

Comparison of Outcome in Patients Undergoing Elective and Emergency Caesarean Section

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Abstract

Background: To study the frequency of complications after emergency and elective Caesarean Sections.

Methods: In this prospective observational study all the female patients with age of 18-45 years, undergoing both elective and emergency Caesarean Sections (CS.) due to any reason were included. Patients were divided in two groups according to indications. Group A included emergency CS patients. Group B included elective CS patients. All the demographic details of the patients including gravidity, parity and indication for CS were noted. Patients in both groups underwent CS as standard procedure. Post-operatively, patients were assessed for wound infection, post-operative fever, spinal headache, respiratory Infection, thrombo-embolism Post-partum Haemorrhage (PPH) and other complications.

Results: A total of 78 patients were included in the study. The mean age of the patients was found to be 29.8 ± 4.16 years. The mean gestational age was found to 34.79 ± 2.53 years in group A and 35.05 ± 2.41 years in group B. The frequency of complications was higher in emergency group than elective CS group. p-value was significant for post-operative fever, wound infection and PPH.

Conclusion: The complication rate is higher in emergency CS than elective CS. It is required to look into factors for higher morbidity in emergency settings and need to take care of them.

Key Words: Emergency caesarean section, Elective caesarean section.

Introduction

Cesarean Section (CS) is one of the most commonly done procedures in obstetric practice. It is associated with certain morbidity and mortality. CS is defined as the birth of a fetus through incisions in the abdominal wall (laparotomy) and the uterine wall (hysterotomy). It is a life saving procedure for mother as well as fetus and is one of the most commonly done procedures in obstetrics practice nowadays.¹ Previously, the

mortality associated with CS had been 50 -70%.² However with the advancement of anaesthesia, peri-operative and post-operative care, it is now considered as a very safe procedure.³ Recently the CS rate is rising all over the world including our region of the world. The debate is going on for the factors which have led to increase in the rate of CS.^{4,5} Many have attributed it to the safety of the patients while others attribute it to the ease of the patient as well as the surgeon. This has also led to an increasing demand of the patients towards the procedure rather than opting for a painful vaginal delivery.⁶ Like all surgical procedures CS is also not risk free and it has some inherent risk factors associated.^{7,8} Little literature is available over the outcome of CS in elective and emergency settings. Still there is controversy in the literature regarding outcome of the procedure in emergency and elective settings, so this trial will be helpful in this context. The objective of the study was to compare the outcome in patients undergoing emergency and elective caesarean section.

Patients and Methods

After approval from hospital ethical committee, the study was started. This prospective observational study was conducted in Gynaecology and Obstetrics department, Avicenna Medical College, Lahore over a period of 6 months from July, 2015 to December, 2015. All the female patients with age of 18-45 years, undergoing both elective and emergency CS due to any reason were included in the study. Sample size of 78 cases (39 in each group) was calculated using WHO standard sample size calculator with 80% power of test, 95% level of significance and taking expected percentage of UTI in both groups i.e. 3.9% in elective CS group vs 27% in emergency CS group in patients undergoing CS. Patients were divided in two groups according to indications. Group A included emergency CS patients. Group B included elective CS patients. Informed consent for inclusion in the study was taken from all patients. All the demographic details of the patients including gravidity, parity and indication for CS were noted. Patients in both groups underwent CS as standard

procedure. Post-operatively, patients were assessed for wound infection, post-operative fever, spinal headache, respiratory Infection, thrombo- embolism Post-partum Haemorrhage (PPH) and other complications. All the data were analyzed using SPSS version 21 through its statistical program. The variables were analyzed using simple descriptive statistics, calculating mean and standard deviation for numerical values like age. Frequencies and percentages were calculated for qualitative variables like wound infection, UTI and Post-operative fever in both groups.

Results

A total of 78 patients were included in the study. In emergency group. Majority were primary gravid (Table1)The mean age of the patients was found to be 29.8 ± 4.16 years.

Table 1: Comparison of both groups with respect to parity

Parity	Group A No(%)	Group B N0(%)
Primigravida	27 (69.2%)	16 (41%)
Multi-gravida	12 (30.7%)	23 (59%)

Table 2: Comparison of both groups with respect to gestational age

Gestational Age	Group A	Group B
Early Pre-term	9 (23%)	7 (17.9%)
Late Pre-term	20 (51.2%)	20 (51.2%)
Full Term	10 (25.6%)	12 (30.7%)

Table 3: Indications of CS in both groups

Indication of CS	Group A	Group B
Previous CS	17 (43.5%)	7 (17.9%)
Failed induction	8 (20.5%)	0
Fetal distress	5 (12.8%)	0
Mal-presentation	4 (10.2%)	14 (35.8%)
Placenta Previa	3 (7.6%)	11 (28.2%)
Twins	0	1 (2.5%)
Other indications	2 (5.1%)	7 (17.9%)

The mean gestational age was found to 34.79 ± 2.53 years in group A and 35.05 ± 2.41 years in group B. The gestational age was divided into early pre-term, late pre-term and full term. Majority presented in late pre-term (Table 2). The commonest indication of CS was previous CS (Tale 3). The most common complication observed in group A was post-operative fever while in group B it was spinal headache . p-value

was found significant for infectious complications as they were higher in group A than group B (Table 4).

Table 4: Comparison of complications in both groups

Complications	Group A	Group B	Risk Ratio (CI 95%)	p-Value
Spinal Headache	5 (12.8%)	1 (2.5%)	1.765 (1.144 - 2.721)	0.112
Post-operative fever	21 (53.8%)	7 (17.9%)	2.083 (1.359 - 3.198)	0.001
Wound infection	15 (38.4%)	6 (15.3%)	1.696 (1.129 - 2.549)	0.02
Respiratory Infection	7 (17.9%)	4 (10.2%)	1.332 (0.7984 - 2.223)	0.35
Thrombo-embolism	0	0		
PPH	18 (46.1%)	7 (17.9%)	1.817 (1.203, 2.745)	0.008

Discussion

The main objective of the study was to compare complication rate in patients undergoing CS in emergency and elective settings. The mean age of the patients in our study was found to be 29.8 ± 4.16 years. In another study conducted in Pakistan, it was found that 77.7% patients were in the age group of 20-30 yrs.⁹ In our study, 40% of the patients were primigravida in elective settings while in emergency group, 69% were primigravida. Unnikrishnan et al found in their study that 92% of the patients in elective group were multi-gravida.¹⁰ In our study 59% of patients were multigravida in elective settings. The reason for this is the previous CS in most of the multigravida patients in the study. The complications we encountered in our study were higher in emergency group than elective group. The most commonly encountered complication was post-operative fever in 53.8% of patients in emergency group while in 17% of patients in elective group. The most feasible reason for this difference is that in emergency settings, usually CS is performed without pre-operative preparation. Daniel S and colleagues also found similar results. They found that study postoperative complications were significantly more in emergency group(47.2%) when compared to elective group(17.1%).⁸ Raees M et al conducted a similar trial in Pakistan and they found the complication rate in emergency and elective setting as 38.67% vs 22.28% respectively.¹¹ Wound infection in our study was found to be 38.4% for emergency CS and 15.3% for elective CS. Suwal et al found in their trial the wound infection rate as 6.58% vs 3.44% in emergency and elective CS respectively.¹² In our study the incidence of wound

infection was higher than studies reported from western countries. The reason for this may be the poor hygienic condition of the patients, higher incidence of anemia in our setup and the compromise on hygienic conditions on post-operatively.

Conclusion

Post-operative morbidity is higher in emergency CS than elective CS.

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