



Emergency Peripartum Hysterectomy and its Outcome in a Tertiary Care Hospital in Dhaka City, Bangladesh

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Key words:

Peripartum hysterectomy, Postpartum haemorrhage, Maternal mortality, Uterine atony.

Abstract :

Introduction: Emergency peripartum hysterectomy (EPH) is a life-saving surgical procedure performed when medical and surgical conservative measures fail to control postpartum hemorrhage. EPH is a challenging but life saving obstetric procedure performed when medical and surgical conservative measures fail to control postpartum haemorrhage. The present study aimed to review the peripartum hysterectomies and to compare the incidence, indications and outcome of EPH.

Materials and Methods: This retrospective study was conducted at a tertiary care hospital in Dhaka, Bangladesh. Total 62 cases have taken, who had hysterectomy that was performed in Obstetric and gynaecology department of Addin Womens Medical College Hospital during the period between January 2020 and December 2022.

Result: There were total of 36371 deliveries over the study period and EPH was performed in 62 cases making an incidence of 0.408. In this study 33.8% patients were between 35 to 39 years. Here 45.16% had their parity between 2nd and 3rd child. Here 61.2% had previous history of caesarean section, 24.19% had previous history of antepartum haemorrhage, 74.19% cases intrapartum operation had done. Among 62 cases of EPH 77.4% cases subtotal hysterectomy had done. Here, among 62 cases of caesarean section 35.48% had placenta accrete and 20.96% had history of placenta previa with haemorrhage and 12.9% had severe PPH due to atony of uterus. 22.5% cases had fetal outcome of still born but 32.25% baby born alive. In this study 51.6% cases patients develop haemorrhage as perioperative complication, 19.5% develop shock but 100% required blood transfusion among which 50% were in post operative period. Here 6 out of 62 cases had bladder injury, 5 patients needed relaparotomy due to haemoperitoneum caused by vaginal cuff bleeding. Mortality rate was 4.83%.

Conclusion: Now a days the indication of EPH has changed from uterine atony to abnormal placentation. It is a most important obstetric surgery performed in life threatening haemorrhage. Involvement of an experienced obstetrician at an early stage of management and efforts should be taken to reduce morbidity and mortality.

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Introduction :

Emergency peripartum hysterectomy (EPH) is defined as hysterectomy performed at the time of child birth or within 24 hours of childbirth or any time from child birth to discharge from the same hospitalization.¹ Emergency peripartum hysterectomy is a challenge but life saving obstetric procedure performed when medical and surgical conservative measures fail to control postpartum haemorrhage. The removal of uterus at caesarean section is referred to caesarean hysterectomy while the removal of uterus after vaginal birth is called post partum hysterectomy.² Peripartum hysterectomy is reserved for situations in which severe obstetric haemorrhage fails to respond to conservative treatment.^{3,4} It is therefore sometimes unplanned and must be performed expeditiously usually in patients that are in less than ideal condition to withstand anaesthesia and trauma of surgery. It has been described as one of the riskiest and dramatic operations in modern obstetrics^{3,5,6}. Though it is a rare event in obstetric care, it is an indicator of severe acute maternal morbidity (SAMM).⁷ Therefore it may be considered as near miss event. Peripartum hysterectomy is used to prevent deaths due to post partum haemorrhage [PPH].⁸ It is performed in cases of intractable obstetric haemorrhage due to atony or to prevent haemorrhage from a morbidly adherent placenta or placenta previa, other indications include uterine rupture, cervical laceration, leiomyoma, post partum uterine infection. The reported incidence of EPH varies worldwide from as low as 0.2 per 1000 in the northern countries to 10.1 per 1000 deliveries in India.⁹ In low and lower-middle-income countries EPH has a higher incidence than in upper-middle and high-income countries.¹⁰ This could be attributed to disparity in accessibility and availability various modern obstetric services like uterine artery embolism, family planning and antenatal care facilities. Among the risk factors, the association between the rising caesarean section (CS) rates and the necessity for EPH is attributable mostly to the occurrence of placental pathologies, such as

placenta previa and placenta accreta, increta, and percreta (Placenta Accreta Spectrum, PAS).^{11,12,13} The incidence of previous CS in patients with PAS has been reported at 59.8%, whereas in patients with placenta praevia the incidence reaches 75%.¹⁴ This may be conserving especially for countries where CS rate are high because EPH is associated with high morbidity rate and loss of fertility. The present study aimed to review the peripartum hysterectomies and the incidence, indications and outcome of Emergency peripartum hysterectomy (EPH) within the study period.

