

Maternal and Fetal Outcome in Elective versus Emergency Cesarean Section

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ABSTRACT

Introduction: The complications of cesarean section are seen more commonly in emergency than in elective cases. The aim of this study was to find out the incidence of cesarean section in Nepal Medical College Teaching Hospital and to compare the maternal and fetal outcome in elective and emergency cesarean section.

Methods: A prospective study of all the cases undergoing cesarean section in Nepal Medical College Teaching Hospital was carried out during the period of six months from Asar 2069 to Mangsir 2069.

Results: The incidence of cesarean section was 254 (22.30%) out of which emergency cesarean section accounted for 167 (65.7%) and elective cesarean section for 87 (34.3%). The usual indications of emergency cesarean section were fetal distress, previous cesarean section in labour, non progress of labour and prolonged second stage of labour. The usual indications of elective cesarean section were previous cesarean section, breech, cephalopelvic disproportion and cesarean section on demand. There was found to be no significant difference in age, period of gestation, blood loss and blood transfusion in emergency vs. elective cesarean section. There was significant difference seen in the length of hospital stay, fever, urinary tract infection, wound infection and low APGAR in five minutes indicating that these were more common in emergency cesarean section. Significant difference was also seen in the incidence of postpartum haemorrhage indicating that it was seen more in elective cesarean section.

Conclusions: The incidence of cesarean section in Nepal Medical College Teaching Hospital is high and the overall complication rate is higher in emergency cesarean section than in elective cesarean section.

Keywords: cesarean section; fetal and maternal outcome.

INTRODUCTION

Cesarean delivery is defined as the birth of a viable fetus through incision in the abdominal wall (laparotomy) and the uterine wall (hysterotomy).¹ In many countries around the world, there has been a dramatic increase in its frequency.^{2,3} It has been shown that the risks of surgical complications are greater with emergency compared with elective caesarean sections (CS).⁴ From

this study we want to find out the incidence of cesarean section in Nepal Medical College Teaching Hospital (NMCTH) and compare the maternal and fetal outcome in elective and emergency cesarean section.

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METHODS

A prospective study of all the cases undergoing cesarean section in NMCTH was carried out in this study. The study was carried out at NMCTH, Atterkhel, Nepal, during the period of six months from Asar 2069 to Mangsir 2069. All the cases that underwent lower segment cesarean sections in NMCTH were included and analyzed in the study while classical cesarean sections were excluded. Emergency cesarean section was defined as the one performed as soon as possible after the decision of operation was made without prior pre-operative preparation. Elective cesarean section was defined as the one performed after proper planning and pre-operative preparation. Data collection included maternal age, parity, indication of cesarean section, blood loss during the operation, number of blood transfusion, APGAR score at five minute, incidence of postoperative fever, urinary tract infection, wound infection and any other complications.

The ethical clearance was taken through the ethical clearance committee of NMCTH, Atterkhel. A verbal consent was taken from all the participants in this study.

All the collected data were entered in Microsoft Office Excel Worksheet and statistical analysis was done using Statistical Package for Social Sciences (SPSS) version 16.0. Statistical analysis was done with appropriate statistical methods and compared with international standard literature. Significance of correlation was

tested statistically. Different statistical test of significance were applied to find the P value. P value less than 0.05 was considered statistically significant.

RESULTS

There were total of 1139 deliveries in NMCTH from Asar 2069 to Mangshir 2069 and the incidence of cesarean section was 254 (22.30%) out of which emergency CS was 167 (65.7%) and elective CS was 87(34.3%) (Table 1). Maximum patients who underwent emergency CS were primigravida (109 out of 167) and most patients who had elective CS were second gravid (38 out of 87). The usual indications of emergency CS were fetal distress, previous CS in labour, non progress of labour and prolonged second stage of labour. The usual indications of elective CS were previous CS, breech, cephalopelvic disproportion (CPD) and CS on demand. There was no significant difference in age, period of gestation (POG), blood loss and blood transfusion in emergency vs. elective CS (Table 2, 3). There was significant difference seen in the length of hospital stay, fever, urinary tract infection (UTI), wound infection and low APGAR at five minutes indicating that these were more common in emergency CS (Table 2, 3). Significant difference was also seen in the incidence of postpartum haemorrhage (PPH) indicating that it was seen more in elective CS (Table 3). Among the nine babies with low APGAR (≤ 6) in five minutes, three were preterm and six were term with fetal distress (Table 4).

