

A retrospective study of obstetric hysterectomy in a tertiary care hospital

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Abstract

Background: Obstetric hysterectomy is a life-saving procedure sometimes required for conditions such as postpartum hemorrhage and ruptured uterus. It is sometimes associated with both maternal and perinatal mortality.

Objective: To evaluate the incidence, indication, mortality, or morbidity associated with emergency obstetric hysterectomy in a tertiary care hospital.

Materials and Methods: The case records of all women who underwent emergency obstetric hysterectomy between January 2012 and December 2014 (a period of 3 years) were studied.

Result: Of the total 8317 deliveries in a span of 3 years of the study period, 2036 underwent cesarean delivery (rate of 24.4%). A total of 33 obstetric hysterectomies were performed with a rate of 0.39% or 1 in 252 deliveries or 3.9 per 1000 deliveries. Most were in the age group of 21–30 years (19 cases, 57.6%). Majority of the patients were of second, third, or fourth parity (87.8%), 26 patients were unbooked. Most common causes of hysterectomy were rupture uterus due to obstructed labor, and morbid adherent placenta. There was no maternal mortality. Of the 33 deliveries, 18 (54.5%) resulted in perinatal mortality. Most common adverse event postsurgery was fever (30.3%), although 54.5% had no problems postsurgery.

Conclusion: Most common indications for emergency obstetric hysterectomy are ruptured uterus and morbid adherent placenta. It is associated with good maternal prognosis and significant perinatal mortality. This could be avoided by good antenatal care and careful selection of patients for cesarean delivery as it has immense impact on both present and future child bearing.

KEY WORDS: Emergency obstetric hysterectomy, obstructed labor, morbid adherent placenta

Introduction

Emergency obstetric or peripartum hysterectomy is the last resort for any obstetrician who faces the complication of atonic postpartum hemorrhage or rupture uterus. It puts the operating surgeon in a dilemma because of its implication

on future child bearing. Hence, prompt decision-making and speedy surgical skills are required to save the patients who most of the times have come in shock.

The incidence of this surgery is around 0.6–2.28 per 1000 births in the USA.^[1,2] In developing countries the incidence is more (i.e. 0.4–0.7%).^[3,4] The most common indication for obstetric hysterectomy is rupture uterus.^[5,6] Obstetric hysterectomy is marker of maternal morbidity. It is associated with severe blood loss, and intra- and post-operative complications. Maternal mortality associated with obstetric hysterectomy is high in developing countries such as Africa and nil in developed countries.^[7,8]

Studies have shown high perinatal mortality associated with this surgery (42–78%).^[9] Increasing cesarean delivery rate is associated with increased risk of peripartum hysterectomy.

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Materials and Methods

This retrospective study was carried out in the Department of Obstetrics and Gynecology at Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, India, from January 2012 to December 2014, a period of 3 years. It is a tertiary care hospital catering to Rohilkhand rural belt of Uttar Pradesh, India. Data were collected from case records of patients who underwent obstetric hysterectomy in the study period. Records were studied for age, parity, booking status, indication, maternal mortality and morbidity, perinatal mortality, number of admitted days, need for intensive care unit (ICU) admission, number of blood transfusions required, and condition of patient at discharge. Data were analyzed using simple proportion, rates, and tables.

Result

During the study period, there were 8317 total deliveries and 2036 cesarean deliveries; making the cesarean delivery rate 24.4%. A total of 33 obstetric hysterectomies were performed during this period with an incidence of 1 in 252 deliveries or 0.39%. Age- and parity-wise distribution was as given in Table 1.

Majority (26 out of 33) patients were unbooked. Fifteen patients (45.45%) had history of previous cesarean delivery. Table 2 shows various indications for which patients underwent obstetric hysterectomy. Most common indications were ruptured uterus due to obstructed labor (30.3%) and morbid adherent placenta (30.3%).

There was no maternal mortality in these patients of obstetric hysterectomy during the study period. Maternal complications are shown in Table 3. Most common complication was fever. Of the 33 patients, 18 (54.5%) had no problems. One patient had more than one complication.

Of the 33 obstetric hysterectomies, 6 patients required ICU admission (4 were on dopamine drip and 2 were on ventilator). Majority of patients required 2–4 units of blood transfusion. Most patients went home by 15th day. Twenty-seven patients (81.8%) were discharged in good condition whereas six were still recovering at the time of discharge.

