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Gynaecology

EMERGENCY OBSTETRICS HYSTERECTOMY: A RETROSPECTIVE STUDY FOR 2 YEARS FROM A TERTIARY HEALTH CARE HOSPITAL

KEY WORDS: Emergency obstetric hysterectomy, Incidence, Maternal outcome

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ABSTRACT

Aims & Objectives: This study aims to determine the incidence, demographic characteristics, indications, maternal complications and overall maternal outcome associated with immediate postpartum hysterectomy in tertiary care center.

Methods: We conducted a retrospective, observational study over period of 2 years from June,2018 to May,2020. Total number of 12 cases of emergency obstetrics hysterectomy (EOH) were observed in the department of obstetrics and gynecology Shardaben hospital, Ahmedabad.

Results: In our study the overall incidence of EOH is 0.0983 (98 obstetric hysterectomies per 100,000 deliveries). The incidence of EOH is 0.0247% (24 obstetric hysterectomies per 100,000 deliveries) following vaginal deliveries, and 0.241% (241 obstetric hysterectomies per 100,000 deliveries) following cesarean section. Morbidly adherent placenta (41.7%) is the most common indication followed by atonic postpartum hemorrhage (33.3%). The most frequent sequelae is DIC (disseminated intravascular coagulation, 50%). Maternal mortality was observed in one case (8.33%).

Conclusion: EOH (emergency obstetric hysterectomy) is still a lifesaving surgery in modern day obstetrics. Timely decision for emergency obstetric hysterectomy reduces maternal morbidity and mortality. Our study highlights the place of extirpative surgery in the modern obstetrics in the face of rising rates of cesarean section.

INTRODUCTION

Obstetric hysterectomy was developed as a heroic operation arising out of necessity to control postpartum hemorrhage thereby reducing maternal mortality. Emergency obstetrics 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 standards of care provided and help to reduce maternal morbidity and mortality.

Conservative methods such as community-based use of misoprostol, oxytocin in the prefilled auto-disable drug delivery systems, condom catheter balloon all have been advocated to effectively manage obstetrics hemorrhage in low resource settings.^[4] Advances in interventional radiology have also provided the option of uterine artery embolization.^[5]

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.^[1] More alarming is the fact that some studies from developed nations are pointing towards an increase in the rate of postpartum hemorrhage. One meta-analysis reported an annual increase of 8% in the incidence of EOH around the world.^[7]

We aimed to evaluate incidence, indication, maternal complications associated with EOH and outcome in our institute.

This study aims to highlight the lack of availability and

utilization of antenatal services, identify avoidable factors and stress the need to organize healthcare services.

METHODS

This is retrospective, observational study of the parturient women requiring EOH/emergency peripartum hysterectomy (EPH). We looked at data over two years period from June,2018 to May,2020 from department of obstetrics and gynecology, Shardaben Hospital, Ahmedabad, Gujarat.

EPH was defined as hysterectomy performed for hemorrhage for unresponsive to the other therapeutic interventions, at the time of cesarean section or vaginal delivery, or within puerperium.

INCLUSION CRITERIA

Inclusion criteria included all women who delivered in the hospital between June,2018 to May,2020 after 24 weeks of gestation, and who underwent hysterectomy for obstetrics indication at the time of the delivery or subsequently within the defined period of puerperium (42days). All women who delivered outside the hospital and were referred for obstetrics complications meriting hysterectomy and fulfilling all the above conditions were also included in the study.

Women who delivered before 24weeks of gestation, undergoing hysterectomy for indications other than obstetrics, or outside the stipulated time of 42 days post-delivery were excluded from our study.

After collecting relevant data from the operation theatre records, each patient case record was scrutinized with regard to incidence, age, parity, antenatal high risk factors, indications hysterectomy type and complications, and overall maternal outcome.

RESULTS

Out of 12,199 deliveries occurred during study period, the

overall incidence of EOH is 0.0983% (98 obstetrics hysterectomy per 100,000 deliveries). The incidence of EOH in our study is 0.0247% (24 Obstetric Hysterectomies per 100,000 deliveries) following vaginal deliveries, and 0.241% (241 obstetric hysterectomy per 100,000 deliveries) following cesarean section. Thus, our study shows the more association of cesarean section with EOH than normal vaginal deliveries. The cesarean section rate during study period was 33.38%.

Table:1 Distribution of cases as per age, parity, residence

Parameters	No. of cases, N=12	%
AGE (years)		
20-25	6	50%
26-30	5	41.6%
31-35	1	8.3%
36-40	0	0%
Parity		
1	2	16.7%
2	2	16.7%
3	7	58.3%
4	1	8.3%
>=5	0	0%
Residence		
Rural	9	75%
Urban	3	25%

The youngest woman to undergo obstetric hysterectomy is 22 years old and the oldest age is 35 years. Women in the 20-25 age group contributed to 50% of cases, 83.3% of cases are multiparous. In the table 1, 50% cases belong to 21-25 age group, 75% patients are from rural area since our institute is tertiary care center and stresses the need for adequate health facilities in nearby areas. 66.6% cases underwent obstetrics hysterectomy with >= 3 parity. With increase in parity there is increase in incidence of obstetrics hysterectomy as the chances for atonic PPH. Placenta previa and sometimes rupture uterus increase surgeon prefer to go obstetric hysterectomy in this group as child bearing is completed.

In Table 2, in our study major indication for obstetric hysterectomy is morbidly adherent placenta, followed by atonic PPH.

