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Original Research Article

Emergency obstetric hysterectomy: review at a tertiary care hospital

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ABSTRACT

Background: The objective of the study was to study indications and maternal outcome of emergency obstetric hysterectomy.
Methods: A retrospective study of the cases of emergency obstetric hysterectomy performed over a period of 7.5years from 2008 to May 2016 in a tertiary care hospital was done. Maternal characteristics, indications, and maternal morbidity and mortality were analyzed.
Results: During the study period there were 45 emergency obstetric hysterectomies and 28,207 deliveries, giving an incidence of 0.16% or 1.6/1000. Majority of the cases were unbooked (55.6%). It was more common in multipara (71.1%). Ruptured uterus (37.7%) and morbidly adherent placenta (26.6%) were the common indications. the maternal mortality was 2.22%.
Conclusions: Emergency obstetric hysterectomy is a lifesaving 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: Obstetric hysterectomy, Emergency obstetric hysterectomy, Morbidly adherent placenta

INTRODUCTION

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. It 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] EOH can be rightly classified as a near miss event. It is important to study such events since they provide an insight into the standard of care provided and help to reduce maternal morbidity and mortality. Conservative methods such as community-based use of misoprostol, oxytocin, condom catheter balloon, and non-inflatable anti-shock garments for the management of hypovolemic shock have all been advocated to effectively manage obstetric hemorrhage in low resource settings.[2] Advances in interventional radiology have also provided the option of uterine artery embolization.[3,4]

While this does seem encouraging, with regard to clinical implications, hemorrhage continues to be the leading individual cause of maternal death worldwide accounting for 27.1% of deaths as recently as 2014.[5] In this analysis, India and Nigeria together accounted for a third of global maternal deaths[5]. More alarming is the fact that some studies from developed nations are pointing towards an increase in the rate of postpartum haemorrhage.[6] One meta-analysis reported an annual increase of 8% in the incidence of EOH around the world.[7]

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 sacrificed. Many times it is a very difficult decision and requires good clinical judgement. Most of the times the operation is carried out when the condition of the patient is too critical to withstand the risks of anesthesia or surgery. Proper timing and meticulous care may reduce or prevent maternal complications.

METHODS

A retrospective analysis of 45 cases of emergency hysterectomies done for obstetric indications over a period of 7.5 years from 2008 to May 2016 was done. Maternal characteristics, indications for hysterectomy, and causes of maternal morbidity and mortality were studied. Hysterectomy for any indication during pregnancy, labor and puerperium has been included. Each case record was analyzed in details with special emphasis on indication, demographic data (age, parity, booked or emergency case etc.), type of operation performed (subtotal or total obstetric hysterectomy), problems encountered during operation, morbidity and mortality.

RESULTS

Incidence

There were 45 cases of emergency hysterectomies amongst 28,207 deliveries during the period of study giving an incidence of 0.16% i.e. 1 in 625 deliveries.

Maternal Characteristics

A) Age: Forty four percent of the women were in the age group of 26-30 years (Table 1).

Table 1: Age distribution.

Age	No.	Percentage
<20	2	4.4%
21-25	13	28.8%
26-30	20	44.4%
31-35	8	17.7%
>35	2	4.4%

B) Parity: 28.8% women were primiparous while 71.1% were multipara (Table 2).

Table 2: Parity distribution.

Parity	No.	Percentage
Primiparous	13	28.8%
Multipara	32	71.1%

C) Antenatal booking: Twenty five cases were not booked (55.5%) and twenty booked (44.4%) for delivery (Table 3).

Table 3: Antenatal booking.

Booking status	No.	Percentage
Registered	20	44.4%
Unregistered	25	55.5%

D) *Indications*: Ruptured uterus (37.7%) and morbidly adherent placenta (26.6%) were the common indications (Table 4).

Table 4: Indication of hysterectomy.

Indication of hysterectomy	No. of cases	Percentage
Rupture uterus	17	37.7%
Atonic PPH	10	22.2%
Morbidly adherent placenta	12	26.7%
Retained placenta	2	4.4%
Cervical tear	1	2.2%
Accidental haemorrhage	1	2.2%
Secondary PPH	2	4.4%

Type of operation

In 62% of the cases, subtotal hysterectomy was performed. It is not always possible to do total abdominal hysterectomy as the patients' general condition is often poor. It is important to ligate the stumps doubly and carefully, as tissues are more vascular and edematous. Altered coagulation often contributes to more bleeding.