Table 1. Incidence of cesarean section in NMCTH.

Number of deliveries	Number of cesarean sections	%	Emergency CS n (%)	Elective CS n (%)
1139	254	22.30	167 (65.7)	87 (34.3)

Table 2. Age, period of gestation, length of hospital stay in studied women.

	Emergency CS	Elective CS	P
Age (years, X \pm SD)	25.17 \pm 4.726	27.26 \pm 4.357	0.376
POG (weeks, X \pm SD)	39.13 \pm 2.074	38.26 \pm 1.624	0.107
Length of hospital stay (days, X \pm SD)	4.69 \pm 1.875	4.32 \pm 1.094	0.044

Table 3. Trend of complications in Emergency Vs Elective CS.

	Emergency CS	Elective CS	Total	P
Blood loss (ml, X \pm SD)	320.66 \pm 210.3	329.89 \pm 228.5	-	0.743
Blood transfusion (n/N)	11/167 (6.58%)	6/87 (6.89%)	17/254	0.684
Fever (n/N)	72/167 (43.11%)	23/87 (26.43%)	95/254	0.000

UTI (n/N)	11/167 (6.58%)	2/87 (2.29%)	13/254	0.003
Wound infection (n/N)	11/167 (6.58%)	3/87 (3.44%)	14/254	0.035
PPH (n/N)	5/167 (2.99%)	6/87 (6.89%)	11/254	0.004
APGAR ≤ 6 in 5 min (n/N)	9/167 (5.38%)	0/87	9/254	0.000

Table 4. APGAR score of ≤ 6 at five minutes.

Period of gestation (wks)	n	Emergency CS Indication	Elective CS n	Total
29	1	severe preeclampsia	0	
30	1	placenta previa with APH	0	
31	1	twins with hand prolapse	0	
38	2	fetal distress	0	
39	1	previous CS with fetal distress	0	
40	1	fetal distress with failed forceps	0	
41	2	fetal distress, prolonged 2 nd stage of labour	0	
Total	9/167		0/87	9/254

DISCUSSION

Caesarean section (CS) is a safe obstetric surgical procedure that contributes to reducing maternal and perinatal mortality and morbidity. Nevertheless, its advantages do not justify its continuous increase.⁵ In the six month study period, the incidence of CS in NMCTH was found to be 254 (22.30%) out of which emergency CS accounted for 65.7% and elective CS for 34.3%. A study done in Croatia in 2006 found 18% CS rate of which 52% were emergency and 48% were elective CS.⁶ The increasing trend of CS in NMCTH may be because this hospital is a referral center for many health centers with limited resources and so many complicated cases are being managed here. The usual indications of emergency CS in NMCTH were fetal distress, previous CS in labour, non progress of labour and prolonged second stage of labour. In our study the usual indications of elective CS were previous CS, breech, CPD and CS on demand. In a study done in Croatia in year 2006, the commonest indication of emergency CS was preeclampsia and the commonest indication of elective CS was previous CS.⁶ In our study, there was no significant difference in age, period of gestation, blood loss and blood transfusion in emergency vs. elective CS. There was significant difference seen in the length of hospital stay, fever, urinary tract infection (UTI), wound infection and low APGAR in five minutes indicating that these were more common in emergency CS. Significant difference was also seen in the incidence of postpartum haemorrhage

(PPH) indicating that it was seen more in elective CS. It may be because the commonest indication of elective CS was previous CS and it is often associated with placenta previa and adherent placenta. According to some studies cesarean section requires a longer recovery time, and operative complications such as lacerations and bleeding may occur, at rates varying from 6% for elective cesarean to 15% for emergency cesarean.⁷⁻¹⁰

The limitation of our study was the duration of study. From this study we came to know the current trend of CS in NMCTH and also this study will help to compare the current trend with future trend later on. Since fever, UTI and wound infection was significantly more common in emergency CS, we might have to think of using broader spectrum antibiotic in emergency CS. Similarly APGAR score was found to be lower in babies born from emergency CS so it will be better if these babies are attended by senior paediatrician.

CONCLUSIONS

The trend of cesarean section is increasing in most of the countries. Its incidence seems to be increasing in NMCTH also. Complication rates are more common in CS than in vaginal delivery but these complications are encountered more commonly in emergency than in elective CS.

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