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Original Research Article

A retrospective analysis of obstetric hysterectomy in a tertiary center over one year

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ABSTRACT

Background: Obstetric hysterectomy is a lifesaving procedure in a setting of life-threatening obstetrical hemorrhage. There is and increasing need of obstetric hysterectomy due to rising cases of caesarean sections and morbidly adherent placenta. We aimed to study the incidence, indications and fetomaternal outcome of obstetric hysterectomy. Various risk factors are discussed which may be helpful in reducing maternal and neonatal morbidity.
Methods: A one year hospital based retrospective study involving detailed medical records of patients who underwent obstetric hysterectomy between 1st April 2022 and 31st march 2023.
Results: The overall incidence of obstetric hysterectomy was 0.2% in this study with majority of patients in the 20-25-year age group, and patients who were 2nd and 3rd para comprised of the maximum number. The indication identified in this study were morbidly adherent placenta followed by atonic PPH and caesarean scar ectopic. The major risk factors noted were previous LSCS in 60% and morbidly adherent placenta in 53.3% patients. Of the 15 patients, 60% underwent total while 40% underwent subtotal hysterectomy. ICU admission, fever and coagulopathy were the leading post op complications. There was one case of maternal death noted and one case each of intrauterine death and perinatal mortality.
Conclusions: Obstetric hysterectomy is the last resort to intractable bleeding and hence an important lifesaving procedure. The feto-maternal outcome depends on timely decision, surgical techniques and stringent post op monitoring of these patients.

Keywords: Morbidly adherent placenta, Obstetric hysterectomy, Postpartum hemorrhage, Previous caesarean section

INTRODUCTION

Emergency obstetric hysterectomy (EOH) is defined as extirpation of the uterus either at the time of caesarean section or following vaginal delivery, or puerperium period. It is usually performed in the face of unrelenting and life-threatening obstetric haemorrhage. 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. 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.[1]

Conservative methods such as community-based use of misoprostol, oxytocin in the prefilled auto-disable drug delivery systems, Bakri balloon catheter/condom catheter and non-inflatable anti-shock garments for the management of hypovolemic shock have all been advocated to effectively manage obstetric haemorrhage in low resource settings.[5]

Uterine atony and uterine rupture were formerly regarded as the commonest indications necessitating emergency

hysterectomy. However, more recent reports have listed placenta accreta as the most common indication, and have probably contributed to the growing numbers of caesarean deliveries performed over the last 20 years.[2]

Even though rendering the woman sterile, emergency obstetric hysterectomy is the bridge between life threatening postpartum haemorrhage and death. Despite the lifesaving intervention of the EOH, these patients must be monitored closely to prevent further complications such as wound infection, renal failure, disseminated intravascular coagulation (DIC), shock, septicemia and mortality.[3]

METHODS

A one year hospital based retrospective study involving detailed medical records of patients who underwent obstetric hysterectomy between 1st April 2022 and 31st march 2023. The study was carried out at obstetrics and gynaecology department, BJ medical College and CIVIL HOSPITAL, Ahmedabad. During the one year period total number of deliveries were 7867 of which total number of caesarean sections were 2569 and number of normal deliveries were 5298. The overall incidence of obstetric hysterectomy was 0.2% (15 obstetric hysterectomies in one year).

RESULTS

Age ranges from 20 to 35. 7 patients were in the age group of 20-25 (46%), meaning the incidence was highest in this age group, as this is the reproductive age group. It was followed by 26-30-year age group in which 33.3% incidence was noted (Table 1).

Table 1: Age group distribution (n= 15).

Age group	Frequency	Percentage
20-25	7	46.6
26-30	5	33.3
31-35	3	20

Table 2: Parity wise distribution (n=15).

Parity	Frequency	Percentage
Primi para	2	13.3
2nd para	6	40
3rd para	6	40
4th para	1	6.7

Parity wise the incidence was equal for 2nd para and 3rd para patients, both involving 40% (Table 2).

The commonest indication was morbidly adherent placenta- 7 cases, 46.6% incidence, followed by atonic PPH and incidence of scar ectopic pregnancy both comprising 20% incidence (Table 3).

Table 3: Indications of OH (n=15).

Indication	Frequency	Percentage
Atonic PPH	3	20
Traumatic PPH	1	6.7
Secondary PPH	1	6.7
Morbidly adherent placenta	7	46.6
SCAR ectopic	3	20
Rupture uterus	1	6.7

Table 4: Incidence of antecedent event for OH (N=15).

Antecedent event	Frequency	Percentage
Post vaginal delivery	2	13.3
Post LSCS	2	13.3
Intra CS	8	53.3
SCAR ectopic	3	20

Table 5: Risk factors (n=15).

Risk factors	Frequency	Percentage
PPH	5	33.3
Morbidly adherent placenta	8	53.3
Previous LSCS	9	60
Placenta previa	3	20
Prolonged labour	1	6.7
SCAR pregnancy	2	13.3

Incidence was notably highest during caesarean section (53%), followed by scar ectopic pregnancy (20%). While it was common post vaginal delivery and lscs (20% incidence in both groups) (Table 4).

It was noted that several patients had multiple risk factors like previous lscs with morbidly adherent placenta and placenta previa. Previous caesarean section was an important risk factor as 7/8 cases of morbidly adherent placenta were associated with previous caesarean section. There were 9 cases of previous lscs (60%) and 8 cases of morbidly adherent placenta (53%) (Table 5).

