

Emergency Obstetric Hysterectomy: A Life Saving Procedure

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Objective: To determine the incidence, indications, associated factors and complications of obstetric hysterectomy in study patients. **Design:** Retrospective, observational study. **Place & Duration of Study:** Gynae unit III, Lady Willingdon Hospital Lahore, affiliated with King Edward Medical College Lahore. **Study Period:** January 2002 to December 2003. **Materials & Methods:** During the mentioned period patients admitted in labour room and had obstetric hysterectomy were included in the study. The data reviewed included patient profile, socioeconomic status, obstetric history, antenatal booking, details of present labour, indications for obstetric hysterectomy and the fetomaternal morbidity & mortality associated with the obstetric hysterectomy. **Results:** The study shows the relative risk of obstetric hysterectomy among unbooked versus booked patient was 2. Most of the patients were unbooked and had prolonged trial of labour outside the hospital. A trend between the advancing age and the incidence was found. In the study 16/28 (i.e., 57%) patients belonged to age group between 30-35 years. Increasing parity had relation with the increasing incidence of obstetric hysterectomy, 18/28 (64.5%) were Para 4 or more. The most common indication of obstetric hysterectomy was ruptured uterus in 11/28 (i.e.30%) patients. Out of 28 patients who had obstetric hysterectomy, 2 patients died. The other complications were febrile morbidity in 57%, UTI in 50%, wound infection in 21%, urinary bladder injury in 7 % and DVT in 3.5%. **Conclusion:** Regular antenatal care, supervised deliveries, early referral of indicated cases to the hospital and limiting family size can reduce the maternal morbidity & mortality.

Key Words: Obstetric hysterectomy, Indications.

The effective emergency obstetric care has been proposed as a major necessity in the reduction of maternal mortality. Efforts have been concentrated towards increasing hospital attendance. These have much to be commended, but many fatal and life threatening complications are unpredictable and unpreventable.^{1,2} Emergency postpartum hysterectomy is one marker of severe obstetric morbidity^{3,5}. Obstetric hysterectomy has been described as catastrophic procedure⁶, and is often performed in acute life threatening emergencies⁷. The difficulty associated with the procedure is not necessarily the surgical technique, but in the support of such ill patients. These difficulties are more pronounced in developing countries, where institutions facilities are lacking and patients present in hospital very late when pathology is advanced. The maternal mortality ranges from 0 to 29.8%. The higher incidence and mortality tend to be in report from developing countries.⁸ It is accepted that obstetric hysterectomy associated mortality is often due to preceding complications. The adequacy of care should nevertheless be evaluated and the need for specific improvement highlighted to avert such mortality in future.

The main three causes of obstetric hysterectomy are abnormal placentation, uterine atony and uterine rupture^{9,10}. The proportion of these causes also varies within developed and developing countries. In recent years, abnormal placentation has assumed an increasing proportion of causes in developed countries due to the greater number of deliveries by cesarean section^{11,12}. The preoperative preparation and evaluation includes careful assessment of the woman and her fetus. Complicating conditions, hemodynamic stability and coagulation status are particularly important. The availability of appropriate intravenous fluids, blood & blood replacement product is

paramount and transfusion usually begins before surgery in unstable patients.

The purpose of study was to assess the incidence, indications, associated factors and complications of obstetric hysterectomy with the view to suggesting ways of improving outcome.

Methods: The retrospective study was conducted in Gynae Unit III, Lady Willingdon Hospital Lahore from January 2002 to December 2003. All the charts of the patients who had emergency obstetric hysterectomy for the mentioned period were reviewed. Data was collected. Information obtained included age, parity, booking status, obstetrical history specially the details of present pregnancy and details of labour either spontaneous or induced, duration, augmentation and place of labour. The indications for surgery & the details of surgery were documented. Other informations obtained included amount of blood loss, type of hysterectomy and complications encountered & duration of patient's hospital stay. In addition, the following aspects of maternal morbidity were sought: febrile morbidity, urinary tract infection, wound infection /dehiscence, blood transfusion, disseminated intravascular coagulation (DIC), injury to lower urinary tract (bladder or ureter), return to operating theatre for continuous hemorrhage and intensive care.

Results:

In the above mentioned period from Jan 2002 to Dec 2003 there were 6880 deliveries and 28 obstetrical hysterectomies performed. The incidence of obstetric hysterectomy was 28/6880(0.4%). The booked patients 0.27 % (4/1480) as compared to nonbooked patients 0.54%

(24/5400). The relative risk of obstetric hysterectomy in non-booked versus booked patients was 2. The age of patient was the important risk factor (Table No.1). Among 28 obstetric hysterectomies, one hysterectomy was done in younger patient of 20 years old who had hysterectomy due to PPH (placenta previa and not responding to the other conservative methods. Out of 28 cases, 18 cases (i.e, 70%) were in the age group 30-35 years. The study shows the frequency of increase incidence of obstetric hysterectomy with increasing parity (Table No.2). In the study 20/28 patients (i.e., 71.5%) were Para 4 or more.