Table 2: Indications of Obstetric hysterectomy

Indication	No. of cases, N=12	%
Atonic PPH	4	33.3%
Antepartum Hemorrhage (Placenta previa)	1	8.3%
Morbidly Adherent placenta	5	41.7%
Ruptured Uterus	1	8.3%
Traumatic PPH	1	8.3%

In our study, most common indication of EOH is morbidly adherent placenta (41.7%) followed by atonic PPH (33.3%). As the cesarean section rate has increase over years, it gives justification to be the is most common indication of EOH.

In Table 3, various methods used to control hemorrhage failed in such cases hence decision for obstetric hysterectomy done to save life of patient. Due to increase number of cesarean sections this indication has evolved over years to be a major indication.

In our study uterine packing is most commonly done procedure to control hemorrhage (50%) followed by bilateral uterine artery ligation (33.3%). Other methods used are bilateral internal iliac artery ligation (8.3%) and B lynch suture (8.3%).

Table 3. Intervention done to arrest hemorrhage pre-hysterectomy

Intervention	No. of cases, No=12	%
Uterine packing	6	50%

Bilateral Uterine artery ligation	4	33.3%
Bilateral Internal iliac artery ligation	1	8.3%
B lynch suture	1	8.3%

In Table 4, the most common complication is DIC (50%) mainly due to PIH, hemorrhage, thrombocytopenia and jaundice associated in such patients. Bladder injury is seen in 16.6% of cases as the majority cases are previous cesarean section with adherent placenta at the scar site. Second most common complication is septicemia (33.3%). Other complications associated with EOH are ARF (16.6%), wound gap (16.6%), paralytic ileus (8.3%).

Table 4: Morbidity and Mortality associated with EOH

Complications	No. of cases, N=12	%
DIC	6	50%
Septicemia	4	33.3%
Acute renal failure	2	16.6%
Wound gap	2	16.6%
Paralytic Ileus	1	8.3%
Bladder injury	2	16.6%
Maternal mortality	1	8.3%

In our study maternal mortality rate is 8.3 % because patient was having more than one co-morbidity and was difficult to revert the complications. Cause of mortality was DIC with ARF (acute renal failure).

Table 5: Total transfusion of blood products

Indication	Number of cases	PCV Units Total (packed cell volume)	Fresh Frozen Plasma Units (FFP)	Platelet Rich Concentra te units (PRC)
Atonic PPH	4	21	11	5
Morbidly adherent placenta	5	20	3	3
APH(Previa)	1	3	4	4
Uterine rupture	1	5	3	0
Traumatic PPH	1	4	3	3

Table 5 shows total number of blood and blood products used in patients as per requirements.

Table 6: Perinatal outcome in case of obstetrics hysterectomy

Perinatal outcome	No. of case, N=12	%
Mortality	2	16.7%
NICU admission	3	25%

In Table 6, 3 babies were admitted in NICU admission, 2 babies died, so perinatal mortality rate is 16.7 % in this study.

DISCUSSION

The present study found that 91.6% patients belong to age group of 21-30 years which is the peak reproductive age which is similar to Mahima et al, Shirodkar D et al, Sharma et al, Ambika et al.^[8-11] In Kant et al 52% case were in 31-35 years age.^[12] In our study 66.6% cases are third gravida and more which indicates that multiparity leads to complications like APH and PPH. It shows that increase in multiparity causes increase in incidence of atonic PPH that ultimately lead to emergency obstetrics hysterectomy .In our study 2 cases underwent total hysterectomy while rest all 10 cases underwent subtotal hysterectomy .In our study total hysterectomy was performed mainly for case of low-lying placenta, adherent or otherwise, where removal of cervix was considered mandatory for complete hemostasis. Many reports and guidelines have advocated the preference for subtotal hysterectomy over total hysterectomy since it offers

the advantage of less blood loss, less damage to urinary tract and takes less time to complete in the face of hemodynamic compromise.^[15,16] In other studies like Mahima et al, and Kant Anita et al show most common indication of EOH is atonic PPH. In our study most common indication for EOH is morbidly adherent placenta that is 41.7%, followed by atonic PPH (33.3%). Sharma et al and R K Praneshwari et al also show morbidly adherent placenta as most common indication for EOH followed by atonic PPH.^[6] This is due to increased incidence of cesarean section on modern obstetrics. The maternal mortality in our study is 8.3%. This is due to patient was referred in our hospital in already deplorable condition and was having so many co-morbidities and complications those were irreversible. It can be concluded that emergency obstetric hysterectomy is still lifesaving surgery in modern day obstetrics. Quick decision for obstetric hysterectomy reduces maternal mortality. The greater association of EOH with cesarean delivery compared to normal vaginal in our study (0.241% vs 0.0247%) is similar to studies from China^[13] (90.1% vs 6.5%), Turkey^[14] (0.078 vs.0.016%), and another from India^[15] (0.79% vs. 0.24%). This apparently obvious association has socially relevant implications. Improving general awareness regarding the long-term morbidity associated with cesarean section can help reduce request of 'section on demand' and may prove lifesaving for many prove lifesaving for many women in the long run. Reduction in primary cesarean section rate will be helpful to reduce its devastating complication in future pregnancy like morbidly adherent placenta and rupture uterus ultimately reduces the need of emergency obstetric hysterectomy.

CONCLUSION

EOH (emergency obstetric hysterectomy) is a necessary evil in obstetrics. Although it curtails the future child bearing potential of the woman, in many cases it saves the life of the mother. Most of its morbidity is attributable to its indications and underlying disorders rather than to the procedure itself. Rising rates of caesarean section bounds to increase the incidence of EOH in the future.

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