Emergency Obstetric Hysterectomy At A Tertiary Care Hospital

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ABSTRACT

Objective — *To determine the frequency, indications and maternal complications associated with emergency obstetric hysterectomy.*

Study design — *Retrospective observational study.*

Place & Duration of study — *Department of Obstetrics & Gynecology unit 1, Liaquat University of Medical & Health Sciences (LUMHS) Jamshoro, from January 2019 to December 2019.*

Methodology — *All patients who underwent obstetric hysterectomy were studied in detail for age, parity, history of previous cesarean section, indications, and maternal complications associated with obstetric hysterectomy. Data were collected from the hospital record and statistical analysis was done by SPSS version 18.0.*

Results — *During the study period, 36 women underwent obstetric hysterectomy. The frequency of obstetric hysterectomy was 6.9/1000 or 0.69%. Thirteen (36.11%) women were 30-35 years of age, 27 (75%) were para 3 and above. In 18 (50%) women hysterectomy was performed because of atonic uterus, in 9 (25%) due to morbidly adherent placenta and in 4 (11.11%) with uterine rupture. Frequently observed clinical features were anemia in 5 (13.88%), hypovolemic shock in 4 (11.11%), and bladder injury in 4 (11.11%). There were 4 (11.11 %) maternal deaths in this series.*

Conclusion — *The high frequency of obstetric hysterectomy is found with multiparty, atonic uterus, previous cesarean section and morbidly adherent placenta. Maternal mortality was more than 10% which is alarming.*

Key words — *Obstetric hysterectomy, Multipara, Atonic uterus, Cesarean section, morbidly adherent placenta.*

INTRODUCTION:

Obstetric hemorrhage accounts for 80% of maternal deaths worldwide.[1] Obstetric hysterectomy is performed when all the conservative measures fail to arrest the intractable hemorrhage to save the life of mother. Obstetric hysterectomy is removal of uterus with or without cervix during or after vaginal or abdominal delivery.[2] The incidence of obstetric hysterectomy is 1:30000 after vaginal delivery, 1:1700 after cesarean section and 1:220 after two or more cesarean section.[3] Previously uterine atony was the major indication of obstetric hysterectomy but now because of rising rate of cesarean section there is increase chance of scarred uterus to rupture with placenta previa and morbidly adherent placenta.[4]

First cesarean subtotal hysterectomy was performed in 1868 and the patient survived for only 78 hours

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after surgery though the success of the procedure increased over subsequent years.[5] Number of issues are reported when emergency obstetric hysterectomy is performed and include anesthesia and surgery related complications with injuries to adjacent viscera like urinary bladder, ureter, intestine with loss of fertility, need of blood transfusion, threat of sepsis, and many require re-exploration and even death.[6,7] The purpose of this study was to determine the frequency, risk factors, indications and maternal complications associated with obstetric hysterectomy at our tertiary care hospital.

METHODOLOGY:

This was a retrospective observational study conducted at Department of Obstetrics and Gynecology of Liaquat University hospitals Hyderabad, from January 2019 to December 2019. The study participants included the patients in whom hysterectomy was done during pregnancy, labor and puerperium or due to complications following pregnancy and sepsis. It included women who were delivered elsewhere and then referred due to obstetric complications. Referred cases in whom hysterectomy was already done were excluded from the study.

Institution review board permission was obtained for analyzing the hospital record. The variables studied included age of the women, parity, and history of previous cesarean section with indications, maternal morbidity and mortality. Data were entered into a pre designed form. Descriptive statistics were performed for presenting data. Statistical analysis was performed by using SPSS version 18.0.

RESULTS:

During the study period total number of women delivered in our unit was 5176. There were 3576 (69.08%) vaginal deliveries and 1600 (30.92%) cesarean sections giving the frequency of obstetric hysterectomy as 6.9/1000 or 0.69%. Thirteen (36.11%) women were 30-35 years of age and 27 (75%) multiparous. Details are given in table I. Twenty-four (66.66%) women had history of previous cesarean section, and twelve (33.33%) women had unscarred uterus. This is given in table II. All patients had blood transfusion with minimum of two and maximum of ten units. Indications of obstetrical hysterectomy and complications are given in table III and IV.

