

CLINICAL PRESENTATION AND OUTCOME OF EMERGENCY OBSTETRIC HYSTERECTOMY IN A RURAL TERTIARY CARE CENTRE: A CASE SERIES

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Abstract

Background: Emergency Obstetric Hysterectomy (EOH) is surgical removal of the uterus due to life threatening conditions within the puerperium. Post Partum Hemorrhage remains the leading cause. Here we discuss a series of ten cases of Emergency Obstetric Hysterectomy performed in our institute and analyze its cause and outcome. **Materials and Methods:** A retrospective, record-based study was carried out in Department of Obstetrics and Gynaecology Thiruvarur Medical College and Hospital, Thiruvarur, Tamilnadu, India, a tertiary care government hospital. Ten patients who underwent emergency obstetric hysterectomy were selected. Labour room register, operation room register for emergency and elective cases, case records, referral slips and mortality register data were reviewed for the same and outcomes were analyzed. **Results:** Total 10 patients underwent emergency obstetric hysterectomy were included, with the incidence observed at 0.26%. The most common indications were Placenta accreta Spectrum (PAS)- (60%), atonic post-partum hemorrhage (30%), uterine perforation (10%). Previous caesarean section (50%) was the commonest predisposing factors associated with PAS. Total hysterectomy (60%) was observed to be the preferred type of surgery. Out of 10 cases observed one maternal death occurred due to PPH associated with PPCM. **Conclusion:** The most common indication for obstetric hysterectomy in the past was uterine inertia, which has now been replaced by placenta accreta spectrum. The increasing world-wide incidence of cesarean section is now being considered to be responsible for the rising rate of PAS. In our case series also PAS was the most common cause leading to EOH and all these mothers had previous delivery by caesarean section. We conclude that reducing primary caesarean section rate might decrease the incidence of PAS thereby reducing EOH and its morbidity & mortality.

INTRODUCTION

EOH is a lifesaving procedure performed when all other intervention to save mothers life have failed. According to the World Health Organization (WHO) obstetric causes accounts for 73% of all maternal deaths. Most of the causes of maternal death are preventable; so as to decrease the MMR it is important to manage the obstetric cases effectively. Maternal mortality is still among the worst performing health indicators in resource-poor Settings.^[1] Postpartum hemorrhage is the primary

direct cause of maternal mortality globally.^[2] Refractory hemorrhage needs to be treated with surgical hysterectomy as a life saving measure. Emergency obstetric 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.^[3,4] EOH is classified as “maternal near miss” event by WHO: the mother barely survives the pregnancy and its complications & loses her uterus.^[5] EOH also carries a high risk of maternal morbidity and mortality. Percentage of EOH in India is 17.7%.

Post operative complications of EOH includes wound sepsis, acute lung injury, urinary tract injury, vesico-vaginal fistula and disseminated intravascular coagulation.^[6-8]It also makes the women infertile which creates major psychosocial impact.^[9] Here we discuss a series of ten cases for whom emergency Obstetric hysterectomy was performed due to various reasons in our institution studied over a period of 2 years.

CASE SERIES

Case Report 1

A 32 years old third gravida with previous 2 normal vaginal delivery and 39 weeks of gestation was admitted in labour. She delivered vaginally without any complications. Mother was clinically stable for 2 days after delivery. On 3rd post-natal day patient had abdominal distension which progressed. Ultrasound abdomen revealed fluid collection? Hemoperitoneum. Needle aspiration revealed blood-stained serous fluid. Patient was taken for emergency laparotomy which revealed posterior forniceal perforation of size 1*0.5cm with pus collection within the abdominal cavity. Subtotal hysterectomy was performed along with blood transfusion. Post operatively patient was started on higher antibiotics. Patient was stable and discharged on 12 days.

