patients; wound infection in 11 (2.85%) patients and abdominal distension in 6 (1.55%) patients[2].

In this study, 105 (95.5%) babies were alive. Majority of the babies (77.3%) had weight between 2.6-4 kg and at 5 minute 83 (75.5%) children had APGAR score ≥7. In a study by Rowaily et al done on 4307 patients reported that most of the babies (61.7%) born had a weight of 2500-3500 grams which is considered to be a normal body weight followed by 21.6% babies who had body weight of >3500 grams[8]. Lower birth weight in our study could be a reflection of poor maternal nutrition and antenatal care. Sharmila et al found fetal outcome with birth weight of >2.5kg in 159 (81.5%) babies and APGAR >7 at birth in 154 (78.5%) babies[1].

Conclusion:

Multi-parity with previous vaginal delivery is regarded as an optimistic historical fact, not a diagnostic criteria for spontaneous delivery in the next pregnancy. It is reemphasized that multigravida is more often neglected. Women having low attention of family as well as the patient herself are reluctant and less attentive to regular antenatal check-up that may lead to increased incidence of pregnancy complications. It is recommended that all antenatal patients must be booked and receive proper and regular antenatal care and institutional deliveries in order to reduce maternal and perinatal morbidity and mortality.

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