DISCUSSION:

Postpartum hemorrhage is leading cause of maternal death in Pakistan and India.[8] Obstetrical hysterectomy is performed as a last stage effort to save the life of the woman when all conservative measures fail to control the intractable postpartum hemorrhage. The frequency of obstetric hysterectomy in our study was 6.9/1000 or 0.69%. These results

Table I: Age and Parity of Patients (n= 36)

Age in Years	Number (n)	Percentage (%)
20-25	6	16.67
26-30	7	19.44
31-35	13	36.11
36-40	6	16.67
>40	4	11.11
Parity		
1	4	11.11
2	5	13.89
3	15	41.67
4 and above	12	33.33

Table II: Previous Cesarean Sections

Number of previous Cesarean Sections	Number (n)	Percentage (%)
1	6	16.67
2	8	22.23
>2	10	27.77
Unscarred uterus	12	33.33

Table III: Indications of Obstetrical Hysterectomy (n=36)

Causes	Number (n)	Percentage (%)
Atonic uterus	18	50.00
Morbidly adherent placenta	9	25.00
Uterine rupture	4	11.11
Placenta previa	2	5.56
Abruptio placenta	2	5.56
Puerperal sepsis	1	2.77

Table IV: Complications of Obstetrical Hysterectomy (n=36)

Complications	Number (n)	Percentage (%)
ICU admission	12	33.33
Anemia	5	13.88
Bladder injury	4	11.11
Hypovolemic shock	4	11.11
Wound infection	2	5.55
DIC	3	8.33
Acute renal failure	2	5.55
Urogenital fistula	1	2.77
Death	4	11.11

are comparable with other studies conducted in low middle income countries like India and Nigeria where its frequency is reported as 0.69% and 0.51% respectively in some studies.[8,9] However, it is higher than studies from other countries and in comparison with that from other centers from Pakistan and India, depending upon the work load and status plus location of the study site.[10-13] Increased frequency in our geographical location may be due to lack of antenatal care, multiparty, cultural and religious belief, lack of adequate health facilities in rural areas and rising rate of cesarean sections. Another reason being a referral center for all the obstetrics related emergencies.

The common age group in our study was 30 years - 35 years and similar observations were reported in another study where age range was from 32.8 years to 33.4 years,[13] but higher than other where it was 29.9 years.[4] Twenty-seven (75%) women were para 3-4. High parity as a risk factor has been reported in other studies.[4,14] In our study 24 (66.6%) women had history of cesarean section and 12 (33.3%) had obstetric hysterectomy after vaginal deliveries as reported in other studies.[11,12,15] Betman et al found that rate of emergency obstetric hysterectomy for atonic uterus rises four fold after repeat cesarean section because of increase fibrous tissues that replace the contractile uterine tissue.[16] Thus reducing primary cesarean section gain interest in obstetric practice.

The common indications for hysterectomy were uterine atony and morbidly adherent placenta. Conservative medical and surgical procedures are tried initially but postpartum hemorrhage failed to respond and thus we performed obstetric hysterectomy. Uterine atony was found as most common reason for obstetric hysterectomy in other studies.[12,17,18] Morbidly adherent placenta has been reported frequently because of rising cesarean section rate. For women with previous cesarean sections it is a recommended practice to identify adherent placenta in antenatal period by Doppler ultrasound and magnetic resonance imaging (MRI) to determine site and degree of placental invasion. In such cases a multidisciplinary approach as well all supportive services must be employed. This include experienced obstetrician, surgeon / urologist, anesthetist and nurses along with blood bank services.[18]

Obstetrical hysterectomy is a lifesaving procedure with associated maternal morbidity and mortality. Anemia is a common outcome as reported in other studies.[20, 21] It also depends upon preoperative condition of the patient, blood loss, and sepsis as well. Urinary bladder injury frequently occurs in these patients as placenta penetrates deeply and into surrounding viscera. Twelve (33.33%) women required admission in ICU. It depends upon condition of the women after the surgery, and also other risk factors like sepsis and shock.[22]

Maternal mortality occurred in this series which was due to massive hemorrhage and DIC in spite of massive blood transfusion protocol and is comparable to other studies.[8, 11] Maternal mortality in our study was 11% while in literature it is reported as 7% - 17% in different parts of the world.[23]

LIMITATIONS OF THE STUDY

This was a retrospective study and from a single center over short span of time. It also included referred cases from other set ups with lack of details and treatment provided. Thus recall bias can affect the quality of information.

CONCLUSION:

The increasing frequency of obstetric hysterectomy was found in multipara women, with repeat cesarean section having atonic uterus and morbidly adherent placenta. A high maternal mortality was also noted.

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