

# Ten Years Experience and Review of Postpartum Hysterectomy Cases in Fauji Foundation Hospital Lahore

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## ABSTRACT

**Background:** Peripartum hysterectomy can save life and health of a mother in cases of unmanageable postpartum hemorrhage.

**Aim:** To determine the incidence, indications, outcomes and complications of peripartum hysterectomy performed at Fauji foundation hospital, Lahore.

**Methods:** Medical records of the patients who had postpartum hysterectomy, between January 2004 and December 2013, were reviewed retrospectively. The mode of delivery, indications for hysterectomy, intra operative and post operative complications, maternal and feta outcomes were evaluated.

**Results:** During this study period, there were 15 cases of postpartum hysterectomy out of 13,742 (1.09/1.000 deliveries). Out of these cases, 13 were performed after cesarean and 2 after vaginal deliveries. Postpartum hysterectomy was performed for abnormally adherent placenta previa in 12 cases (80%), for uterine atony in 2 (13.3%) ) and for uterine rupture in one case (6.7%). In addition to this, there were 2 cases of intra-operative bladder injury and 1 case of re-laparotomy due to continuous intra-peritoneal hemorrhage. Moreover 6 cases (40%) of disseminated intravascular coagulopathy were observed which were managed by pelvic packing. All patients required blood transfusions.

**Conclusion:** The frequency of postpartum hysterectomy in this study was noted to be lower than the incidence in similar studies conducted in the majority of other under developed countries. The most frequent indication was morbidly adherent placenta previa.

**Keywords:** Obstetric emergency, Life-saving procedure; Postpartum hysterectomy

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## INTRODUCTION

The first ever documented hysterectomy was reported by Horatio Storer in 1869 at Caesarean section in United States. Though the patient died within 68 hours after surgery<sup>1,2,3</sup>.

In 1876, Eduardo Porro of Milan performed the first cesarean hysterectomy with good maternal and fetal outcome<sup>2</sup>. After this case more cases were reported with various modifications<sup>2,3</sup>.

The incidence of severe postpartum hemorrhage is 6.7/1,000 deliveries worldwide. It is most important cause of maternal deaths and morbidity and is the most complicated situation in obstetrics. The main reasons of this unmanageable hemorrhage which ultimately leads to hysterectomy, have changed trends since 1980s onward . Abnormal placentation is now one of the leading causes and has overtaken uterine atony and rupture, as reported by many studies. This is because uterine atony can now be effectively managed medically. Moreover there are less number of uterine rupture cases as commonly lower segment cesarean section cases are performed as compared to rarely performed upper segment cesarean sections. But at the same time, there is an actual increase in the incidence of the morbidly adherent placenta, commonly due to increased cesarean section rate<sup>2</sup>. The reported prevalence of emergency peripartum hysterectomy (EPH) usually range from 0.24 to 8.7 per 1000 cases. This was observed more frequently after

cesarean section as compared to after vaginal deliveries having an incidence of 0.3 in Ireland, 0.5 in Israel, 0.63 in Saudi Arabia and 0.83 in Delhi<sup>4</sup>. As a matter of fact, the chances of EPH increases as the number of previous CS rises.

The postpartum hemorrhage is usually managed conservatively by oxytocic agents (oxytocin, ergotamine), abdominal or bimanual uterine massage, uterine artery embolization, packing of uterine cavity, stepwise pelvic devascularization, B-Lynch uterine compression suture, multiple square sutures for placental bed hemostasis and recombinant-activated factor VII. The number of maternal death due to severe postpartum hemorrhage is approximately 1 in 100,000 deliveries in developed countries. This risk becomes as high as 1 in 1,000 deliveries in developing countries. The other complications of postpartum hemorrhage includes hypovolemic shock, DIC, renal failure, hepatic failure, and adult respiratory distress syndrome.

This was a retrospective data analysis study to review the incidence, indications, outcomes and complications of peripartum hysterectomy performed in Fauji Foundation Hospital Lahore from January 2005 till December 2014.

## METHODS

The hospital record and case files of all the patients who underwent emergency peripartum hysterectomy between January 2004 and December 2013, in Fauji Foundation Hospital, Lahore following vaginal or cesarean delivery, were reviewed retrospectively. Emergency postpartum

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hysterectomy was defined as removal of uterus following postpartum hemorrhage after failure of conservative measures. Information gained from medical records included, past obstetric history, detailed account of the current pregnancy and then recent delivery, reasons for performing postpartum hysterectomy, the intra-operative and postoperative complications, length of hospital stay, amount of blood transfused and neonatal outcomes. Maternal complications such as maternal death and serious hemorrhagic, neurological, urological, infectious, respiratory, renal and thrombo embolic complications were also noted and documented.

**RESULTS**

During the 10-year study period, a total of 13742 deliveries were recorded. Fifteen postpartum hysterectomies were performed following uncontrollable postpartum hemorrhage which failed to respond to conservative management. The incidence was reported to be 1.09 per 1.000 deliveries (0.10%). Thirteen (86.6%) postpartum hysterectomies were performed after cesarean sections and 2(13.3%) were performed following vaginal delivery. Mean age of the patients was 30 years. Eight (53.3%) women were ≥35 years old, while 46.6% were of the age group of 18-35 years. There were 2 primiparous women (13.3%). The mean gestational age was 38 weeks with range of 37-41 weeks. The average birth weight of the fifteen newborn babies was 3.0 Kg with range of 2.0-3.7 Kg.