Case Report 2

A 32 years old third gravida with one abortion, previous caesarean section was admitted for management of Complete placenta previa. MRI pelvis was done which revealed placenta accreta. Patient was electively taken for caesarean section in the presence of Urologist, chief Anaesthetist, Paediatrician. Intraoperatively placenta was densely adherent to the uterus. Placenta could not be separated, hence subtotal hysterectomy was done and 3 units of packed red blood cells were transfused. Patient was stable postoperatively and discharged on POD 14 along with baby.

Case Report 3

A 23 years old primigravida with 35 weeks of gestation & single intrauterine pregnancy was admitted for placenta previa. After admission patient had spontaneous onset of preterm labour pain and bleeding per vaginum. Hence she was taken for emergency caesarean section. Intraoperatively placenta was occupying lower uterine segment and bled profusely after removal. Stepwise management of PPH was done. In spite of all measures bleeding did not stop and patient in for hypotensive shock. Hence subtotal hysterectomy was done with massive blood transfusion on ventilatory support. Patient was stable post operatively and discharge along with the baby.

Case Report 4

A 34 years old primigravida with 35 weeks of gestation & dichorionic diamniotic pregnancy was admitted for preterm labour pains. First twin was in breech presentation and second was cephalic. On 2nd day of admission patient became dysneic, tachypneic and echo done revealed Peripartum Cardiomyopathy. Patient was kept in HDU under observation. On 3rd day of admission patient had true labour pain. She was taken for emergency caesarean section. Intraoperatively patient was stable without any complications. After shifting the patient to post operative ward patient developed hypotension with feeble pulse volume and tachycardia. Pervaginal examination revealed excessive bleeding. Atonic PPH was diagnosed and managed as per protocol. Patient deteriorated hence she was taken to OT for emergency laparotomy and devascularisation procedure was done. In spite of that patient bled profusely so subtotal hysterectomy was proceeded. Patient was treated postoperatively with utmost cardiac care and discharged on 42nd postoperative day in stable condition.

Case Report 5

A 37 years old second gravida with 37 weeks of gestation, previous caesarean section was admitted for placenta previa. She was posted for elective repeat LSCS in the presence of chief Obstetrician, Anaesthetist and Urologist. After delivering the baby placenta was densely adherent and could not be separated. It led to profuse bleeding. Hence total hysterectomy was proceeded with massive blood transfusion. Patient was stable postoperatively and discharged in good health.

Case Report 6

A 32 years old third gravida with Previous one Abortion, one caesarean section with 32 weeks of gestation and single intrauterine pregnancy was admitted for central placenta previa with complaints of bleeding per vaginum. Patient started on steroids and tocolytics. MRI pelvis done revealed placenta accreta. On 3rd day patient had labour pain and she was taken for emergency caesarean section. Intraoperatively placenta was densely adherent to uterus and could not be separated. Hence subtotal hysterectomy was done. Patient was stable postoperatively. Due to LBW and preterm, baby was admitted in NICU. Mother was discharged along with baby on 16th post Operative day in stable condition.

Case Report 7

A 33 years old fourth gravida with previous two abortions and 31 weeks of gestation with previous caesarean was admitted for posterior low lying placenta with complaints of abdominal pain, bleeding per vaginum. She was started on steroids and tocolytics. She is known case of GDM on MNT. In spite of initial measures patient was bleeding profusely, hence taken for emergency caesarean

section. Intraoperatively placenta was found to be invading the bladder serosa. Subtotal hysterectomy was performed along with the help of urologist and massive blood transfusion was done on ventilatory support. Postoperatively patient was weaned of Ventilator support and discharged along with baby on 22nd POD.

Case Report 8

A 25 years old primigravida with 32 weeks of gestation and dichorionic diamniotic twins was admitted for preterm premature rupture of membranes. Patient delivered on the day of admission vaginally. Immediately after delivery patient had atonic PPH. In spite of adequate medical management patient had profuse bleeding per vaginum and hypotension. Patient was shifted to OT and subtotal hysterectomy was performed on ventilatory support. patient was uneventful post operatively and discharged on POD 38 with her twin babies.