In the study 15/28 patients (i.e, 54%) had previous delivery by cesarean section while 12/28 patients (i.e., 43%) had previous vaginal deliveries. The indications for obstetric hysterectomy in the study were ruptured uterus 14/28 (i.e., 50%), post partum haemorrhage due to atony of uterus in 9/28 (i.e., 32%), abnormal placentation (placenta previa or morbid adherent placenta) in 4/28 (14 %) cases, and secondary PPH in 1/28 (3%). In the study, 4/28 patients (14%) had subtotal hysterectomy while 24/28 patients (86%) had total hysterectomy. Conservative surgical methods including the internal iliac artery (anterior division) ligation and uteroovarian vessel ligation were tried in 8/28 patients (29%) before proceeding to obstetrical hysterectomy.

Regarding the maternal mortality, there were 2/28 (7.1%) maternal deaths. One death was due to DIC and uncontrolled haemorrhages while other due to cardiac failure. The perioperative blood loss ranged from 1.5 liter to 5 liters. Patient's blood transfusion ranged from 2.0 units to 14 units of blood, FFP or platelet concentrates. Postoperative morbidity included febrile illness, wound sepsis. There were 2 cases of urinary bladder injury one was previously associated uterine trauma while the other was during procedure of obstetrical hysterectomy. Bladder injury was repaired during the procedure of hysterectomy. There was no case of ureteric injury. There was one case of DVT which was treated medically.

Table - I: Age of patients

Age (Years)	Obstetric Hysterectomy (no)	Obstetric Hysterectomy (%age)
20-25	01	3.5
26-29	05	18
30-35	18	64.2
36-43	04	14.3

Table - II: Parity of patients

Parity	Obstetric Hysterectomy (no)	Obstetric Hysterectomy (%age)
Po	0	0
P1	1	3.5
P2	1	3.5
P3	6	21.4
P4 or more	20	71.6

Table - III: Emergency obstetric hysterectomies; Indications

Indication	Obstetric Hysterectomy (no)	Obstetric Hysterectomy (%age)
Ruptured / Trauma of uterus	14	50
Atony of uterus	9	32
Abnormal Placentation (PP& morbid adherence)	4	14
Secondary PPPH	1	03

Table-IV: Emergency obstetric hysterectomies: Maternal morbidity

Complication	Obstetrical Hysterectomy (no)	Obstetrical Hysterectomy (%age)
Febrile Morbidity	16	57
UTI	14	50
Wound Infection	06	21
Bladder Injury	02	07
DIC	03	11
Maternal Mortality	02	07

Discussion:

Obstetric hysterectomy refers to surgical removal of the pregnant or recently pregnant uterus. The procedure is indispensable for management of intractable obstetrical hemorrhage unresponsive to other treatment. The procedure frequently is life saving and should be within the capabilities of all obstetric consultants. Eduardo Porro¹³ reported the first case report of the patient who survived hysterectomy after cesarean delivery.

The incidence of the obstetric hysterectomy reflects the situation of obstetric emergencies. The high incidence of obstetric hysterectomy reflects the poor usage of modern obstetric facilities until severe complications set in¹⁴. In the study the incidence of peripartum hysterectomy was 0.4%. This compares with the already published studies^{15,16} from other hospitals of the same socioeconomic environment but the incidence is different from the studies from the developed countries^{17,6}. This study showed a significant association between peripartum hysterectomy, socioeconomic status of the patient booking status, increasing maternal age, parity and previous cesarean section. The association is likely to be due to the increase in the incidence of uterine rupture, uterine atony post partum haemorrhage and the increased incidence of cesarean section in the above-mentioned group. In the study 22 (i.e. 79%) patients were more than 30 years, 27 (i.e, 97%) patients were multipara and most of the patients were unbooked. The major indication for the obstetric hysterectomy in study was uterine rupture. This correlates with the study by S.A. Okogbenin¹⁸ but contrast with the reports from the developed countries^{19,20}.

Most of the patients with the uterine rupture were unbooked patients with high parity that had their labour conducted by traditional birth attendants. Atony of the uterus leading to post partum haemorrhage was the other leading cause of obstetric hysterectomy. These cases were unresponsive to conservative methods of the postpartum hemorrhage management. The high relationship of obstetric hysterectomy & mode of delivery by cesarean section either in current or previous delivery was noted in study. This correlates with already published studies²¹. The cases with placenta previa were more common in women previously delivered by cesarean section. This correlates with already published studies²². Subtotal hysterectomy is performed in developing countries where most of the patients present in advanced pathology²³. But in study subtotal hysterectomy has been performed in 4 (i.e., 14%) patients. In cases of uterine atony, subtotal hysterectomy is often quicker and safer than total hysterectomy, in terms of the potential injury to lower urinary tract²⁴. Direct major vessel ligation (uteroovarian, internal iliac artery ligation) may have role but can be ineffective in controlling severe uterine haemorrhage²⁵.

Peripartum hysterectomy could have disastrous consequences. There were maternal deaths in the study. The high maternal mortality is reflected in published studies where maternal mortality varies from 5.5 % to 20^{14,16,17}. Disseminated intravascular coagulation and cardiac failure were the identifiable causes of the maternal mortality. Quick intervention, availability of blood and the intensive care unit monitoring were the major predictors of the maternal morbidity and mortality.

Obstetric hysterectomy is the life saving procedure. But the high maternal morbidity and loss of future fertility particularly in young women needs consideration for the procedure. All the obstetric units should have clear protocol for this emergency procedure. Regular antenatal care, supervised deliveries and limiting family size can decrease maternal mortality and morbidity.

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