

**EMERGENCY PERIPARTUM HYSTERECTOMY: A FIVE YEAR STUDY**K. Saritha<sup>1</sup>, G. Ratna<sup>2</sup>, V. Sireesha<sup>3</sup>**HOW TO CITE THIS ARTICLE:**

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**ABSTRACT:** Emergency peripartum hysterectomy is performed as a life saving measure in uncontrolled PPH. **OBJECTIVES:** To examine incidence, risk factors, indications, outcome and complications of emergency peripartum hysterectomy in a teaching hospital. **METHODS:** A 5 year prospective study conducted between January 2010 to December 2014. Demographic data, detailed history, clinical examination and relevant investigations obtained. **RESULTS:** The incidence of EPH in present study was 0.6 per 1000 deliveries. Most of these patients were young, mean age of 22.67 years, para 1 and 2, 84.21% were unbooked with no antenatal visits and delivered outside. Rupture of uterus was the commonest indication (42.10%) for EPH, followed by uterine atony (26.32%) and abnormal placentation (26.32%). Both total or subtotal hysterectomy were performed as a life saving measure after conservative measures failed. Maternal mortality in this study was 15.79%. Other complications noted were febrile illness, anaemia, coagulopathy, renal failure, wound infection. **CONCLUSION:** EPH performed for uncontrolled PPH is associated with significant mortality and morbidity. Its incidence can be reduced by regular antenatal check-ups, early detection and referral of high risk patients and updating knowledge and skill of doctors working in peripheral centres.

**KEYWORDS:** Peripartum Hysterectomy, Atony, Rupture uterus.

**INTRODUCTION:** Emergency peripartum hysterectomy (EPH) is a surgical procedure which is performed as a life saving measure to control massive postpartum haemorrhage (PPH) which is unresponsive to conservative measures. It includes both caesarean hysterectomy performed after caesarean section and peripartum hysterectomy performed after vaginal delivery.

Severe PPH was reported to occur in 6.7 per 1000 deliveries worldwide. It is one of the leading cause of maternal mortality and morbidity and represents the most challenging complication that an obstetrician will face.<sup>1</sup> the incidence of EPH varies from 0.3–6.2 per 1000 deliveries.<sup>2</sup>

The main indications for EPH have changed since 1980's, uterine atony and rupture have been overtaken by abnormal placentation in many studies. This is due to improved conservative management of uterine atony and reduced incidence of rupture uterus due to use of LSCS in preference to upper segment caesarean section and an increased incidence of morbidly adherent placenta. Previous caesarean section increases the risk of EPH and abnormal placentation is associated with previous uterine scar. The risk of EPH also increases with number of previous caesarean sections. Other factors associated with EPH are increased parity, advanced maternal age, multiple gestation. Conservative management of PPH includes uterotonics (Methyl ergotamine, oxytocin, PGF2 $\alpha$ , PGE analogs, uterine massage, uterine artery embolization, uterine packing, uterine and ovarian vessel ligation, B Lynch sutures, Cho sutures, internal iliac artery ligation.

The high incidence of peripartum hysterectomy in developing countries may be due to lack of availability of adequate blood and blood components which limit the time available for examining the effect of other conservative procedures.<sup>3</sup>

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In developing countries preventable factors such as uterine atony or uterine rupture is the most common indication for peripartum hysterectomy. The common causes of uterine rupture in developing countries include prolonged obstructed labour, rupture of previous caesarean scar, injudicious use of oxytocics and trauma from instrumental deliveries performed by untrained personnel. If rupture is extensive and haemorrhage cannot be controlled by uterine repair then hysterectomy may become necessary.

In a situation of massive PPH the obstetrician is faced with dilemma of a conservative compared with aggressive management approach, this choice should weigh the woman's desire for future fertility compared with the risk that further delay in EPH may lead to severe morbidity and maternal death.

The objectives of this prospective study are to examine the incidence, risk factors, indications, outcomes and complications of EPH performed in a tertiary teaching institution for the period from January 2010 to December 2014.

**MATERIAL AND METHODS:** This study was carried out in department of Obstetrics and Gynaecology, Siddhartha Medical College, a tertiary teaching hospital in Andhra Pradesh. Patients who had undergone emergency peripartum hysterectomy following postpartum haemorrhage between January 2010 to December 2014 (5 years) were included in the study. EPH was defined as hysterectomy performed in a life threatening condition of PPH. All deliveries after 28 weeks gestation and EPH within 24 hours after delivery were included. Both medical and surgical modalities were used to control haemorrhage before hysterectomy.

Detailed history was obtained in every patient. Clinical examination included vital data, pallor, height and tone of uterus, speculum examination to rule out injury to genital tract. Information obtained include demographic details, previous obstetric history, details of current pregnancy, antenatal visits, mode of delivery and outcome of delivery, PPH, indication for EPH, number of blood transfusions, intraoperative and postoperative complications. Information about total number of deliveries and caesarean sections during study period was obtained. Relevant investigations include complete blood picture, urine examination, blood sugar, renal and hepatic function tests and coagulation profile.

