

Profile of Caesarean Section in Kirtipur Hospital

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Aims: This study was done to find out the incidence and outcome of caesarean sections done at Kirtipur Hospital.

Methods: This was a retrospective study conducted from 1st January 2009 to 31st December 2013. Case files of 660 patients who underwent caesarean section for various indications were analyzed for incidence, indication of caesarean section, booking status, parity, and maternal and fetal outcomes.

Results: Out of 1295 deliveries, 50.9% (n=660) had caesarean section. Most of the caesarean section was done for fetal distress (40.2%; n=265) and on account of previous history of caesarean section (13.5%; n=89). Majority of caesarean section (44.4%, n=293) was done in age group of 25-29 years. Among them, 65.9% (n=435) were nulliparous. There were 35.3% (n=563) booked cases. Emergency caesarean sections were performed in 62.4% (n=412) cases. Maternal morbidity was less (7.2%, n=48).

Conclusions: The study showed high rate of caesarean section. The most common indication was fetal distress. Post-operative complications and fetal outcome were within acceptable range.

Keywords: caesarean section; indication of caesarean section; maternal and fetal outcomes.

INTRODUCTION

Caesarean section is one of the commonly performed surgical procedures in obstetrics and is certainly one of the oldest operations in surgery. The objective of caesarean section in the ancient world was mainly postmortem delivery of dead or alive fetus.¹ The incidence of caesarean section varies from hospital to hospital within a country and across nations.² There is no consensus about what the ideal caesarean section rate should be. World Health Organization states that there are no additional health benefits associated with caesarean section rates above 10-15%. But caesarean section rates have increased remarkably worldwide.³⁻⁵ The reason for this marked increase has not been completely evaluated but the possible explanations are the use of electronic fetal monitoring which helps in early detection of fetal distress and results in increased number of caesarean section, increasing use of caesarean section for most of the breeches and practice of repeat caesarean section.⁶⁻⁸ In this

study, we intended to review the caesarean section incidence and profiles of the parturients visiting at Kirtipur Hospital.

METHODS

This study was undertaken in a hospital where there are large constraints in the form of the socio-demographic characteristics of patient it caters for, poor availability of manpower and facilities. This is a retrospective analysis of all the caesarean sections carried out at Kirtipur Hospital from 1st January 2009 to 31st December 2013. The case files of the patients were retrieved from the record room and analyzed for patient's age, parity, antenatal booking status, incidence, indications and type of caesarean sections, fetal APGAR score, and maternal morbidity and mortality rates. Ethical approval was taken from institutional review committee of pfect-NEPAL under which Kirtipur hospital is run. The data was entered into computer and was analyzed accordingly.

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RESULTS

There were 1295 deliveries during the study period. There were 660 caesarean sections accounting for a

caesarean section rate of 50.9%. Out of 660 cases reviewed, 412 (62.5%) had emergency caesarean section and 248 (37.6%) were elective. Five hundred and sixty three cases (85.3%) had antenatal care and 97 (14.7%) did not have antenatal care.

Thirty-one (4.7%) patients among caesarean section were adolescents and majority (65.9%) of the women were primipara (Table 1).

Age in years	Number	(%)
<=19	31	(4.7)
20-24	186	(28.2)
25-29	293	(40.4)
30-34	116	(17.6)
35-39	31	(4.7)
>=40	3	(0.4)
P ₀	435	(65.9)
P ₁	193	(29.2)
P ₂	29	(4.4)
P ₃	2	(0.3)
P ₄	1	(0.15)

The most common indication for caesarean section was fetal distress followed by previous caesarean section and others (Table 2).

Indications	Number	(%)
Fetal distress	265	(40.2)
Previous caesarean section	89	(13.5)
Oligohydramnios	59	(8.9)
Non-progress of labour	52	(7.8)
Failed induction	39	(5.9)
Breech presentation	35	(5.3)
Cord round neck	28	(4.2)
Cephalopelvic disproportion	19	(2.8)
Pregnancy induced hypertension/preeclampsia	18	(2.7)
Bad obstetric history	10	(1.5)
Malpresentation	19	(2.8)
Antepartum haemorrhage	8	(1.2)
Maternal request	7	(1)
Intrahepatic cholestasis	5	(0.7)
Others	9	(1.45)

Post-operative complications were mainly minor and minimal (n=48/660, 7.2%) as shown in Table 3. However, one patient having severe PPH with placenta increta had to undergo subtotal hysterectomy.

