

## Obstetric hysterectomy – An analysis

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### Abstract

**Objectives:** To study the etiological factors, maternal morbidity and mortality in patients who underwent obstetric hysterectomy at our tertiary care centre during the period from April 2014 – September 2016.

**Study Design:** It is a hospital based study during the period of April 2014 – September 2016.

**Materials and Methods:** Critical review of 14 patients who underwent obstetric hysterectomy during the period of April 2014 – September 2016. The indications for the hysterectomy, maternal morbidity and mortality, neonatal outcome were studied.

**Results:** During the study period, in our tertiary care centre there were 11609 deliveries of which 14 emergency obstetric hysterectomies were done. The majority of cases were unbooked – N=9 (64%). There was one maternal death. The commonest indications for obstetric hysterectomy were – placenta accreta followed by postpartum haemorrhage.

**Conclusion:** Skill in emergency obstetric hysterectomy remains a necessary tool for consultant obstetricians. In spite of intra operative risks and post-operative complications, it remains a potentially life saving procedure. The maternal outcome greatly depends on timely decision and good clinical judgment because unnecessary delay can cost life and undue haste can cause morbidity.

**Keywords:** Postpartum haemorrhage, Obstetric hysterectomy, Morbidly adherent placenta.

### Introduction

Emergency hysterectomy is an indispensable part of the obstetricians' armamentarium.<sup>1,2</sup> First documented Cesarean hysterectomy was performed by Horatio in 1869. The operation of obstetric hysterectomy was devised 200 years ago and it was Edward Porro who published the first successful case report. The incidence ranges from 2-6 per 1000 deliveries in developing countries.

The indications are mainly those in which life of the mother is threatened by unrelenting haemorrhage, rupture uterus or by severe infection of the pregnant uterus and its contents. Recent reports show that abnormal placental adherence — Placenta accreta — is emerging as the major indication for obstetric hysterectomy and is most likely related to increase in the number of caesarean delivery over the past two decades. This exposes the gravid women to the increasing incidence of emergency obstetric hysterectomy.

### Aims and Objectives

The objective of the present study was to critically review 14 patients who underwent obstetric hysterectomy during the period of April 2014 – September 2016, the indications for the hysterectomy, maternal morbidity and mortality, neonatal outcome.

### Materials and Methods

1. The study was carried out in the department of Obstetrics and Gynaecology in Sri Ramachandra University and Research Institute.

2. The study was aimed to identify the number of patients who underwent emergency obstetric hysterectomy over a period from April 2014 to September 2016. The study includes the indications for the hysterectomy, maternal morbidity and mortality, neonatal outcome.
3. The data was obtained by reviewing the obstetric admission register, operative procedure register and case files.

### Results

#### Incidence

1. During the study period out of 11,609 live births, a total of 14 obstetric hysterectomies were performed during the period.
2. The incidence of obstetric hysterectomy was 0.12% live births.

#### Maternal Characteristics

**Age:** 8 (57.1%) women belonged to 21-30 years age group. The youngest woman was of 22 years of age. The oldest woman was 41 years of age. The mean age at presentation was 29.4 years.

**Parity:** 3 (21.4%) primiparous women underwent obstetric hysterectomy. Majority of the cases were in the multiparous group 11 (78.6%).

**Table 1: Parity**

Parity	Number of patients (n=12)	Percentage
Primiparous	3	21.4%
Multiparous	11	78.6%

**Antenatal Booking Status:** 9 (64 %) of the cases were unbooked. 5(36%) of the patients were booked for delivery.

### Indications for Obstetric Hysterectomy

**Table 2: Indications**

Indications	Number of Patients (N=14)	Percentage
Placenta accreta, Increta, Percreta	6	43%
Atonic postpartum Hemorrhage	4	29%
Broad ligament hematoma	1	7%
Caesarean scar ectopic pregnancy	1	7%
Septic abortion	1	7%
Abruption with postpartum haemorrhage	1	7%

Table 2 gives indications of obstetric hysterectomy.

Six (43%) cases who had morbidly adherent placenta required obstetric hysterectomy, of which five were cases of central placenta previa with accreta and one was a case of placenta previa with percreta. All these cases had previous cesarean section as risk factor.

Four (29%) of the cases who underwent obstetric hysterectomy had atonic postpartum haemorrhage - three of the cases following Caesarean section and one following vaginal delivery.

In the study we had one case of Broad ligament hematoma, following spontaneous second trimester abortion with cervical stitch insitu.

During the study there was one case of caesarean scar ectopic pregnancy, who while on medical management had sudden complaints of torrential bleeding per vaginum with disseminated intravascular coagulation for which obstetric hysterectomy was performed.

We had one case of septic Abortion with disseminated intravascular coagulation- failure of Medical termination of pregnancy attempted outside, for which obstetric hysterectomy was done.

There was one case of emergency lower segment cesarean section done outside in view of Abruptio, patient had postpartum haemorrhage and was admitted with hemorrhagic shock and was diagnosed intra operatively with couvelaire uterus, hence obstetric hysterectomy done.

**Type of Operation:** Total abdominal hysterectomy was done in 13(92.9%) patients and 1 patient underwent subtotal hysterectomy (7.1%).

**Table 3: Complications**

Complications	Number of Patients
Postoperative intensive care	9
Sepsis – fever, UTI	4
Paralytic ileus	3
Acute kidney injury	2
Blood transfusion reactions	2
Acute liver injury – jaundice	1
Wound infection	1
Wound resuturing	1
Bladder injury	1
Mortality	1

Majority of the patients required postoperative intensive care. The next common complication was sepsis followed by paralytic ileus. Two patients had acute kidney injury of which one underwent dialysis and recovered. Intra operatively one patient had bladder injury and same repaired. 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 re suturing.

