

A Retrospective Observational Assessment of the Incidence, Leading Causes, Risk Factors and Complications of Emergency Peripartum Hysterectomy in Modern Obstetrics

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Abstract

Aim: To know the incidence, leading causes, risk factors and complications of EPH.

Material & Method: This was a retrospective observational study conducted at the Department of Obstetrics and Gynecology, Nalanda Medical College & Hospital, Patna, Bihar, India. This study included all women undergoing hysterectomy after 22 weeks of gestational age and within 6 weeks of delivery from over a period of 1 year

Results: EPH was done for atonic PPH in 15 (42.8%), followed by uterine rupture in 10 (28.5%). A mean of 3.4 units of packed red blood cells were transfused. Intra-operative injury to the urinary bladder was seen in 6 (17.1%) of the patients. There were no other intra-operative complications.

Conclusion: Uterine atony and uterine rupture continues to be the most common causes for EPH in our population. Multiparity is an important risk factor among patients with rupture uterus. Cesarean delivery and repeat cesarean deliveries are the likely risk factors for EPH.

Keywords: Emergency Peripartum Hysterectomy, Previous Cesarean, Uterine Rupture

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Introduction

EPH is usually performed in the face of unrelenting and life-threatening obstetric hemorrhage. A near miss event is defined as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth, or within 42 days of termination of pregnancy. [1]

EPH includes hysterectomies done during caesarean section and after vaginal delivery or any time within the puerperium. EPH is a very challenging

procedure, as the patient would be critically ill and since it is rare, expertise among obstetricians is minimal. Indications for EPH have been changing over years. [2]

Risk factors for EPH include advanced maternal age, multiparity, previous caesarean, uterine myoma, placenta previa, induced labor, operative vaginal delivery, caesarean delivery and fetal macrosomia. [3] Early identification of risk factors,

good antenatal and obstetric care, early referral to tertiary center would certainly help in preventing obstetric hysterectomies and reducing maternal mortality.

Emergency peripartum hysterectomy (EPH) is a major surgery in which extirpation of uterus invariably performed in the setting of life-threatening hemorrhage during or immediately after abdominal and vaginal deliveries. [4-8]

Thus, this study aims to know the incidence, patient profile, indications and complications of EPH

Material & Methods:

This was a retrospective observational study conducted at the Department of Obstetrics and Gynecology, Nalanda Medical College & Hospital, Patna, Bihar, India.

This study included all women undergoing hysterectomy after 22 weeks of gestational age and within 6 weeks of delivery from over a period of 1 year

Methodology

Information's about the patients undergoing EPH were collected from the parturition and operation registers. Medical records and operation notes of all women who underwent peripartum hysterectomy were scrutinized. The study included women who were referred to our hospital either for delivery or after delivery with severe postpartum hemorrhage, apart from patients who were booked at our hospital.

Patient characteristics such as age, parity, history of previous cesarean or curettage, type of antenatal care, mode of delivery, type of hysterectomy was documented. Details regarding newborn were recorded. Intra-operative complications if any and

post-operative morbidity such as fever, urinary tract infection, need for blood transfusion and duration of hospital stay were recorded.

Results:

There were 12,601 deliveries over a period of 4 years. A total of 35 Emergency peripartum hysterectomies were performed with the incidence being 0.8 per 1000 deliveries in our institution.

Table 1 shows demographic and clinical data of women who underwent emergency peripartum hysterectomy. Most of the patients were multiparous 33 (94.2%). Maternal age was between 20-35 years with mean being 25.8 ± 4.3 years. The mean gestational age at which EPH was performed was 33.7 ± 4.6 weeks.

Table 2 depicts EPH was done for atonic PPH in 15 (42.8%), followed by uterine rupture in 10 (28.5%) and morbidly adherent placenta in 7 (20%). EPH was done for secondary PPH in 1 (2.8%) and for traumatic PPH in 2 (5.7%) of the patients.

Table 3 shows a mean of 3.4 units of packed red blood cells were transfused. Intra-operative injury to the urinary bladder was seen in 6 (17.1%) of the patients. There were no other intra-operative complications. Post-operative septicemia was seen in 4 (11.4%) of the patients, one of whom was managed conservatively, and the other patient died on the 14th post-operative day due to multi-organ damage. Acute kidney injury was seen in 5 (14.2%) of the patients requiring 1 haemodialysis. Pressure sore, requiring skin grafting had developed in 2 patients. Duration of hospital stay was between 5-60 days with mean being 15.7 ± 10.7 days.

Table 1: Demographic and clinical data of women who underwent emergency peripartum hysterectomy

Characteristics	Values
Mean maternal age (years)	25.8 ± 4.3
Mean parity	1.4
Mean gestational age (weeks)	33.7 ± 4.6
Delivery by CS (number, %)	15
History of previous CS (number, %)	13
Previous 1 CS (number, %)	10
Previous 2 CS (number, %)	1
Previous 3 CS (number, %)	1
Prior uterine curettage (number, %)	2
Patients with uterine rupture (number, %)	7

Table 2: Indications for emergency peripartum hysterectomy

Indications	Number	%
Uterine atony	15	42.8
Uterine rupture	10	28.5
Morbidly adherent placenta	7	20
Traumatic postpartum haemorrhage	2	5.7
Secondary postpartum haemorrhage	1	2.8

Table 3: Complications with emergency peripartum hysterectomy

Complications	Number (%)
Mean blood transfusion units	3.4
Bladder injury	6 (17.1)
Acute kidney injury	5 (14.2)
Septicemia	4 (11.4)
Pressure sore	2 (5.7)
Death	1 (2.8)

Discussion:

Many reports and guidelines have advocated the preference for subtotal hysterectomy over total hysterectomy since it offers the advantage of less blood loss, fewer instances of damage to the urinary tract, and takes less time to complete in the face of hemodynamic compromise/instability. [9, 10] However, in cases of morbidly adherent placenta total hysterectomy may prove more beneficial as removal of the cervix leads to better hemostasis. [11]

Kastner et al. noted that with better screening and reducing incidence of cervical stump cancer subtotal hysterectomy could be feasible method during emergencies. [12] With cervical cancer being the leading cause of cancer related deaths among women in India, women for whom subtotal hysterectomy has been done should be advised to undergo periodic screening for cervical cancer.

Advances in anesthesia, blood bank facilities, and intensive care back-up have made it a safer and painless alternative to

labor. This has not only given rise to a surge in complications like abnormal placentation and uterine rupture, but also in the incidence of atonic postpartum hemorrhage. This is why EOH has become increasingly relevant in modern obstetric practice. An analysis of patient discharge notes in Canada has revealed a rise in the rate of postpartum hemorrhage necessitating hysterectomy. [13]

Ohonsi et al [14] observed 13.3% and 6.7% incidences of the same for EPH. This is in contrast to the study of UK [15] in which 38% of cases of EPH were for the indication of morbidly adherent placenta. The prominence of this indication for EPH has been reported globally attributed by increasing caesarian rates.

Obstetricians have been performing EPH since the last 100 years. The first successful EPH was performed in 1876 by Eduardo Porro, Professor of Obstetrics at Pavia to control hemorrhage and prevent peritonitis. [12] Incidence of EPH in our study was 0.7 perm1000 deliveries which were in comparison with Fatu Forna et al. [16,17]

Conclusion:

Uterine atony and uterine rupture continue to be the most common causes for EPH in our population. Multiparity is an important risk factor among patients with rupture uterus. Cesarean delivery and repeat cesarean deliveries are the likely risk factors for EPH.

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