Post operative complications included significant hospital stay with ICU admission in all patients. Other common complications included fever (33.3%), coagulopathy (26.7%) and wound gap (20%). Bladder injury was noted in 1 case (6.7% incidence). Significant other complications include ureteric injury, bowel injury which were not noted in this study, but were noted in other such studies (Table 6).

Neonatal outcome included live birth in 66.7% cases. One case of perinatal mortality was noted (Table 7).

Massive transfusion is traditionally defined as transfusion of 10 units of packed red blood cells (PRBCs) within a 24-hour period. The goal of massive transfusion is to limit

transfusion and to limit critical hypoperfusion while surgical haemostasis can be achieved. Massive transfusion occurred in 20 % patients (Table 8).

Table 6: Associated complications (n=15).

Associated complications	Frequency	Percentage
Bladder injury	1	6.7
Fever	5	33.3
ICU admission	15	100
Coagulopathy	4	26.7
Shock	1	6.7
Wound gap	3	20
Sepsis	2	13.3
Mortality	1	6.7

Table 7: Neonatal outcome (n=15).

Neonatal outcome	Frequency	Percentage
Live birth	10	66.7
Perinatal mortality	1	6.7
Intrauterine death	1	6.7
Not applicable	3	20

Table 8: Blood transfused (n=15).

Blood transfusion	Frequency	Percentage
Massive transfusion	3	20
Non massive transfusion	12	80

Table 9: Type of hysterectomy (n=15).

Type of hysterectomy	Frequency	Percentage
Subtotal hysterectomy	6	40
Total hysterectomy	9	60

Total hysterectomy was performed significantly more frequently (60%) than subtotal hysterectomy (Table 9).

DISCUSSION

The overall incidence of obstetric hysterectomy was 0.2%. This was more or less similar to other studies which was 0.15-0.2%.[2,4]

The youngest woman to undergo hysterectomy was 20 years old and the oldest was 35years old. The incidence of obstetric hysterectomy was highest in 20-25-year reproductive age group and more in 2nd and 3rd para patients. 86.7% cases of hysterectomies were seen in multiparous women while 13.3% in primi para. This was corroborated in a study by Kanhere et al.[4] This could be attributed to the fact that multiparity is more commonly associated with uterine atony and with previous caesarean sections. Prolonged labour was a risk factor identified in one primi para patient that led to uterine atony intra op during LSCS and eventually lead to the decision for obstetric hysterectomy.

The commonest indication in this study was morbidly adherent placenta 46.6% incidence, followed by atonic PPH and incidence of scar ectopic pregnancy both comprising 20% incidence, this was similar to a study by Nicolae et al where abnormal placentation followed by uterine atony were major risk factors.[5,6] While in other studies it was noted that uterine atony was the most common indication followed by abnormal placentation and uterine rupture.[3] Rising incidence of abnormal placentation may be due to the increasing success in treating uterine atony with uterotonic agents, uterine artery embolization, the uterine compression sutures such as B Lynch suture, Cho square suture, Hayman suture and to the fact that the incidence of abnormal placentation is on the rise related to previous CS. This was also found in other studies.

There was a total of 60% cases of scarred uterus and of these only one case presented with uterine rupture. Caesarean scar pregnancy was reported in 20% cases and is attributed to the rising number of caesarean sections, and one such case presented with uterine rupture.

A study by Vázquez showed paralytic ileus and fever as most common post op complications, while fever, coagulopathy and wound gap were seen in present study.[10]

One case of mortality was noted due to severe obstetrics haemorrhage with massive blood transfusion in case of caesarean hysterectomy for placenta percreta, with a past history of previous two lscs. Increased incidence of caesarean section is hence a very important risk factor for the development of morbidly adherent placenta and the requirement of obstetric hysterectomy. Maternal mortality rate in our study was 6.7%, while it was found to be 11% in a study by Kanhere et al, Kanwar et al reported this as 12%, Siddiq et al of 9.7%, while Devi et al reported no mortality in their studies.[4,7-9]

There were no significant differences noted between total and subtotal in terms of maternal or delivery characteristics. Subtotal hysterectomy was easy to perform but has a rare risk of development of cancer cervix and it has no role in cases of placenta previa or adherent placenta. While total hysterectomy has an increased risk of bladder injury compare to subtotal type, but total hysterectomy controls bleeding better than subtotal hysterectomy. In other studies, it was found that subtotal hysterectomy was more commonly performed due to surgical ease.[5] To control the bleeding and to prevent hysterectomy additional surgical procedures were performed before the decision of emergency peripartum hysterectomy such as suture of placental bed, uterine arteries ligation, internal iliac arteries ligation, B-Lynch suture, and Bakri balloon placement.

CONCLUSION

Obstetric hysterectomy is the last resort to intractable bleeding and hence an important lifesaving procedure. The

feto-maternal outcome depends on timely decision, surgical techniques and stringent post op monitoring of these patients. It reduces the maternal morbidity and mortality. Proper antenatal care, identification of high-risk cases, patient and relative counselling, and timely referral can prevent the incidence of this catastrophic surgery. Advances in interventional radiology have also provided the option of uterine artery embolization which can help reduce the incidence of this surgery.

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