

Original Article

Emergency Obstetrics Hysterectomy : A Retrospective Study in Tertiary Care Hospital in Western India

Payal Pramodbhai Panchal¹, Sweta Deepakbhai Maheta², Bina Manoj Raval¹, Ami Vishal Mehta³, Sushma R Shah⁴, Dayna J Shroff⁵, Rushi M Shah⁵

Emergency Obstetric Hysterectomy (EOH) is defined as extirpation of the uterus either at the time of cesarean section or following vaginal delivery or within the puerperium period. This retrospective study was carried out at tertiary health care center in Western India from January, 2019 to February, 2022. Obstetric hysterectomy is still a life-saving surgery in modern obstetrics. The maternal outcome, in terms of reduction in mortality and prevention of postoperative complications, greatly depends on the timely decision, surgical skill and speed of performing obstetric hysterectomy.

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Key words : Emergency Obstetric Hysterectomy, Atonic Postpartum Hemorrhage, Morbidly Adherent Placenta, Maternal Mortality.

Emergency Obstetric Hysterectomy is defined as extirpation of the uterus either at the time of cesarean section or following vaginal delivery, or within the puerperium period. Obstetric emergencies are the most common cause of maternal mortality Worldwide, of which obstetric hemorrhage is the leading contributor¹. Medical methods and conservative measures have all been in practice to manage obstetric hemorrhage effectively². With the conservative methods, need for emergency Obstetric Hysterectomy (OH) has reduced to some extent, but still is the last resort to save maternal life in case of massive obstetric hemorrhage³. In a rapidly developing situation, striking a balance between spending excessive time on alternative techniques, leading to further delay and hemorrhage and moving to the definitive lifesaving hysterectomy becomes crucial.

In the developing World, preventable factors such as uterine atony or uterine rupture are the most common indications for Obstetric Hysterectomy; while conditions like postpartum hemorrhage, placenta accreta and placenta previa, apart from uterine rupture have been majorly responsible in our country^{4,5}. Off-late, placenta accreta has been observed to have become the leading indication for emergency peripartum

Editor's Comment :

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hysterectomy, especially in developed World^{6,7}. This is due to the rising incidence of placenta previa or accreta associated with the increasing number of women with previous cesarean section⁸.

AIMS AND OBJECTIVE

The present study is aimed to evaluate the incidence, indications, postoperative complications, total transfusion of blood products and maternal and fetal outcome in the cases managed by Emergency Obstetric Hysterectomy at a Tertiary Care Hospital.

MATERIALS AND METHODS

This retrospective, record based study was carried out in the department of Obstetrics and Gynecology at Tertiary Health Care Hospital in Western India from January, 2019 to February, 2022. The study population consisted of 30 patients who underwent obstetric hysterectomy at the study center during the mentioned period.

Inclusion Criteria :

(1) All women admitted in the labour room who underwent Obstetric Hysterectomy during the study period.

(2) All women who underwent Hysterectomy for any indication during pregnancy (including those done for complications of extra uterine pregnancies or molar pregnancies or termination of pregnancy such as perforation and sepsis), labour or puerperium.

Department of Obstetrics and Gynecology, Sardar Vallabhbhai Patel Institute of Medical Sciences and Research, Ahmedabad, Gujarat 380006

¹MS (Obstat & Gynaecol), Assistant Professor

²MBBS, Resident Doctor and Corresponding Author

³MD, DGO, Associate Professor,

⁴MD, DGO, Professor

⁵MBBS, Resident Doctor

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Exclusion Criteria :

(1) The women who were operated for Obstetric Hysterectomy outside and were sent to our hospital for further management.

The data was obtained by reviewing the labour room register, operation room register for emergency and elective cases, case records, referral slips and mortality register. The records of all the patients who had undergone Obstetric Hysterectomy were analyzed in detail. The clinical parameters studied were maternal age, parity, whether she was a registered case or referred case, obstetric history, route of termination of pregnancy, methods of induction of labour, indication of Obstetric Hysterectomy, type of Obstetric Hysterectomy, postoperative complications, maternal morbidity and mortality and perinatal outcome (Tables 1-6).

Table 1 — Demographic characteristics

Characteristic	
(A) Age	
<20 years	2 (6.66%)
20-29 years	4 (13.33%)
30-35 years	14 (46.66%)
>35 years	9 (30%)
(B) Parity	
1	1 (3.33%)
2-5	22 (73.33%)
>5	7 (23.33%)
(C) Mode of delivery	
Vaginal delivery	6 (20%)
Emergency cesarean section	17 (56.66%)
Elective cesarean section	7 (23.33%)
(D) Place of residence	
Urban	19
Rural	11

During the three-year study period a total of 15,840 deliveries were performed, of which 30 were EOH yielding a prevalence of 1.8 per 1,000 deliveries. The mean age was 30±5.2 years. Most women had parity between 2 and 5(73.33%). The Caesarean section was the main route of delivery (80%).

Table 2 — Various Indications for Emergency Obstetric Hysterectomy

Indication	Number	Percentage
Atonic PPH	12	40
Uterine rupture	1	3.33
Morbidly adherent placenta	9	30
Placenta previa	5	16.66
Traumatic PPH	3	10
Total	30	100

The most common indication for Obstetric Hysterectomy (OH) in this present study was atonic postpartum hemorrhage, which accounted for 12 (40%) cases, followed by morbidly adherent placenta (30%), in placenta previa 5 (16.66%) cases, uterine rupture in 1 (3.33%) cases, with 3 cases of traumatic postpartum hemorrhage (PPH) completing the numbers.