Additional surgical procedure

Internal iliac artery ligation was done in 14 cases. Repair of a tear in the bladder was required in one case.

Post-operative Complications

Table 5 shows that 26.6% of cases suffered from febrile morbidity.

Table 5: Post-operative complications.

Causes	No. of cases	Percentage
Febrile morbidity	12	26.6%
Septicemia	7	15.5%
Wound infection	5	11.1%
Bladder injury	1	2.2%
Fistula	0	0
mortality	1	2.2%

There was one maternal death giving a maternal mortality of 2.22%. It was due to DIC with septicemia with multi organ dysfunction. All our patients received blood transfusion and >98% had over 5-7 units of blood.

DISCUSSION

Cesarean hysterectomy still remains a necessary tool for the obstetrician. Knowledge of this operation and skill at its performance saves lives in catastrophic rupture of the uterus or intractable PPH. There has been an upsurge in cases of postpartum hemorrhage requiring hysterectomy[8] primarily due to the changed settings in which postpartum hemorrhage presents itself in modern obstetrics. Despite wider availability of contraceptives and abortion services, and reduced family size the world over, there has been a consistent rise in the rates of cesarean section attributable, in part, to patient preferences and medico-legal implications on medical fraternity. Additionally, 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.[8]

Incidence of emergency hysterectomy in the present study was 0.16% which is higher than that in many other studies (Table 6) because our institution is an important referral center in this region and most of our cases were referred from outside in moribund condition after complications occurred.

Table 6: Comparative incidence of obstetric hysterectomy.

Name of study	incidence	Common indication	Maternal mortality
Forna F[11] (2004)	0.08%	Atonic PPH	
Kant and Wadhwani[12] (2005)	0.26%	Atonic PPH	9.70%
Ahmad and Mir[13] (2007)	0.26%	Rupture uterus	3%
Marwaha P et al[14] (2008)	0.31%	Rupture uterus	10%
Flood et al[15] (2008)	0.04%	Increasing incidence of MAP	-
Sharma et al[16] (2009)	0.54%	Atonic PPH	5.7%
Temizkan O[17] (2016)	0.05%	Morbidly adherent placenta	8.6%

Ruptured uterus is the most common indication in our study accounting for 36.58% of cases. Majority of cases of ruptured uterus were referrals from distant peripheral hospitals. This is comparable to study by Ahmad and Mir and Marwaha P et al.[13,14]

Morbidly adherent placenta accounted for 26.6% of cases which implies increasing incidence of primary caesarean sections, reduction of them might decrease the incidence of adherent placentae. There has been a significant change in the indication of EOH over time and from one region to another. Traditionally, uterine atony was the most common indication for hysterectomy. Recent studies have indicated that abnormal placentation is replacing uterine atony as the most common indication for EPH. In our case, morbidly adherent placenta was the second most common indication for EOH. This was also the case in Turkey and the UK, contributing to 40% and 38% of cases, respectively.[9,10]

Study by Temizkan et al showed increasing trend towards morbidly adherent placenta which may be attributed to increasing trends of primary caesarean sections.

The mortality amongst our patients was 2.2%.

In 62% of the cases, subtotal hysterectomy was performed. It is not always possible to do total abdominal hysterectomy as the patients' general condition is often poor. 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.[18,19] However, in cases of morbidly adherent placenta total hysterectomy may prove more beneficial as removal of the cervix leads to better hemostasis.[20]

Postoperative shock, pyrexia, paralytic ileus, and wound infection were common complications. Prolonged labor, intrauterine manipulation and dormant sepsis probably account for these complications. These could be prevented by early referral of these cases to well-equipped centers which can treat emergency obstetric cases promptly and efficiently.

CONCLUSION

Obstetric hysterectomy is a lifesaving procedure but decision should be prompt and treatment by an experienced surgeon. Every obstetrician should be trained to perform this procedure.

In conclusion, our results demonstrated an increasing trend in the rate of Obstetric hysterectomy in parallel with an increasing rate of previous LSCS, emphasizing the importance of the mode of delivery. Cesarean deliveries lead to repeat CS, which increases the incidence of abnormal placentation and the risk of Obstetric hysterectomy. Because OH is associated with significant morbidity and mortality, to prevent repeats CS, vaginal delivery may be advised after CS deliveries.

In spite of this life saving measure, there occurs significant number of maternal deaths which can be prevented by good maternal care, active management of labor, early recognition of complications, timely referral, and easy availability of transport and blood transfusion facilities.

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