Maternal morbidity	Number	(%)
Pyrexia	19	(39.6)
Thrombophlebitis	10	(20.8)
PPH	10	(20.8)
Wound infection	7	(14.6)
Mastitis	2	(4.2)

Majority of the neonates (93%) had good APGAR score (7-10) at 1 minute (Table 4).

APGAR score	1 min	%	5 min	%
0-3	0		0	
4-6	45	(6.8)	5	(0.8)
7-10	618	(93.2)	658	(99.2)

DISCUSSION

This study showed a caesarean section incidence of 50.9% during the study period which is slightly lower than 51.43% as reported by Nazir et al.⁸ However, it is higher than the reports from other studies.^{1,4,6,9-16}

The frequency of caesarean section depends on the inherent characteristics of the obstetric population, socio-demographic pattern, referral role of the hospital, department's policies regarding management of cases of dystocia, breech, fetal distress and previous caesarean section, physician factor, medico-legal aspects and consideration of maternal choice and wishes.¹ The higher rate of caesarean section in this study might be due to unavailability of fetal scalp blood sampling for meconium stained liquor, uncertainty of fetal outcome for cord round the neck, bad obstetric history, oligohydramnios and maternal and fetal morbidity and risk of rupture of uterus in previous section patients.

In our study, 4.7% caesarean sections were performed in adolescent age group (<=19 years) which is much lower than 25.5% reported by Liu et al⁹ and higher than 2.7% reported by Ugwu et al.² Majority of the patients who underwent caesarean sections were in

the age group of 25-29 years, i.e. 44.4%, which is slightly higher than 40.3% reported by Ugwu et al.² The caesarean section rate of 65.9% in primigravida was higher than the reports from other studies.^{1,2,8,17,18} This is unacceptably high because of the implications of caesarean section on the future reproductive career of these groups of patients.

The study showed that the most common indication for caesarean section was fetal distress (Table 2), accounting for 40.2% sections, which was higher than 9.6% as reported by Geidam et al.,¹ 19.2% reported by Ugwu et al.² and 14.4% reported by Shamshad.⁶ Second common indication of caesarean section was repeat caesarean section, i.e. 13.5%, which was lower than that reported by other authors.^{1,6,8,20} In our study, failure to progress for labour was 7.8% which is lower than 12% as reported by Shamshad.⁶ This study showed caesarean section for breech in 5.3%, which was higher than 2.1% as reported by Ugwu et al.² and lower than 10.2% as reported by Shamshad et al.⁶ In our study, 1% caesarean section was done upon maternal request which was lower than 9.07% in the study by Gao et al.³

Any surgical procedures are associated with some kind of morbidity and mortality. Obstetric patients are at high risk for these complications. Any morbidity during the post-operative period puts extra psychological stress to the patients and to their family and as well to the doctor. Moreover, it is associated with extra financial burden. However, there was no maternal mortality during the study period. Maternal morbidity rate (Table 3) was 7.2% (n=48/660) which is less than 20% as reported by Ali et al.²⁰ Krebs and Langhoff-Roos reported low maternal morbidity in elective caesarean section.¹⁵ Among the maternal morbidity, 39.6% were pyrexia

which was higher than 24% reported by Ugwu et al.² Postpartum haemorrhage is an important cause for the maternal mortality, especially in developing countries like Nepal. Ten cases out of 48 had postpartum haemorrhage accounting for 20.8% of morbidity in our study but Nazir et al.⁸ reported only 0.27% cases of postpartum haemorrhage. Among the 48 patients, 9% had wound infection, which was lower than 10.3% and 27.1% as was reported by Nazir et al.⁸ and Ali et al.,²⁰ respectively. In our study, 412 (62.5%) underwent emergency caesarean section. This rate was lower than the rates in other studies, i.e. 79.4%¹ and 82.07%.⁸ Antenatal care is important aspect to reduce pregnancy-related morbidity and mortality and has impact on fetomaternal outcome. This report showed antenatal booking status of the mother in 85.3%, which was higher than the rates in other studies, i.e. 26%,⁸ 78.9%,¹ and 58.5%.²

Overall APGAR scores of neonates were good (Table 4). Majority had APGAR scores of 7-10 at 1 and 5 minutes. Neonatal outcome was satisfactory.

CONCLUSIONS

In keeping with the increasing incidence of caesarean section globally, a high incidence of caesarean section was recorded in this study. Fetal distress was the most common indication for caesarean section. Maternal request was respected and one percent of caesarean section was done for that. Maternal and neonatal outcome was satisfactory.

DISCLOSURE

The authors report no conflicts of interest in this work.

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