There was one maternal mortality, due to atonic postpartum haemorrhage, the disseminated intravascular coagulation, hepatorenal failure, hypoxic ischemic encephalopathy, brain stem dysfunction.

**Intensive Care Unit Stay:** Out of 14 patients, 9 patients needed postop intensive care unit care. 1 patient required more than 10 days of ICU care.

**Table 4: Blood transfusions**

Indications	Packed Cell	FFP*	Platelets	SDP**	CRYO***	Whole Blood
Placenta accreta, increta, percreta	44	56	16	8	30	5
Atonic postpartum Hemorrhage	62	56	18	7	29	5
Broad ligament hematoma	11	14		2	1	1
Caesarean scar ectopic pregnancy	4					
Septic abortion	4					
Abruption with postpartum haemorrhage	30	31	5	15	25	2

FFP – Fresh Frozen Plasma, SDP- Single Donor Platelets, CRYO- Cryoprecipitate

**Antibiotic Cover:** Out of 14 cases, 6 patients were treated with Cefperazone (3<sup>rd</sup> generation cephalosporins), 4 patients were treated with Ceftriaxone (3<sup>rd</sup> generation cephalosporins), 3 cases were treated with Beta lactam antibiotics – carbapenem group. 1 patient was initially started with Cefperazone, in view of wound infection antibiotic was changed to Beta lactam antibiotics – carbapenem group and Aminoglycoside.

**Pregnancy Outcome:** Out of the 14 patients who underwent obstetric hysterectomy, there were 8 live babies, 1 intrauterine fetal demise and 2 neonatal deaths. Four babies required NICU stay. In the rest three patients, 2 patients underwent obstetric hysterectomy in the mid second trimester and one patient had caesarean scar ectopic pregnancy.

**Table 5**

Fetal Outcome	Number of Patients (N=11)	Percentage
Live	8	72.7%
Intrauterine foetal demise	1	9.09%
Neonatal death	2	18.18%

**Additional Procedures:** Two patients required additional procedures - One patient underwent relook laparotomy to remove the haemostat pack and other patient had bladder injury intra operatively and required bladder repair.

#### **Incidence of obstetric hysterectomy in other studies**

**Table 6: Incidence of obstetric hysterectomy in other studies**

Author	Incidence
Radha et al(1991) <sup>6</sup>	0.13%
Makherjee et al <sup>7</sup>	0.15%
Allahabadia and Vaidya (1991) <sup>8</sup>	0.19%
Saha Latika (2003) <sup>9</sup>	0.20%
Gupta et al (2001) <sup>10</sup>	0.26%
Anita Kant (2005) <sup>11</sup>	0.26%
Razia Korejo(2000) <sup>12</sup>	0.27%
Shah and Mehta <sup>15</sup>	0.29%
Mantri et al (1993) <sup>2</sup>	0.32%
Kanwar et al (2003) <sup>13</sup>	0.32%
Sinha and Mishra (2001) <sup>14</sup>	0.38%
Present study	0.12%

#### **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 21-30 years age group and were multiparae.

In our study incidence was 0.12%, which is similar to 0.12% reported by Ambiye and Venkatraman,<sup>5</sup> Radha et al.<sup>6</sup>

In our study the most common indications were placenta accreta and Atonic postpartum haemorrhage, which coincides with studies done in developing countries. There is significant change in the indication of obstetrical hysterectomy over a period of time from one region to another.

The dangerous combination of placenta accreta and previous caesarean section was also found in the series. This combination was also reported by other studies. It is reported in the literature, that the incidence of obstetrical hysterectomy due to uterine atony had decline from 42% to 29.2%, and incidence due to abnormal placentation increased from 25.6% to 41.7%. Emergency obstetrical hysterectomy has been recommended as a life-saving procedure for placenta accreta.

Total hysterectomy was the commonly performed surgery in this study.

The present study confirms the previous observations that emergency obstetrical hysterectomies are associated with high maternal morbidity and mortality. 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 postoperative ICU care, sepsis acute kidney injury, wound infection and DIC which was in line with earlier studies.

The mortality rate in our study was 7.14%, which is almost similar to 6.01% reported by Sinha and Mishra,<sup>14</sup> but lower than 14% reported by Mantri et al<sup>2</sup> and 32% reported by Allahabadia et al.<sup>8</sup> Sturdee and Ruston<sup>1</sup> from Birmingham Maternity Hospital reported no mortality in their series over 15 years with 47 obstetric hysterectomies.

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

#### **Conclusion**

In no other gynaecological or obstetrical surgery is the surgeon in as much a dilemma as when deciding to resort to an emergency hysterectomy. On one hand it is the last resort to save a mother's life, and on the other hand, the mother's reproductive capability is compromised. Many times it is a very difficult decision and requires good clinical judgement. Emergency obstetric hysterectomy remains a necessary tool for

consultant obstetricians who need to act at the optimal time with clear judgment, using surgical technique with speed, to reduce mortality and morbidity in such patients. Previous cesarean delivery, uterine atony, placenta praevia and accreta were identified risk factors for emergency hysterectomy. Identification of high risk cases, early recognition of complications, timely referral and procedures like uterine artery embolisation, Internal Iliac artery ligation can reduce the incidence of emergency hysterectomy.

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