



Changing trends in Emergency Obstetrical Hysterectomy: Review of 52 cases at a tertiary care hospital.

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ABSTRACT

INTRODUCTION : Emergency obstetrical hysterectomy (EOH) remains a life-saving procedure in cases of severe hemorrhage. With increasing number of primary cesarean sections its rate & indications are rapidly changing.

OBJECTIVE: To determine the incidence, risk factors, indications, feto-maternal outcomes of EOH performed in a tertiary teaching hospital and to identify avoidable factors.

METHODS: The medical records of 52 patients who had undergone EOH, between January 2012 and December 2015 at GMC, kota were reviewed retrospectively.

RESULTS: There were 52 EOHs out of 37,005 deliveries, a rate of 1.40 per 1,000 deliveries. The most common indication for EOH was uterine atony (34.62%), followed by morbidly adherent placenta (30.77%), rupture uterus (25%), and traumatic PPH (9.62%). Most common risk factors identified were previous cesarean section(s) and APH.

KEYWORDS : emergency obstetric hysterectomy, rupture uterus, maternal morbidity, maternal mortality

Introduction

Emergency obstetrical hysterectomy (EOH) is an uncommon obstetric procedure, usually performed as a life-saving measure in cases of intractable obstetric hemorrhage. It is considered one of the riskiest and dramatic operations in modern obstetric, where the uterus is removed at the time of caesarean section, following caesarean section, immediately after vaginal delivery or in the period of puerperium in order to reduce maternal mortality and morbidity. In modern obstetrics, the overall incidence of EOH is 0.5 per 1000 deliveries, but there are considerable differences in incidence in different parts of the world, depending on modern obstetric services, standards and awareness of antenatal care, and the effectiveness of family planning practices of a given community. The incidence of obstetrical hysterectomy in the literature is reported as 0.24, 0.77, 2.3, and 5.09 per 1,000 deliveries by Sakse et al., Whiteman et al., Bai et al. and Zeteroglu et al., respectively.

The commonest indications for emergency hysterectomy which are cited in the literature are uterine rupture and atonic uterus. However, due to the increase in the number of caesarean deliveries over the past two decades, placenta accreta has emerged as the most common indication for this operation in developed countries. It is also established that the risk of EOH increases with the number of previous CS. Other factors that have been associated with EOH include advanced maternal age, multiparity, multiple gestations, and gestational diabetes. The most severe complication of hemorrhage is maternal death, whose risk is estimated to be approximately 1 in 100,000 deliveries in developed countries. This risk is as high as 1 in 1,000 deliveries in developing countries. Other maternal complications of postpartum hemorrhage include hypovolemic shock, disseminated intravascular coagulopathy, renal failure.

The objectives of this retrospective study are to evaluate the incidence, risk factors, indications, outcomes and complications of EOH performed in a tertiary teaching hospital (govt. medical college, kota.), between January 2012 and December 2015, and to compare the results with other reports in the literature. This would help highlight the lack of availability and utilization of antenatal services, identify avoidable factors, and stress the need to organize health care services so as to improve maternal and fetal outcome.

Material and methods

A retrospective analysis was performed to identify the number of cases who underwent emergency obstetric hysterectomy which were performed over a period of 48 months from Jan. 2012 to December 2015 at j.k.lon maternity & child hospital, Govt. medical college, kota. The data were obtained by reviewing the obstetric admission register, operation register, mortality register and the case files.

Hysterectomies performed for any indication during pregnancy, labour and puerperium have been included in this study.

Results

During the study period a total number of 37005 deliveries were conducted at our institute, of which 25476 were normal vaginal deliveries and 11529 were caesarean sections. During study period 52 patients had to undergo emergency hysterectomy owing to several reasons. The incidence of obstetric hysterectomy was recorded to be 1.40/1000 deliveries.

A majority of cases (n=28, 53.84%) belonged to the age group of 26-30yrs, followed by 18(34.62%) cases in the 21-25 yrs age group. (Table 1) Among the patients who underwent emergency hysterectomy, 38 cases (73%) were of para 3 or above. (Table 2). There were 21.15% booked cases (11/52) while majority 78.85% cases (41/52) were unbooked. 22/52 (42%) were properly referred cases from periphery while most (30/52) cases were without any referral and reported directly to emergency.

All hysterectomies were performed due to intractable obstetric hemorrhage that was unresponsive to conservative management, representing an incidence of 1.40 per 1,000 deliveries. To avoid hysterectomy, pharmacological agents and surgical procedures were used to control PPH and hysterectomy was taken as last resort. The most common indication for EOH was uterine atony (34.62%), followed by placenta previa and/or accrete (30.77%) & rupture uterus (25%). There were 5 (9.61%) cases of traumatic PPH 4 in normal delivery & 1 during C.S. where intractable hematoma extended to b/l broad ligament compromising life of the pt. These results are shown in figure 1.