Materials and Methods:

This retrospective study was conducted at a tertiary care hospital in Dhaka, Bangladesh. Total 62 cases have taken, who had hysterectomy that performed in Obstetric and gynaecology department of Addin Womens Medical College Hospital during the period between January 2020 and December 2022. Hysterectomy performed due to Obstetric haemorrhage, during pregnancy, labour and within 7 days of delivery has been included in this study. The study collected data on women delivering at ≥ 24 weeks of gestation with any of the following complications: 1) Severe haemorrhage (haemorrhage within 7 days of delivery requiring ≥ 4 units of whole blood or packed red cells). 2) Abnormal invasive Placenta (AIP): defined as vaginal delivery difficult, incomplete manual removal of placenta and blood transfusion within 48 hours or CS with difficult removal of placenta. 3) Haemorrhage due to complete or incomplete uterine rupture. 4) PPH within 7 days from delivery. Each case record was analyzed in details as regard to maternal age, parity, indication of operation, associated risk factors and time of surgery, transfusion of blood and blood product, ICU stay, and post operative complications. From operation register, records were obtained regarding type of operation, anaesthesia, associated surgery and post operative complications. The fetal outcome also analyzed. All data included in this study analysed using SPSS software version 22.0.

Results:**Table-I. Risk factors for Peripartum Hysterectomy**

Risk Factors	No. of Patients(%)
Age in years:	
15-19 years	0 (0)
20-24 years	2(3.2)
25-29 years	17(27)
30-34 years	19(30.6)
35-39 years	21(33.8)
e" 40 years	03(4.83)
Parity Distribution:	
Primi	0(0)
2nd – 3rd	28(45.16)
4th – 5th	25(40.30)
Å 5th	09(14.51)
Obstetric History:	
Previous C/S	38(61.2)
Grand Multipara	6(9.67)
Previous Curettage	8(12.9)
Multiple Fibroids	2(3.2)
Prolonged Labour	1(1.61)
APH	15(24.19)
Others	2(3.2)
Timing of operation :	46 (74.19)
Intrapartum	
Postpartum	13(20.96)
Postabortal	3(4.83)
Types of operation:	
Total abdominal Hysterctomy	14(22.5)
Subtotal Hysterctomy	48(77.4)

Table I shows the women were aged 20 to 40 years.33.8% patients were between 35 to 39 years.45.16% had their parity within 35 to 39 years.61.2% had previous history of caesarean section.24.19% had previous history of antepartum haemorrhage. 74.19% cases intrapartum operation had done.Among 62 cases of EPH 77.4% cases subtotal hysterectomy had done.

Table- II. Indications of Caesarean Section

Indications	No. of patients with Percentage
Placenta accreta	22(35.48)
Placenta Previa with haemorrhage	13(20.96)
Severe PPH due to atony of uterus	8(12.90)
Ruptured Uterus	6(9.67)
Abruptio Placenta	2(3.22)
Secondary PPH	4(6.45)
Abortion Complications	2(3.22)
Molar Pregnancies	1(1.61)
Others	4(6.45)

Table II shows among 62 cases of caesarean section 35.48% had placenta accrete and 20.96% had history of placenta previa with haemorrhage and 12.9% had severe PPH due to atony of uterus.

Table-III. Fetal Outcome

Fetal Outcome	Number of Patients and Percentage
Alive	20 (32.25)
Still Born	14 (22.50)
NICU admission	18 (29.03)

Table III shows 22.5% cases had fetal outcome of still born but 32.25% baby born alive.

