

Study on emergency obstetric hysterectomy over a two year period–Saving mothers

Darukhshan Anjum¹, Kiran Trivedi^{2*}, Suman Kumari³¹Assistant Professor, Department of Obstetrics and Gynecology, Mahatma Gandhi Memorial Medical College and Hospital, Jamshedpur, Jharkhand, India²Associate Professor, Department of Obstetrics and Gynecology, Rajendra Institute of Medical Sciences Ranchi, Jharkhand, India³Senior Resident, Department of Obstetrics and Gynecology, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, India

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Abstract

Introduction: Emergency obstetric hysterectomy needs a timely decision and good clinical judgment as undue haste can result in maternal morbidities like bladder injuries and unnecessary delay can cause maternal mortality. Maternal outcome greatly depends on the timely decision, surgical skills along speedy interventions taken by the team of obstetricians, anesthetists, and physicians. **Aim:** The study has been done with the purpose to know the incidence, etiology, maternal age, parity, risk factors, maternal morbidity and mortality, and fetal outcome and analyze the factors associated with it. The study was conducted in a tertiary care hospital which caters to the rural population of Jharkhand, India. **Materials and Methods:** Sixty-five women underwent emergency obstetric hysterectomy during the study period of 2 years. All women who needed emergency obstetric hysterectomy for any obstetric reason during antenatal, intra-natal period or postnatal period up to 6 weeks were included in the study. **Results:** In this study, the main etiological factor was rupture uterus (58.5%). The incidence of emergency obstetric hysterectomy in this study was 0.52%. Maternal mortality in the study was 6.1%. **Conclusion:** Maternal and perinatal mortality are sensitive indicators of the health care system, thus identifying and avoiding the factors which lead to maternal mortality which will, in turn, improve maternal health and perinatal outcome.

Keywords: emergency obstetric hysterectomy, rupture uterus, post partum hemorrhage, maternal mortality, EOH.

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Introduction

Emergency obstetric hysterectomy (EOH) is a life-saving procedure. It is truly characterized as a Near Miss event, where a woman who nearly died but survived a complication that occurred during pregnancy, childbirth, or within 42 days of termination of pregnancy. The incidence of EOH in modern obstetrics is 0.05% but it varies considerably in different parts of the world. In no other obstetric surgery is an obstetrician in so much dilemma as to when she has to decide on an emergency hysterectomy. While on one hand, it saves the mother's life, on the other it sacrifices her reproductive life. Every obstetrician should have the skill of EOH and should take timely decisions to prevent maternal mortality. It is very important to analyze such events as they provide insight into the standard of care provided and help in favorable outcomes. The aim of this study is to evaluate the incidence, etiological factors, and fetomaternal outcome.

Materials and methods

This observational analytical study was conducted in the department of obstetrics and gynecology, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand. Sixty-five patients were studied over a two-year period, who needed an emergency obstetric hysterectomy. Data regarding demographic characteristics, age, parity, clinical presentation, risk factors, management, surgical findings, hospital stay, need for blood transfusion, ICU requirement, maternal and fetal

outcomes, and postoperative complications were studied. All patients included in this study underwent hysterectomy due to obstetric indications and within 42 days or 6 weeks period.

Results

During the study period, the total number of deliveries was 12,409 and there were 65 emergency hysterectomies during this period, thus the incidence was calculated to be 0.52% i.e. 1 in 191 deliveries.

Table 1: Sociodemographic profile-Age

Age (years)	No. of patients	Incidence %
<20	5	7.7
21-25	22	33.8
26-30	24	36.9
31-35	11	16.9
36-40	1	1.5
>40	2	3.07
Total	65	100%

The maximum no. of patients who had emergency hysterectomy was between 26-30 years (36.9%), belonged to rural areas (80%), were para 4 (33.8%), un-booked (73.8%), and were mostly referred from the periphery (72.3%).

Table 2: Parity

Parity	No of patients	Percentage
P1	2	3.07
P2	10	15.38
P3	18	27.7
P4	22	33.8
>P4	13	20

*Correspondence

Dr. Kiran Trivedi

Associate Professor, Department of Obstetrics and Gynecology, Rajendra Institute of Medical Sciences Ranchi, Jharkhand, India.

