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ORIGINAL ARTICLE

Maternal and Perinatal Outcomes and Associated Risk Factors in Women Undergoing More Than Five Cesarean Sections

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ABSTRACT

Objective: To examine the maternal and neonatal outcomes in patients who were received more than fifth C-section also examines the associated risk factors.

Study Design: Case control

Place & Duration: Bacha Khan Medical Complex Swabi from Jan 2023 to June 2023.

Materials and Methods: Total 100 patients with ages 20 to 50 years and gestation age >32 weeks were included in this study. Patient's demographical detail including age, residence, education and socioeconomic status were recorded after written consent. All the patients were divided into two groups; Group A consist of 50 patients and had undergoing fifth or more C-section delivery and Group B with 50 patients who had received less than 5th C-section. Intra and post-operative complications were recorded. Neonatal outcomes such as admission to NICU, birth weight, Apgar score and mortality were recorded. Compare the results between both groups.

Results: In Group A, the incidence of extensive adhesion was high 21 (42%) patients as compared to Group B 10%. Bowel injury found in 3 (6%) patients in Group A while no patient in Group B. Placenta previa found in 6 (12%) in Group A and 1 (2%) patients in Group B. Need of blood transfusion rate was high in Group A 24% as compared to Group B 8%. In Group A 30% neonates need to NICU. Low birth weight was higher in Group A patients. 2% neonatal death was recorded in Group A while none in Group B.

Conclusion: Patients with fifth or more C-sections had high risk of maternal and neonatal morbidity. Patients should aware about the adverse outcomes of repeated C-section deliveries.

Keywords: C-sections, Maternal outcomes, Neonatal, Morbidity, Mortality

INTRODUCTION

Globally, high rates of caesarean section (CS) are an issue of public health concern[1]. According to the World Health Organization (WHO) in 2015, CS rates in women who had a previous CS ranged between 78.1 and 79.4% in high-income countries, 85.2 and 87.5% in middle-income countries and 63.2 and 72.1% in low-income countries[2]. Previous CS is one of the main indications for CS in sub-Saharan Africa[3-4]. Even when the decision is made for a trial of labor (ToL), there are conflicting recommendations about how to manage both labor and delivery, for instance with regard to augmentation of labor. Doctor and patient preferences vary widely and fear of litigation is increasing, causing variations in clinical management[5-6].

An increasing rate of cesarean sections results inevitably in a rise of multiple repeat cesarean deliveries. It is known that multiple cesarean sections are associated with short- and long-term risks for both the mother and the baby[7-8]. There are several significant maternal complications such as visceral injury, uterine rupture, abnormal placentation, hysterectomy, bleeding and transfusions, severe adhesions, etc., most of which increase with an increasing number of repeated cesarean sections. There are also neonatal risks: babies born via multiple repeat cesarean section are more likely to experience breathing difficulties and to require admission to neonatal intensive care[9-10]. There are few studies published in the literature regarding the associated risks with higher order repeated caesarean sections and patients with lower number of repeat caesarean sections.

Present study was conducted aimed to examine the maternal and neonatal outcomes in patients who were undergoing fifth or more C-section deliveries.

METHODS

This study was conducted at Bacha Khan Medical Complex Swabi from Jan 2023 to June 2023. In this observational study total 100 patients with ages 20 to 50 years and gestation age >32 weeks were included in this study. Patient's demographical detail including age, residence, education and socioeconomic status were recorded after written consent. Patients with normal deliveries and less than 20 years of ages were excluded from the study. All the patients were divided into two groups; Group A consist of 50 patients and had undergoing fifth or more C-section delivery and Group B with 50 patients who had received less than 5th C-section. Intra and post-operative complications were recorded. Neonatal outcomes such as admission to NICU, birth weight, Apgar score and mortality were recorded. Compare the results between both groups. All the statistical data was analyzed by computer software SPSS 21. P-value <0.05 was considered as statistically significant.

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RESULTS

There were no significant difference in term of age between Group A and B 37.8 years and 36.5 years. 28 (56%) patients and 30 (60%) patients in Group A and B had rural residence while 22 (44%) and 40% patients in Group A and B had urban residency. 55 patients were illiterate in which 27 in Group A and 28 in Group B, 23 and 22 patients were literate in Group A and B. 27 (54%) patients in Group A and 25 (50%) patients in Group B had low socio-economic status while 23 (46%) and 25 (50%) patients in Group A and B had middle status. 21 (42%) patients in Group A and 26 (52%) in Group B were primiparous while 29 (58%) in Group A and 24 (48%) in Group B were multiparous (Table 1).

In Group A the incidence of extensive adhesion was high 21 (42%) patients as compared to Group B 10%. Bowel injury found in 3 (6%) patients in Group A while no patient in Group B. Placenta previa found in 6 (12%) in Group A and 1 (2%) patients in Group B. Need of blood transfusion rate was high in Group A 24% as compared to Group B 8%. 4 (8%) patients in Group A and 1 (2%) patients in Group B need Bakry Balloon ligation for post-partum hemorrhage. 3 (6%) patients in Group A need to surgical ICU while none in Group B. Post-operative outcomes such as paralytic ileus found in 3 (6%) patients in Group A and 1 (2%) in Group B, wound infection occurred in 3 (6%) patients and none in Group A and B, 2 (4%) patients in Group A need for readmission and length of hospital stay was higher in Group A patients as compared to Group B 6.1+1.4 vs 5.2+2.6 days. (Table 2).

