ORIGINAL ARTICLE

Morbidity & Mortality Associated with Placenta Previa in Emergency Versus Elective Cesarean Section

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ABSTRACT

Objective: To compare morbidity & mortality associated with placenta previa in emergency versus elective delivery.

Methodology: This retrospective observational study was conducted at Obstetric unit of Govt. Lady Aitchison Hospital, Lahore, from January, 2012 to December, 2012. Patients were admitted through emergency unit & out patients department. Patients' demographic record including age, parity, education, socio-economic status, along with mode of admission, antenatal care status, previous scar (Myomectomy, Cesarean, D&C C -Hysterectomy, Blood transfusion bladder and bowl injury.

Results: Among 52 women having placenta previa 33(63.5%) had emergency cesarean section and 19(36.5%) elective cesarean section. The major complication recorded during study was scar uterus (36.5%), blood transfusion (44.2%) and postpartum Hemorrhage (25%). Among emergency cesarean section, frequency of PPH, scar uterus and blood transfusion was significantly higher than elective cesarean section while rate of other complication was insignificantly higher in emergency cases.

Conclusion: Morbidity & mortality associated with placenta previa in emergency cesareans section is much higher than elective planned cesareans.

Keywords: Elective C-section, maternal complications, placenta praevia

INTRODUCTION

Placenta previa is defined as complete or partial implantation of the placenta in the lower segment of the uterus[1]. It is thought to result from previous inflammation or scarring in the endometrial tissue, leading to endometrial atrophy[2]. Patients present with bleeding per vaginum occurring usually in the second and third trimester[3].

Massive or recurrent antepartum hemorrhage due to placenta previa and its complications is a major cause of foetal and maternal morbidity and mortality. The higher incidence of Caesarean section is strongly associated with the greater frequency of placenta previa, and the modern day obstetrician is expected to deal with this clinical situation more frequently[4]. Conditions associated with placenta previa have a common element of placental trauma, multiparity, advanced maternal age, previous C-section and other uterine surgery[5,6].

Sometimes it is an incidental finding on ultrasonography. The bleeding is generally mild but can be severe and life-threatening .The incidence across the globe is approximately 3-5 per 1000 pregnancies[5]. This condition may lead to massive blood loss that requires prompt and urgent emergency management; otherwise it may result in increased maternal and fetal morbidity and mortality. The outcomes of C-section, whether emergency or elective, with placenta previa are not well documented. So we hypothesized this study to see whether there is some difference between the emergency and elective C-sections with diagnosis of placenta previa.

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MATERIALS AND METHODS

It was prospective observational study carried out in the Department of Obstetric unit of Govt. Lady Aitchison Hospital, Lahore. Total 52 females with diagnosis of placenta previa were included. Patients were divided in two groups on the basis of type of C-section done, whether elective (n=19 cases) or emergency (n=33 cases).

Patients were admitted through emergency unit & out patients department. Patients' demographic record including age, parity, education, socio-economic status, along with mode of admission, antenatal care status, previous scar (Myomectomy, Cesarean, and D&C), Hysterectomy, Blood transfusion and bladder and bowl injury and duration of hospital stay was noted from patient's record.

All the relevant data was entered and analyzed through SPSS 16. All outcome variables were presented as frequency and percentage and compared in both groups by using chi-square as test of significance. P-value<0.05 was considered as significant.

RESULTS

Among 52 women having placenta previa 33(60%) had emergency cesarean section and 19 (40%) elective cesarean section. PPH was observed in 12(36.4%) cases among emergency c/s cases while only in 1(5.3%) cases in elective c/s cases. Scar uterus was observed in 16(48.5%) cases among emergency c/s cases while only in 3(15.8%) cases in elective c/s cases. D&C was done in 4(12.1%) cases among emergency c/s cases while only in 1(5.3%) cases in elective c/s cases. Blood transfusion was required in 20(60.6%) cases among emergency c/s cases while only in 3(15.8%) cases in elective c/s cases.

Figure I: Type of surgery performed

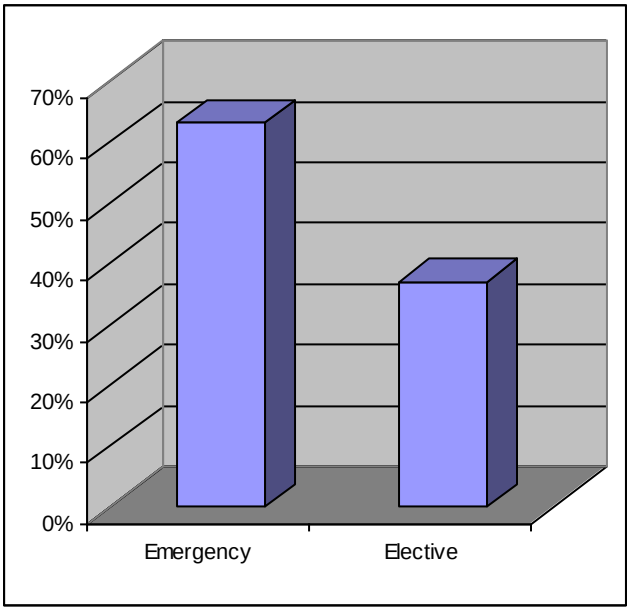

Table I: Comparison of complications occurred in pregnant females with placenta previa, undergoing cesarean section.