E-mail: trivedikiran2011@gmail.com

Table 3: Booked/unbooked status

Booked/unbooked	No. of patients	Percentage
Booked	17	26.1
Unbooked	48	73.8

Table 4: Rural/urban

Rural/urban	No. of patients	Percentage
Rural	52	80
Urban	13	20

Table 5: Direct admissions / referred cases

Direct admissions / referred cases	No. of patients	Percentage
Direct admission	18	27.7
Referred cases	47	72.3

Table 6: Indications of emergency obstetric hysterectomy

Indications	No of cases	Percentage
Rupture uterus	38	58.5%
PPH	12	18.5%
Morbid adherent placenta	10	15.4%
Perforating invasive mole with hemoperitoneum	01	1.5%
Septic abortion	03	4.5%
Ruptured corneal pregnancy	01	1.5%

Table 7: Distribution of emergency obstetric hysterectomy according to gestational age

Causes of EOH	Gestational age (weeks)	No of cases	Percentage
Septic abortion	16	3	4.6%
Invasive mole	14	1	1.5%
Ruptured corneal pregnancy	18	1	1.5%
Spontaneous rupture in scarred uterus	34-36	3	4.6%
Post CS pregnancy with placenta previa	32-36	3	4.6%
Rupture uterus	>37	35	53.8%
LSCS for PPH, Placenta previa, morbidly adherent placenta	>37	16	24.6%
After vaginal delivery for PPH	>37	3	4.6%

Table 8: Postoperative morbidity

Morbidity	No of cases	Percentage
Febrile morbidity	36	55.38%
Wound infection	16	24.6%
Urinary tract infection	14	21.54%
Vesico vaginal fistula	2	3.07%
Acute renal failure	1	1.5%
Burst abdomen	1	1.5%

Table 9: Cause of maternal mortality

Cause	No of cases
Irreversible shock	2
Pulmonary embolism	1
Acute renal failure	1

The most common cause of emergency hysterectomy in the study was rupture uterus (58.5%) followed by PPH (18.5%) and morbidly adherent placenta (15.4%). Among the 38 women who had rupture uterus, there were 13 women with a previously scarred uterus and 25 with the unscarred uterus. Out of 13 women with a previously scarred uterus, there were 6 women each with previous one LSCS and two LSCS and one had a history of hysterectomy. Among those without any history of previous surgery, the reason for rupture was obstructed labor in 18 patients, oxytocin abuse in 5 patients, and neglected shoulder presentation in one and there was a case of rupture due to an undiagnosed conjoined twin who was given a trial of labor in the periphery.

Risk factors for PPH which led to emergency hysterectomy were atonic PPH in 5 cases, followed by PPH due to placenta previa in 4 women, 1 with prolonged Labour, triplet pregnancy, abruptio placentae with intrauterine death each.

Risk factors for morbidly adherent placenta which led to emergency hysterectomies were previous cesarean section in 7 women, placenta previa in 2, and history of manual removal of placenta in previous delivery in 1 woman. There were 3 cases of septic abortion who

needed emergency hysterectomy, these women had mid-trimester abortions by untrained birth attendants in remote areas of Jharkhand.

The most common postoperative morbidity was fever due to blood transfusion, post-operative wound infection, and urinary tract infection, seen in 36 women. There were surgical site infections in 16 and UTI in 14 women. 2 women had vesicovaginal fistula, one of them had bladder rupture along with uterine rupture, and the other developed VVF due to rupture uterus following obstructed labor. One of the females had a burst abdomen due to severe anemia and low immune status. All the women who underwent emergency hysterectomy needed a blood transfusion. There were 20 women who had massive blood transfusions. There were 43 patients who had subtotal hysterectomy whereas 22 had a total hysterectomy. There were 40 patients who were given general anesthesia and the rest were given spinal anesthesia.

There were 4 maternal deaths, one of the patients with septic abortion had acute renal failure and multi-organ failure. Two patients with placenta percreta went into irreversible shock due to uncontrolled hemorrhage whereas one patient with a rupture uterus had pulmonary embolism which led to her mortality.

The fetal outcome was poor in these patients, 38 patients with rupture uterus had dead babies, one of which was a conjoined twin. There was one triplet pregnancy that had intractable PPH, the babies died due to prematurity. There were 20 live births out of which three were preterm. The average duration of hospital stay was 3 weeks in 20 patients and 2 weeks in 14 patients.