Table 3 — Postoperative Complications

Complication	Number of patients	Percentage (%)
Disseminated intravascular coagulation	17	56.66%
Bladder injury	11	36.66%
Paralytic ileus	5	16.66%
Sepsis- Fever, UTI	5	16.66%
Acute Kidney Injury	3	10%
Blood Transfusion reactions	2	6.66%
Acute liver injury-Jaundice	1	3.33%
Wound infection	1	3.33%
Wound resuturing	1	3.33%

Majority of the patients required postoperative intensive care. The most common complication was DIC (56.66%) followed by bladder injury (36.66%). Five patients had sepsis. Three patients had acute kidney injury of which one underwent dialysis and recovered and five patients had paralytic ileus. Two patients had blood transfusion reactions. One patient had acute liver injury presenting with jaundice. One patient had post op wound infection and underwent wound resuturing.

DISCUSSION

Hysterectomy is usually used as a last resort to save the life of the mother when all other means fail. The decision to perform Emergency Obstetrical Hysterectomy in the cases under study was easier in multiparous women, unlike primiparous women, where this difficult decision is made to save a life. Though the maternal mortality is reduced thereby, the reproductive capacity of the woman is compromised.

When one is forced to decide upon hysterectomy it is wise to perform it in time before the patient's condition deteriorates further. Knowledge of this operation and surgical skill saves lives in catastrophic events like morbidly adherent placenta or uterine rupture or intractable PPH. Majority of patients who underwent hysterectomy were in the 30-35 years age group and were multiparous.

In our study the most common indications were Atonic postpartum hemorrhage and placenta accreta (Morbidly adherent placenta), Atonic postpartum hemorrhage, which accounted for 12(40%) cases, which is compared to study of Kapadiya SN, *et al* in which most common indication of EOH was atonic postpartum hemorrhage (37%). It has been observed that rates of EOH due to uterine atony have decreased with increasing use of medical management, cho's and B-Lynch sutures. In this study, all medical and surgical methods were used prior to hysterectomy. Morbidly adherent placenta was the second leading cause of Obstetric Hysterectomy in our patient population, with 9(30%) patients undergoing EOH for this reason. A few ones reported morbidly adherent placenta as one of the top 2 indications, depicting the rising trend of cesarean sections leading to abnormal

Indication	Number	Packed cell units	Fresh frozen plasma unit	Platelets units	Cryo
Atonic PPH	12	44	56	16	30
Uterine rupture	1	3	5	-	-
Morbidly adherent placenta	9	32	28	7	-
Placenta previa	5	19	6	3	-
Traumatic PPH	3	10	15	-	-
Total	30	108	110	26	30

Fetal outcome	Number of patients (n=30)	Percentage (%)
Live	23	76.66 %
Intrauterine fetal demise	2	6.66%
Neonatal death	5	16.18%

Among the 23 live babies 2 intrauterine demise and 5 neonatal deaths were seen.

	<4 Hours	>4 Hours	No of Patients
Mortality	2	6	8
Survived	16	6	22
Total	18	12	30

Table shows that if after 4 hours of postpartum period a patient is operated on, then there is an increase in case of mortality as compared to cases operated before 4 hours of postpartum.

placenta getting morbidly adherent, leading to hysterectomy^{10,11,14}. It was observed in 9 out of 30 patients (30%) in the present study, with previous cesarean section being associated with two third of them. Rapidly increasing incidence of cesarean section was one major contributing risk factor in the present study, responsible in 36.4% of the patients; a finding in-line with available evidence⁹⁻¹⁴.

In this study most common major complication was DIC (56.66%) followed by bladder injury (36.66%) which is compared Kapadiya SN, *et al* study, in which DIC (48%) and Bladder injury (31%). In this study DIC is the major complication due to severe pre-eclampsia Jaundice and hemorrhage and bladder injuries are because of most cases were of previous cesarean section with adherent placenta at scar site. Bladder is the nearest organ susceptible to injury during hysterectomy.

As our hospital is a Tertiary Care Center so referred patients from other hospitals were in poor conditions such as DIC or shock or hemorrhage, so even after quick assessment and immediate medical and surgical management such as Emergency Obstetrics Hysterectomy, patients condition is difficult to revert back as they were in state of irreversible condition.

The present study confirms the previous observations that Emergency Obstetrical

Hysterectomies are associated with high maternal morbidity and mortality. So we have studied correlation between delivery-hysterectomy Interval associated with Mortality, in which maternal mortality is higher in patients who were operated after 4 hours as compared to operated before 4 hours. morbidity and mortality were due to the condition for which hysterectomy was done and not due to the operative procedure. The majority of complications observed were DIC, Sepsis, Fever, postoperative ICU care, acute kidney injury, wound infection.

The rate of survival is attributed to meticulous technique, good anesthesia and liberal blood transfusion and good intensive care support despite the poor conditions necessitating hysterectomy.

CONCLUSION

Obstetric Hysterectomy is still a life-saving surgery in modern obstetrics. The maternal outcome, in terms of reduction in mortality and prevention of postoperative complications, greatly depends on the timely decision, surgical skill and speed of performing Obstetric Hysterectomy^{5,15}.

However, to reduced maternal complications proper monitoring during antenatal period, essential care during labour, strict observation in immediate postpartum period, early recognition of complications, quick actions and timely referral is needed. Medical management in cases of uterine atony, easy availability of blood products for resuscitation of mother plays a crucial role to reduce maternal morbidity and mortality.

By reducing primary cesarean section rate we can avoid its devastating complications in future pregnancy like rupture of uterus and morbidly adherent placenta and ultimately reduces the need of Obstetric Hysterectomy. Thus, this will reduce maternal morbidity and mortality in the long run.

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