Case Report 9

A 30 years old female with obstetric score Gravida 2 para 1 live 1 and 39 weeks of gestation with single intrauterine pregnancy, previous normal vaginal delivery was admitted in view of labour pains. During

second stage with full cervical dilation labour did not progress hence vacuum cup and then forceps assisted delivery attempted but failed, So patient was shifted to OT for emergency LSCS. Patient had no intraoperative complications, episiotomy wound sutured, vaginal pack kept and patient was shifted to post op ward. On 1st POD after removing vaginal pack, patient had excessive bleeding per vaginum. Hence patient was shifted to OT and emergency Subtotal hysterectomy was proceeded. Postoperatively patient was stable without any complaints.

Case Report 10

A 23 years old second gravida with 36 weeks of gestation, previous cesarean section and referred as IUD. She was taken for emergency cesarean section. Intraoperatively it was found to be fresh IUD. Placenta was adherent to the lower uterine segment. Excessive bleeding occurred. Hence Total hysterectomy was done. 7 units of packed red blood cells were transfused. Post operatively patient was uneventful and discharged on POD 21 in stable condition.

Table 1: Clinical Presentation and outcome

Parameters	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	Case 10
Age(Years)	32	32	23	34	37	32	33	25	30	23
Obstetric score	G3P2L2	G3P1L1A1	Primi	Primi	G2P1L1	G3P1L1A1	G4P1L1A2	Primi	G2P1L1	G2P1L2
Previous delivery	Vaginal	LSCS	-	-	LSCS	LSCS	LSCS	-	Vaginal	LSCS
Gestational Age	39 weeks	36 weeks	35 weeks	35 weeks	37 weeks	32 weeks	31 weeks	32 weeks	39 weeks	36 weeks
Risk Factors	HOB	Previous LSCS Placenta accreta	Placenta previa	DCDA twins PPCM	Prev LSCS Placentaccreta	Prev LSCS Placenta previs	Prev LSCS Placenta GDM	DCDA twins	CPD	prev LSCS, IUD Placenta accreta
SIGNS										
Tachycardia	+	+	+	+	+	+	+	+	+	+
Hypotension	+	+	+	+	+	+	+	+	+	+
Desaturation	+	+	+	+	+	+	+	+	+	+
Pallor	+	+	+	+	+	+	+	+	+	+
Investigations										
Hemoglobin (grams)	6.2	7.2	6.4	7.4	6.8	7.6	7.0	7.2	6.6	7.2
Platelets(Lakhs)	3.4	2.4	2.6	2.4	3.2	3.4	2.8	2.6	2.4	2.6
Coagulation Profile	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Blood loss (ml)	1200	1800	2000	2000	2200	1800	2200	2000	2000	1800
Duration Of Stay	25 days	19 days	24 days	49 days	25 days	21 days	27 days	44 days	22 days	20 days
Outcome	Discharged	Discharged	Discharged	Died	Discharged	Discharged	Discharged	Discharged	Discharged	Discharged

DISCUSSION

In our case series placenta accreta spectrum was the most common cause leading to EOH. Post partum haemorrhage occupies the second place. Similar observation was made by Agarwal et al,^[10] in their study placenta accrete was the most common indication of peripartum hysterectomy in their study, accounted for 38.88%. Dobroslawa et al,^[11] also found placental pathology as the main indication accounted for 44.4%. Placenta accrete has been the most common indication for peripartum hysterectomy in study done by Razia et al.^[7] Variable rates of EOH have been reported worldwide. Incidence reported from India is 8.3/10,000, Nigeria 20/10,000, Europe, China 6.3/10,000, New

Zealand 4/10,000 and from the USA is 7.7/10,000 deliveries. Globally placental abnormalities have been reported as the leading cause of postpartum hemorrhage (PPH) and hysterectomy in 53.1% of obstetric hysterectomies in a study from China, 70% from the study from New Zealand and in 44% from Poland. The most common indication for obstetric hysterectomy in the past was uterine inertia, which has now been replaced by placenta accreta spectrum.^[12] The reason for a decrease in the incidence of uterine inertia is the availability of newer uterotonic drugs and techniques like arterial embolization. The increasing world-wide incidence of cesarean section (CS) is now being considered to be responsible for the rising rate of placenta accreta spectrum.^[13] Caesarean scar in the uterus is regarded

as the most important cause as embryo preferentially implants at the scar site as it requires low oxygen tension for its growth, leading to accreta and previa.^[14]