Table-IV. Perioperative Complications

Perioperative Complications	Number of Patients with Percentage
Haemorrhage	32(51.6)
Shock	12(19.5)
Cardiac arrest	5(8.06)
Bladder injury	6(9.67)
Paralytic Ileus	2(3.22)
Re laparotomy	5(8.06)
Wound sepsis	8(12.93)
Chest Infection	2(3.22)
ICU admission	45(72.5)
Blood Transfusion	62(100)
Maternal Mortality	3(4.83)

Table IV shows in 51.6% cases patients develop haemorrhage as perioperative complication, 19.5% develop shock but 72.5% cases ICU admission required.

Discussion:

During the study period total delivery occurs 36371 and among them EPH occurs 62 cases. The incidence of peripartum hysterectomy in our study is 0.408%, which is slightly higher than those of the developed countries like UK and Nordic countries but less than many Asian and African nations.^{15,16} The incidence of EPH is much higher (0.2% to 0.54%) in studies from Northern India, Pakistan and Nigeria.^{17,18,19} The most common indication for EPH in this study was abnormal placentation, followed by uterine atony and other causes. Several studies in the past years have shown that abnormal placentation was the main factor leading to uncontrolled hemorrhage and EPH, replacing uterine atony as the most frequent cause for EPH^{15,16,18,19}. In the present study, 61.2% women had previous history of caesarean section. Most studies^{20,21,22,23,24} shows 50% to 83% of the women who underwent EPH had a prior caesarean section. One study showed that there is a threefold higher risk of peripartum hysterectomy for abnormal placentation than for uterine atony.¹⁸

The United Kingdom Obstetric Surveillance Study (UKOSS) showed that the risk of an EPH rises with increasing number of previous caesarean sections.¹⁶ The most common indication for EPH in our study was abnormal placentation followed by atonic PPH and rupture uterus. This is consistent with studies reporting a similar incidence of EPH^{20,22}. Some studies reported rupture uterus to be the most common indication for EPH, followed by abnormal placental causes and uterine atonicity.^{17,19,23,25} A study observed a change from atony to abnormal placentation, which could be attributed to their high rate of caesarean sections.²⁴ The most common type of child birth preceding the EPH was a caesarean section rather than a vaginal delivery, as was the case with majority of studies.^{20,21,22,23} A scarred uterus following CS or curettage represents risk factors for abnormal placentation. Women with history of one previous CS have more than the double risk of EPH in next pregnancy while

those with two or more previous CS have more than eighteen times risk.¹⁶ The fetal outcome shows in this study that 22.50% still born. Maternal mortality in our study was due to disseminated intravascular coagulation which was a consequence of the intractable haemorrhage. The maternal mortality reported in most studies was attributed to haemorrhagic shock or disseminated intravascular coagulation which could not be controlled even after hysterectomy.^{18,19,20,22,23} The UKOSS showed that more than 150 women were managed successfully with an EPH for each woman who died after the procedure.¹⁶ Deaths were due to the severity of the underlying haemorrhage for which hysterectomy was performed, rather than the procedure itself. With increasing rates of caesarean section and its associated rise in placenta previa and placenta accreta, the incidence of EPH is more common now a days. Careful antenatal assessment and early identification of risk factors for haemorrhage should be therefore carefully monitored.

Here five patients (8.06%) needed a post-hysterectomy re-laparotomy because of intra-abdominal bleeding. The most important intraoperative complication was bladder injury (9.67%). This finding is consistent with other studies that showed placental pathology is distorting the lower uterine segment and the pelvic structures.^{19,26,9} In this study, most patients with bladder injury presented with placenta previa and placenta accreta Spectrum (PAS). There is three maternal death (4.83%) reported in this study due to Disseminated Intravascular Coagulation (DIC). The rate was higher in low and lower-middle-income settings compared with upper-middle and high-income settings.⁹

Conclusions:

From our study we found that the incidence of EPH is 0.408 cases per 1000 deliveries. Abnormal placentation is the leading cause of EPH. When EPH was performed, it was associated with maternal morbidity and mortality. Reducing the number of unnecessary cesarean deliveries will limit the risk of EPH. It is a most important obstetric surgery performed in life threatening haemorrhage. Involvement of an experienced obstetrician at an early stage of management and efforts should be taken to reduce morbidity and mortality.

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