There were 18 perinatal deaths in the study (54.54%). Of these, 16 were fresh still births and 2 died after a few days

Table 2: Indication for obstetric hysterectomy ($n = 33$)

Indication	Numbers (%)
Atonic postpartum hemorrhage	4 (12.12)
Rupture of previous cesarean delivery	5 (15.15)
Rupture due to obstructed labor	10 (30.30)
Couvalaire uterus	2 (6.06)
Broad ligament hematoma	1 (3.03)
Cervical tear	1 (3.03)
Morbid adherent	10 (30.3)

Table 3: Maternal complications ($n = 33$)

Complications	Numbers (%)
Gaped surgical wound	4 (12.1)
Fever	10 (30.3)
Bladder injury	2 (6.06)

of neonatal intensive-care unit (NICU) admission. There were no multiple pregnancies and macerated still births in the study group.

Discussion

Emergency peripartum hysterectomy is a life-saving surgery in the setting of refractory hemorrhage. Hospital-based retrospective case reviews in the USA gave an incidence of 0.6–2.28 per 1000 births.^[1,2] Whiteman *et al.*^[10] gave an overall incidence of 0.77 per 1000 births during 1998–2003 in the USA. In developing countries, the incidence varies from 0.4% to 0.7%.^[3,4] In the Indian scenario, the incidence goes as high as 10.05 per 1000 deliveries.^[11] In this study, the incidence was 0.39% or 1 in 252 deliveries. The high incidence of this procedure in our study and the developing world is because of large number of unbooked patients (78.8%) and poor antenatal care.

In some studies, majority of subjects belonged to age group of 26–30 years.^[7,11] While in most of the other studies, patients were more than 30 years of age.^[12–15] In our study, 19 (57.6%) cases were between 21 and 30 years of age. Hysterectomy at a young age has its morbidity and also psychological repercussions to be considered. Parity wise, there was even distribution of patients between para 2, 3, and 4. An African study observed that the patients were either para 1 or 2.^[7] Other studies showed a preponderance of grand multiparity.^[12–15] The even distribution of parity rather than being confined to grand multiparous patients, points to the increasing role of cesarean delivery as the underlying predisposing factor for obstetric hysterectomy as is reflected by the fact that 15 of 33 patients in our study had history of previous cesarean delivery (45.45%). Other studies have also concurred with our observations.^[16,17]

The most common indication for obstetric hysterectomy in our study was ruptured uterus due to obstructed labor (30.3%) and morbid adherent placenta (30.3%). Several studies also

Table 1: Age and parity distribution ($n = 33$)

Characteristics	Numbers (%)
Age (years)	
21–30	19 (57.6)
31–40	14 (42.4)
Parity	
1	3 (9.09)
2	10 (30.3)
3	10 (30.3)
4	9 (27.2)
5	1 (3.02)

observed rupture uterus as the main indication.^[5,6] One study quoted morbid adherent placenta in 26.9% of obstetric hysterectomy patients.^[18] Atonic postpartum hemorrhage contributed to only 12% of the indications in this study. Uses of good uterotonics and special surgical procedures such as step-wise devascularization and the B-Lynch technique have contributed to lowering the incidence of atonic PPH as the cause of obstetric hysterectomy. The shifting trends in indications for obstetric hysterectomy reveal the increasing role of cesarean delivery as a predisposing factor.

Our study, interestingly, had no mortality in patients of obstetric hysterectomy. This is in conformity with studies in the developed world and one Indian study.^[19] However, some other studies have shown variable rates of mortality of 9.7–12.2%.^[19,20] In these studies, septicemic shock and DIC (Disseminated intravascular coagulation), contributed to death of the patients. In our study, only 4 of 33 cases were because of atonic postpartum hemorrhage and none of them had DIC.

Obstetric hysterectomy has many complications. An African study^[7] quoted anemia as most common, whereas an Indian study^[11] quoted febrile morbidity as the most commonly associated complication. Incidence of complications of obstetric hysterectomy quoted in some Pakistani studies varies from 58% to 67%.^[9,21] In our study, 54.5% had no problems postsurgery whereas fever contributed to 30.3% of adverse event and has led to a longer stay in the hospital. Two patients with bladder injury, which were subsequently repaired, had no long-term sequelae.

Perinatal mortality was very high in our study (54.5%). Most were fresh still births, only two babies died few days after admission to the NICU. This could be because of the indications of surgery which have devastating effects on fetus. Other studies also reported a similar high incidence.^[9] A history of previous cesarean delivery plays a major role in this surgery as it can lead to both ruptured uterus and morbid adherent placenta.

The limitation of the study was that atonic postpartum hemorrhage attributed to only 12% indications and there was no patient with DIC with resultant nil maternal mortality. May be increasing the duration of the study would change the result.

Conclusion

Obstetric hysterectomy should be a prompt decision in order to save life of the patient who is having refractory postpartum hemorrhage. Every obstetrician should know to do this surgery and carefully balance the pros and cons of the procedure. This surgery can be prevented by good antenatal care and by decreasing the incidence of cesarean delivery as it has impact on both the present and future pregnancies of the patient.

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