	Emergency C-Section	Elective C-Section	P-value
N	33	19	
PPH	12(36.4%)	1 (5.3%)	0.013*
Scar uterus	16(48.5%)	3(15.8%)	0.018*
D&C	4(12.1%)†	1(5.3%)	0.419†
Blood Transfusion	20(60.6%)*	3(15.8%)	0.002*
Uterine artery ligation	3(9.1%)†	1(5.3%)	0.618†
Hysterectomy	5(15.2%)†	0(0%)	0.123†
Bladder Injury	1(3.0%) †	0(0%)	0.719†
Bowl injury	0(0%)†	0(0%)	1.000†
Maternal death	2(6.1%)†	0(0%)	0.452†

Chi-square was applied (*=Significant difference, †=Insignificant difference)

Uterine artery ligation was to be done in 3(9.1%) cases among emergency c/s cases while only in 1(5.3%) cases in elective c/s cases. Hysterectomy was done in 5(15.2%) cases among emergency c/s cases while in elective c/s cases no hysterectomy was required to be done. Bladder injury was observed in 1(3%) cases among emergency c/s cases while in elective c/s cases, no bladder injury was observed. Bowl injury was not observed in any case in both groups. Maternal death occurred in 2(6.1%) cases among emergency c/s cases while in elective c/s cases, no maternal death was reported.

DISCUSSION

Placenta previa is a life-threatening condition, and an appropriate perioperative management strategy is mandatory to achieve a successful outcome. However, the best approach for placenta previa has yet to be determined. This is most likely due to the limited number of cases and the lack of controlled studies[7,8]. Placenta previa with urinary bladder invasion is associated with a 5.7% risk of maternal mortality and high morbidity due to severe hemorrhage and urologic injury[9]. The management strategy for placenta previa may include a cesarean hysterectomy using a temporary balloon occlusion of the common iliac artery[10], a delayed hysterectomy with arterial embolization[11] and expectant management with close surveillance[7,8,12]. Because patients who receive cesarean hysterectomies have an increased risk of massive hemorrhage, some investigators have proposed that an elective delayed hysterectomy be planned at 1 week or at 6–8 weeks after cesarean delivery[8,9,11,13].

The classic sign of placenta praevia is painless vaginal bleeding during the second or third trimester. The initial bleed is often mild. Diagnosis is usually made by ultrasound, followed by planned management by the obstetric service based on severity and fetal maturity. Ultimately, Caesarean section is the recommended mode of delivery[14,15].

In our study, we include total 52 women with diagnosis of placenta previa, out of which 33(60%) had emergency cesarean section and 19(40%) had elective cesarean section. Cesarean section is required for complete placenta previa and may be necessary for other types of placenta previa. A Cesarean delivery is usually planned for women with placenta previa as soon as the baby can be safely delivered (typically after 36 weeks' gestation), although an emergency Cesarean delivery at any earlier gestational age may be necessary for heavy bleeding that cannot be stopped after treatment in the hospital[16].

We observed PPH in 12(36.4%) cases among emergency c/s cases while only in 1(5.3%) cases in elective c/s cases. PPH can be categorized as an abnormality of one or more of the following: uterine tone (uterine atony), retained tissue (placental tissue or blood clots), trauma (genital tract lacerations), or coagulation (coagulopathy)[17].

We observed that among emergency c/s cases, rate of scar uterus was significantly higher (48.5%) and D&C (12.1%) as compared to elective c/s cases (15.8% for scar uterus and 5.3% for D&C). Blood transfusion was required in 20(60.6%) cases among emergency c/s cases while only in 3 (15.8%) cases in elective c/s cases. It is reported that women with placenta previa who experience heavy bleeding may require blood transfusions and intravenous fluids[16]. Study has reported that the women who were electively present, had slightly less frequency of necessity of transfusion compared to those who were presented in emergency. However, the number of transfusions received by the emergency cases was significantly higher and almost twice compared to those who underwent emergency surgery (mean number of transfusions in emergency cases was 2.97 compared to 1.56). This is related to better antenatal care in the elective cases as has been depicted in a study[5].

Hysterectomy is often the definitive treatment for PPH with the most common indications being uterine atony and placenta accreta[18]. In our study, rate of hysterectomy was more in emergency c/s cases (15.2%) cases as compared to elective c/s cases, among whom no hysterectomy was required to be done. Uterine artery ligation was required in 3(9.1%) cases among emergency c/s cases while only in 1(5.3%) cases in elective c/s cases.

Bladder injury was observed in 1(3%) cases among emergency c/s cases while in elective c/s cases, no bladder injury was observed. Bowl injury was not observed in any case in both groups.

In our study, maternal death occurred in 2(6.1%) cases among emergency c/s cases while in elective c/s cases, no maternal death was reported. The difference between both groups was insignificant. This showed that the there is no association between placenta previa and maternal mortality. A local study reported that rate of mortality among obstetric females was 0 who underwent c-section while had diagnosis of placenta previa[19]. But another local study reported the maternal mortality rate of 2% in obstetric females presented with placenta previa underwent cesarean section[20]. We also observed mortality in few patients (6.1%) only those who presented or underwent emergency cesarean section, that was because of severe blood loss (PPH).

CONCLUSION

Postpartum hemorrhage, scar uterus and blood transfusion are significantly associated with emergency cesarean section particularly in presence of placenta previa while other morbidities & mortality rate is higher with placenta previa in emergency cesareans section (6%) were although higher than elective cesareans (0%), but the difference was insignificant. It was concluded that if females found to have placenta previa, they must be managed through conservative management or blood should be arranged before surgery as to control blood level to prevent females from mortality due to PPH. Further studies are required to confirm the results with more sample size.

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