Atonic PPH was the second most common indication for peripartum hysterectomy in our study accounting for 32% of all cases. Due to the increased success of treatment with uterotonic agents, embolization and better surgical procedures, the incidence of PPH has declined relatively over the decades. However, this largely preventable indication for peripartum hysterectomy continues to predominate in developing countries due to lack of proper facilities and delayed patient admission from distant areas. PPH is unpredictable in onset, duration and etiology and it remains a major life-threatening complication of any delivery.^[15] Agarwal et al,^[10] also found atonic PPH as the second most frequent indication for hysterectomy in their study, accounted for 36.11% of cases. In studies done by Michelet D et al,^[16] and Marshall AL et al,^[17] the most common cause of peripartum hysterectomy was uterine atony, which complicates 1 in 40 births in the United States and is responsible for at least 75% of cases of peripartum hysterectomy. Chawla J et al,^[4] and Rathod et al,^[18] also found atonic PPH common indication for peripartum hysterectomy.

In our case series also placenta accreta spectrum was the most common cause leading to EOH and all these mothers had previous delivery by cesarean section. A cross sectional study done at Department of Pathology, Dow Medical College underscores that placenta accreta spectrum is the leading histopathological diagnosis in emergency obstetric hysterectomies.^[5] Another study done at Kasturba Hospital, New Delhi, India concludes that there is greater association of EOH with cesarean delivery compared to normal vaginal delivery.^[4] A retrospective study conducted in Italy concluded that the incidence of placenta accreta had increased from 0.12% in 1970s to 0.31% in 2000 at the same time the incidence of CS increased from 17% to 64%. This study concludes that reducing cesarean section rate might decrease the incidence of placenta accreta systems thereby reducing EOH and its morbidity and mortality. Placenta accreta spectrum can be diagnosed early in pregnancy using ultrasound. MRI may be used for difficult cases and for detection of depth of invasion in placenta percreta. These cases should be planned for early CS at 34-36 weeks of gestation under an expert multi-disciplinary team. In present study, 62% of the patients stayed in hospital for < 10 days, prolonged stay in hospital were mainly due to wound sepsis, febrile illness. 6 patients had stayed in hospital for more than 20 days because of bladder repair. In study by Varalakshmi et al,^[19] about half of the patients stayed in hospital for < 10 days and 6 patients had stayed for more than 20 days because of bladder repair.

There was one maternal death in the present study giving a mortality rate of 8%. Agarwal et al,^[10]

observed maternal mortality rate of 19.44% and Varalakshmi et al,^[19] reported 14.28%. All the maternal deaths were in unbooked or referred patients who were brought in a haemodynamically unstable condition with varying degrees of shock. There is a relationship between the decisions to perform the hysterectomy, the amount of blood loss and the likelihood that the hysterectomy will be complicated by coagulopathy, severe hypovolemia, tissue hypoxia, hypothermia and acidosis which further compromises the patient status. Proper timing and meticulous care may reduce or prevent maternal complications. Moreover family welfare services need to be strengthened. Family planning services need to be extended to eligible couples who have completed family and also to women with previous two caesarean section, to reduce the PAS disorder and the morbidity & mortality associated with it.

CONCLUSION

Peripartum hysterectomy is a lifesaving obstetric emergency that has potentially devastating consequences. The worldwide increase in caesarean section rates may lead to a rise in the number of peripartum hysterectomies required in the future because of morbidly adherent placenta. Thus, there is a need for institutions to monitor and reassess the indication of caesarean section to reduce the caesarean section rates. We conclude that reducing primary caesarean section rate might decrease the incidence of placenta accreta spectrum thereby reducing EOH and its morbidity and mortality.

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