Discussion

Emergency obstetric hysterectomy is a difficult decision in obstetric practice as it changes the obstetric future of a woman. As a method of treatment, it is a radical procedure though it has a definite role in the management of life-threatening obstetric hemorrhage or rupture uterus.

The rural population of Jharkhand is ignorant, unaware of antenatal visits and health facilities available. In remote parts of the state intranatal care is either unavailable or is given by unskilled village midwives. Most patients reach the hospital in a moribund state, made worse by poor transportation.

Incidence in this study was 0.52% whereas the study done by Nwobodo EL et al (2012) is 0.51% and Sheikh NB et al (2010) is 0.63% which is almost similar to our study[1,2]. Study done by Bhattacharya Raghunath et al (2016) is 0.096%[3].

Maximum hysterectomy in this study was seen in patients between the age of 26-30 yrs which was 36.9%, whereas that done by Jyotsna Lamba et al (2012) 30% hysterectomy was done for the same age group and in a study done by Rajyashri Sharma et al (2009), obstetric hysterectomy was in seen mostly in age >35 years which was 30.9%[4,5]. Increasing parity is parallel with the advancement of age and thus is associated with PPH, rupture uterus, placenta previa which in turn leads to emergency peripartum hysterectomy.

Kant Anita et al (2005) in their study reported that 60.9% of the patient who underwent hysterectomy was P3 and P4 which coincides with our study of 61.5%[6]. Praneshwari Devi et al reported 57.7% of women who underwent hysterectomy belonged to P3 and P4 which is comparable to our study[7].

The most common indication for which obstetric hysterectomy was done in this study was rupture uterus 58.5%. Studies conducted by Gupta et al, Pati et al and Pawar et al reported rupture uterus as the most common cause for an emergency hysterectomy which was 69.7%, 64.4%, and 40% respectively[8,9,10]. Kant Anita et al in their study reported that 12.19% of women who had emergency hysterectomy was due to morbidly adherent placenta which is comparable to our study 15.4%[6]. Hysterectomy due to PPH has decreased due to improved medical management, conservative surgical procedures, and blood transfusion facilities such as Use of effective uterine oxytocics, ergot derivatives, prostaglandins, and non-pharmacological methods like uterine massage, uterine tamponade is alternatives to avoid hysterectomy. Surgical management with stepwise devascularization of vessels and Internal Iliac Artery ligation has drastically reduced the incidence of emergency hysterectomy.

Blood transfusion in a study done by Nusrat et al[11] was 100% which coincides with the present study[11]. In the present study 66.1% of women had a subtotal hysterectomy whereas 43.9% had a total hysterectomy, which is comparable to a study conducted by Kant Anita et al who reported 62%[6].

Febrile morbidity was the most common morbidity in the present study which was 55.38%, Marwaha Parveen et al recorded fever in 63.3% of post-operative women. Wound infection was seen in 24.6% in this study, Glaze et al recorded wound infection in 14.3% whereas Park and Duff recorded in 5.3% of the post-operative women[12,13]. UTI were seen in 21.54% whereas that seen by Marwaha Parveen et al was 53%[14]. Morbidities not only resulted in additional hospital stay but also added to economic burden.

The incidence of maternal mortality in this study was 6.1%, which is comparable to the study done by Sinha and Mishra et al and Rajyashri Sharma et al which is 6.01% and 5.7% respectively[15,5]. These deaths occurred in un-booked cases, the most common cause being hemorrhage and irreversible shock which was secondary to their moribund state at the time of presentation rather than the operative

procedure.

Perinatal mortality was very high in this study 69.25%, Sheikh N.B. et al reported a similar result of 63.1%. Most of these were due to rupture uterus in un-booked women who presented late in a poor condition[2].

Conclusion

Patients from rural areas are unaware of the existing antenatal services. The existing antenatal clinics are inaccessible and inadequate in most of the rural areas. In remote areas, interference by untrained dais increases the perinatal and maternal morbidity and mortality. Traditional birth attendants should be trained properly. Health education and awareness by mass media can improve the health and social status of women, especially in rural areas. Health education at the community level, better antenatal care up to the grass-roots level, emergency intra-natal care, availability of services of skilled birth attendants at the time of childbirth, organized first referral centers with transportation facilities and availability of blood and anesthetic facilities around the clock can reduce obstetric emergencies. There is also a need for a well-equipped neonatal intensive care unit to improve fetal survival.

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