Most cases of EOH were following caesarean section (27/52, 51.92%), 12/52 (23.08%) were after vaginal deliveries, another 23.08% (12/52) were performed during laparotomies conducted for rupture uterus. There was 1 referred case of D&C where there were multiple perforations in the uterus which were irreparable and bleeding was uncontrollable.

Most common indication of cesarean delivery were history of previous delivery by cesarean section (n=20) followed by obstructed labour (n=5) and placental abruption (n=2). 13/16 (80%) cases of morbidly adherent placenta were a/s with previous cesarean scar.

Table 1 Age wise distribution of patients undergoing EOH

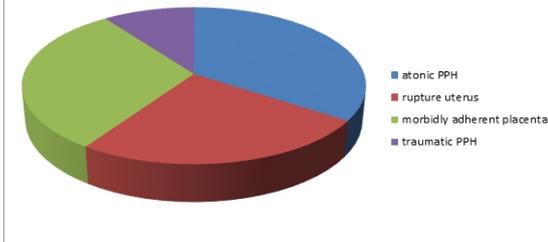
Age group	no.	%
20-25yrs	18	34.62

26-30yrs	28	53.84
31-35yrs	4	7.69
>35yrs	2	3.85
Total	52	100

Table 2 Parity distribution of EOH

Gravida	no.	%
Primi	01	1.92
2	13	25
3	19	36.54
4	11	21.15
5 or above	08	15.39
Total	52	100

Figure 1-Indication of EOH



Obstetrical hysterectomy, though it was performed to save the life of patients, is associated with numerous complications as with any emergency surgery. Most frequent complications noted were ARF (n=11) followed by DIC (n=7), sepsis (n=5) and bladder injury (n=4).

There were five maternal deaths (9.61%), all were due to DIC and ARF. Perinatal mortality was 40% (n=21), with 31 (60%) live births.

Average duration of hospital stay was 9.62 days per pt. All pt. were liberally transfused blood. Average amount of blood transfused was 6.5 unit/pt.

Discussion

Obstetrical hysterectomy is performed in the treatment of a life-threatening obstetric hemorrhage that cannot be controlled by conventional methods. The reported incidence of emergency obstetrical hysterectomy varies from 0.24 to 5.09 per 1,000 deliveries in the literature. Our incidence of 1.40 per 1,000 deliveries (0.13%) is in agreement with the recent studies. Zeteroglu et al. reported the incidence of EOH in a teaching hospital as 5.09/1,000 deliveries, which is higher than that of other studies.

In our study, majority of patients who underwent EOH were multipara. Similar trend was observed by Amad and Mir and Barclay et al. The most frequent indication for EOH in the present study was uterine atony, followed by morbidly adherent placenta and uterine rupture. 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 EOH. In 1984, Stanco et al. reported that 43.4% of their emergency hysterectomies were done because of uterine atony, while 33.9% were due to placenta previa with accreta. A study from the same institution in 1993 stated that their primary indication was placenta accreta in 45% of cases, followed by uterine atony, with 20%. Baskett reported that the main indications for hysterectomy were abnormal placentation (50%) and atonic postpartum hemorrhage (32.8%). Present study demonstrates that our most frequent indication for EOH still remains uterine atony, followed by morbidly adherent placenta, a feature that can be explained by our low rate of cesarean delivery. Also, despite the above reports, similar results to our study have been described by Özden et al. and that was also explained by the low rate of cesarean delivery. From all this data, we can conclude that there is a considerable variability in the indications of EOH worldwide, and it varies with obstetric practice in each center.

Obstetrical hysterectomy is associated with high complication rates, mainly due to the need for massive blood transfusions, coagulopathy, and injury of the urinary tract. Bladder injury was found in 4 patient, and 3 of these patients have a previous cesarean delivery and one was a case of home delivery who presented with traumatic PPH. Thus, urological injuries appear to be related to scarring and secondary adhesion of the vesicouterine space following previous cesarean section. In comparison to study by Zeteroglu's 12.5%, and Zelop's 9%, the urinary tract injury rate in present study is 7.69%. In our series, 7 women (13.5%) developed disseminated intravascular coagulopathy, lower than the 33% rate previously reported by Smith and Mousa and Lau et al. There were five maternal death (9.62%) in our study. Lower rates of 4% and 4.5% were cited by Kwee et al. and Zorlu et al. and much higher rates of 20 and 23.8% were found by Hamsho and Alsakka and Umezurike et al. Thus results from the present study are comparable with the previous studies performed on EOH.

In conclusion, the risk factors associated with emergency obstetrical hysterectomy should be identified antenatally and the high risk group of women should be delivered by skilled birth attendants. Early referral and encouraging family planning practices are other potential methods to prevent this catastrophic event. Timely decision, liberal blood transfusion and speedy surgery by an experienced clinician are the most important considerations to reduce fetomaternal morbidity and mortality.

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