Thirteen postpartum hysterectomies (86.6%) were performed after cesarean section. Two were after normal vaginal deliveries due to uterine atony. Indications for elective cesarean sections were placenta previa in 12 cases (80%). Among two cases of EPH performed after vaginal delivery one was grand multipara and the other patient had a prolonged labour. According to guidelines, medical management and conservative surgical procedures were used initially in order to control bleeding and thus to avoid hysterectomy. All of these patients were treated initially by oxytocin and misoprostol. B-Lynch suture was applied in two of these cases but proved unsuccessful. In twelve cases(80%) EPH was performed due to placenta previa and/or accrete, while in two cases (13.3%) uterine atony was the cause, and uterine rupture in only 1 case (6.7%).

Bladder injury was reported in 2 cases (13.3%). One patient had 3 previous cesarean sections and one case had re-laparotomy due to continuous intra-peritoneal bleeding who died later on due to the hemorrhagic shock. In 6 cases pelvic packing was done to control disseminated intravascular coagulation that reversed with prompt and effective treatment. All 15 patients received blood transfusions and FFP's. The average number of units of blood transfused were 8 with a range of 4-16 units. Immediately following surgery, all patients were shifted to the high dependency area (ICU). The average postoperative hospital stay was six days with range of 5-25 days. There was one maternal death because of hemorrhagic irreversible shock due to ruptured uterus at home and delay in reaching the hospital after that. There was 1 case of neonatal mortality due to prematurity at 30 weeks.

Table I: Mode of delivery (n=15)

Preceding Event	n	%age
C. Section	13	86.6
Normal Delivery	2	13.3

Table II: Causes of PPH leading to hysterectomy (n=15)

Causes	n	%age
Abnormally adherent placenta previa	12	80
Uterine Atony	2	13.3
Uterine rupture	1	6.6

Table III: Complications during and after hysterectomy

Complications	n	%age
Requirement of blood transfusion	15	100
Requirement of Re-laparotomy	1	6.6
Requirement of pelvic packing to control hemorrhage	6	40
Bladder injury	2	13.3
Requirement of ICU care	15	100
Maternal mortality	1	6.6
Neonatal mortality (prematurity)	1	6.6

**DISCUSSION**

Emergency peripartum hysterectomy is a life saving obstetric procedure, which is invariably performed in case of life threatening PPH. The indication for this procedure has changed in recent years from unmanageable uterine atony to abnormally adherent placenta<sup>8</sup>, as was noted in our study. The EPH was performed in 12(80%) of cases, while for uterine atony in just 2 cases (13.3%). These observations are different from those noted by Sadia sultana et al in their 11 years review of EPH<sup>9</sup>. In their study, the incidence of EPH was 1.8/1000 deliveries. The main indication for EPH in their study was uterine atony (34.6%), ruptured uterus (23%), placenta previa (11.53%) and adherent placenta in 11.53%.

The reported incidence of EPH varies from 0.24 to 5.09 per 1000 deliveries. This varied incidence is based on infrastructure and obstetric care facilities in a set-up. The incidence of EPH in this study was 1.09/1000 deliveries. This is in accordance with the almost same incidence reported by another Pakistani study by Razia Korejo et al<sup>10</sup>. In their study, 121 hysterectomies were reported out of total 44,612 deliveries during the study period. Thus the frequency of the procedure, was found to be 1 in 368(0.27%) deliveries. The most common indication for EPH in their study was ruptured uterus in 57 cases (47.1%). The second common indication for EPH was severe postpartum haemorrhage due to atony of uterus in 35 cases (28.9%). Other indications were placental abnormalities in 14 patients (11.6%); placenta previa in 3 cases (2.5%); abruptio placenta in 4 (3.3%); and severe infection following vaginal delivery in 3 cases (2.5%).

In the current study, majority of the patients, undergoing, EPH were in the age group > 35 years and were multipara. Similar trend was observed by Amad and Mir in their study<sup>11</sup>.

In our study the major complications were bladder injury (13.3%), re-laparotomy (6.6%) and maternal death in one patient (6.6%). These complications were different from those noted by Razia Korejo et al<sup>10</sup>, where it was observed that post-operative Infection was the commonest

complication seen in 14(11.6%) patients. In their study the maternal deaths toll was high and 11(9%) maternal deaths and 65(53.7%) perinatal deaths were noted.

Aniekan Monday Abasiattai et al in their study in Nigeria, reported 12,298 deliveries during the study period and 28 emergency peripartum hysterectomies. So the incidence of EPH was found to be 0.2% or 1 in 439 deliveries. The mean age of the patients in their study was 26-30 years in 35.7% of cases. Almost 64.4% of patients were of low parity, and out of all patients only 17.9% were graduate. Almost half of the study population was admitted without prior registration and antenatal booking while 14.3% were antenatal clinic defaulters. In their study emergency hysterectomy was performed due to extensive uterine rupture in 67.8% of cases, followed by EPH due to uterine atony with uncontrollable haemorrhage in 17.9% of cases. Subtotal abdominal hysterectomy was performed in 92.8% of the cases. The maternal mortality occurred in 14.3% of cases and the perinatal mortality in 64.3%<sup>12</sup>.

## CONCLUSIONS

Emergency Peripartum Hysterectomy is not more an infrequent and rarely performed procedure in order to manage life threatening PPH mainly due to either uterine atony or abnormally adherent placenta. The main risk factors for EPH remains previous uterine surgery and multiparity. Significant maternal and perinatal morbidity is the main outcome of EPH e.g blood transfusions, ICU admissions and other visceral injuries resulting in huge psychological and financial burden on the patient, family and society.

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