In Group A 15 (30%) neonates need to NICU while in Group B 2 (4%) neonates need admission to NICU. Low birth weight was higher in Group A patients as compared to Group B 26% vs 16% . 2% neonatal death was recorded in Group A while none in Group B (Table 3)

Table 1: Baseline characteristics of all the patients

Variable	Group A	Group B	P value
Mean age (years)	37.8	36.5	>0.05
Residence			
Rural	28 (56%)	30 (60%)	>0.05
Urban	22 (44%)	20 (40%)	
Education			
Illiterate	27 (54%)	28 (56%)	>0.05
Literate	23 (46%)	22 (44%)	
Socioeconomic status			
Low	27 (54%)	25 (50%)	>0.05
Middle	23 (46%)	25 (50%)	
Parity			
Primiparous	21 (42%)	26 (52%)	0.042
Multiparous	29 (58%)	24 (48%)	

Table 2: Intraoperative and post-operative findings between both groups

Variable	Group A	Group B	P-value
Intra-operative			
Extensive Adhesion	21 (42%)	5 (10%)	0.012
Bowel Injury	3 (6%)	0	0.03
Placenta Previa	6 (12%)	1 (2%)	0.02
Blood Transfusion	12 (24%)	4 (8%)	0.01
Need of Bakry Ballon Ligation	4 (8%)	1 (2%)	0.04
Need of SICU	4 (8%)	1 (2%)	0.04
Post-operative outcomes			
Paralytic ileus	3 (6%)	1 (2%)	>0.05
Wound Infection	3 (6%)	0	0.03
Need for Readmission	2 (4%)	0	0.04
Mean Hospital Stay	6.1+1.4	5.2+2.6	0.035

Table 3: Neonatal outcomes between both groups

Outcomes	Group A	Group B	P-value
NICU admission	15 (30%)	4 (8%)	0.02
Low birth weight	13 (26%0	8 (16%)	0.04
Death	2 (4%)	1 (2%)	n/s
Apgar score at 5 min			
<7	3 (6%)	5 (10%)	n/s
>7	47 (94%)	45 (90%)	n/s

DISCUSSION

Cesarean section deliveries had a high rate of morbidity and mortality as compared to normal vaginal deliveries in all over the world[11]. In developing countries like Pakistan the rate of C-section is increasing since from last three decades. The major cause contributed not follow the guidance of specialist during antenatal period[12]. More C-section is associated to more mortality and morbidity. Present study was conducted to examine the maternal and neonatal outcomes in patients who received fifth or more C-section and we compare the findings in patients who received less than 5th C-section. In this study there were no significant difference regarding demographical details such as age, residence, socioeconomic status p=>0.05. These results were similar to many other studies[13-14]. In our study multiparous patients was high in number in Group A as compared to Group B.

In present study the incidence of extensive adhesion was high 21 (42%) in Group a patients as compared to Group B 10%. Bowel injury found in 3 (6%) patients in Group A while no patient in Group B. Placenta previa found in 6 (12%) in Group A and 1 (2%) patients in Group B. A study conducted by Osman S et al[15] reported that patients with more than 5th C-section had high rate of extensive adhesion 41.25% and bowel injury was 2.5% and rate of placenta previa was 8.75%.

In this study need of blood transfusion rate was high in Group A 24% as compared to Group B 8%. 4 (8%) patients in Group A and 1 (2%) patients in Group B need Bakry Balloon ligation for post-partum hemorrhage. 3 (6%) patients in Group A need to surgical ICU while none in Group B. These results were similar to some other studies in which rate of intra-operative complication was high in patients who had more C-section deliveries[16-17].

In present study post-operative outcomes such as paralytic ileus found in 3 (6%) patients in Group A and 1 (2%) in Group B, wound infection occurred in 3 (6%) patients and none in Group A and B, 2 (4%) patients in Group A need for readmission and length of hospital stay was higher in Group A patients as compared to Group B 6.1+1.4 vs 5.2+2.6 days. These results were comparable to some other studies[11,18]. In our study we found that in In Group A 15 (30%) neonates need to NICU while in Group B 2 (4%) neonates need admission to NICU. Low birth weight was higher in Group A patients as compared to Group B 26% vs 16% . 2% neonatal death was recorded in Group A while none in Group B. These results showed similarity to many previous studies in which patients with more C-sections had high rate of neonatal adverse outcomes[19-21].

CONCLUSION

Cesarean section deliveries is directly associated with high rate of maternal and neonatal morbidity and mortality. We concluded from this study that patients with fifth or more C-sections had high risk of maternal and neonatal morbidity. Patients should aware about the adverse outcomes of repeated C-section deliveries.

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