### RESULTS:

Year	No. of Cases	No. of Deliveries	Incidence of EPH (Per 1000 deliveries)
2010	5	5590	0.89
2011	4	5271	0.75
2012	1	5496	0.18
2013	5	6063	0.82
2014	4	6068	0.65
Total	19	28488	0.6

**Table 1: Year wise distribution of number of cases and incidence of Emergency Peripartum Hysterectomy (EPH)**

Incidence of peripartum hysterectomy was 0.6 per 1000 deliveries during study period.

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Age in years	Number	Percentage
<20	3	15.78
21-25	12	63.16
26-30	3	15.78
31-35	1	5.26
Mean age (SD)	22.67±4.036	
Range	20-35	
Parity		
	Number	Percentage
Primigravida	9	47.37
Gravida 2	7	36.84
Gravida 3	1	5.26
Gravida 4	1	5.26
Gravida 5	1	5.26
Gestational Age at Delivery in weeks		
28-36	10	52.63
37-41	9	47.36
Mean Gestational age (±SD) 36.21 (±2.61) Range 30-38 Wks.		
Antenatal care Booking status		
	Number	Percentage
Booked	3	15.78
Unbooked	16	84.21

**Table 2: Profile of patients Emergency Peripartum Hysterectomy.**

Mean age was 22.67 years, primi para and para 2. Mean gestational age was 36.21 weeks. 84.21 % of patients were unbooked.

Previous caesarean sections		
No. of C/S	Number of Patients	Percentage
1	4	21.05
2	3	15.78
<b>Total</b>	<b>7</b>	<b>36.84</b>

36.84 % of patients underwent caesarean section in the previous pregnancy.

	Conducted outside	In Institute	Total	Percentage
Vaginal delivery	6	-	6	31.57
Forceps delivery	8	-	8	42.10
Caesarean delivery	2	3	5	26.31

**Table 3: Mode of Delivery**

Forceps delivery accounted for 42.10% of deliveries

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Indication for EPH	Number	Percentage
Rupture uterus	8	42.10
	(Previous scar/Obstructed labour) 4	21.05
	Traumatic PPH 4	21.05
Uterine atony	5	26.32
Morbid adherent placenta	5	26.32
Inversion	1	5.26
<b>Table 4: Indication for Emergency Peripartum Hysterectomy</b>		

Uterine atony, morbidly adherent placenta accounted for 26.32 % cases each, followed by traumatic PPH.

Type	Number	Percentage
Total	<b>10</b>	<b>52.63</b>
Subtotal	<b>9</b>	<b>47.37</b>
<b>Table 5: Type of Hysterectomy</b>		

Total hysterectomy was performed 52.63% cases

Baby status	Number	Percentage
Live	10	52.63
Dead	9	47.37
<b>Baby weight at birth ( kgs)</b>		
<2	1	5.26
2- 2.5	2	10.53
2.6- 3	3	15.79
3.1-3.5	11	57.89
3.6-4	2	10.53
Mean 2685.71 Range 1500-3800		
<b>Table 6: Baby outcome</b>		

Intra & postoperative complications	Number	Percentage
Urinary bladder injury	3	15.79
Retroperitoneal haematoma	5	<b>26.32</b>
Extension of tear in to Broad ligament	5	<b>26.32</b>
Coagulopathy	3	15.79
ICU admission	6	31.57
Pulmonary Oedema	-	-
Reexploratory laparotomy	1	5.26
Wound infection	4	<b>21.05</b>
Acute Renal failure	1	5.26
Vault haematoma	3	15.79
Febrile illness	5	<b>26.32</b>
Anaemia	11	57.89
Blood Loss	19	100
Blood transfusion	19	100
Maternal Death	3	15.79
<b>Table 7: Perioperative Morbidity and Mortality</b>		

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**DISCUSSION:** Postpartum haemorrhage remains one of the most important causes of maternal mortality and morbidity. Peripartum hysterectomy is the ultimate step in the treatment of life threatening obstetric haemorrhage, which cannot be controlled by conventional methods. The obstetrician is faced with the dilemma of choosing conservative approach vs EPH as the choice should weigh the woman's desire for future fertility with the risk that further delay may endanger the woman's life.

During study period among a total number of 28488 deliveries, there were 19 cases of peripartum hysterectomy, thus frequency of emergency peripartum hysterectomy was 0.6 per 1000 deliveries, which is consistent with other studies.<sup>4,5</sup> The incidence reported by some authors is higher than our study.<sup>6,7,8</sup> Majority of patients who underwent peripartum hysterectomy were young with mean age of 22.67 years. Multipara was reported as risk factor but in the present study most of the patients were para 1 and 2. Majority (84.21%) of these patients were unbooked and received no antenatal care in the present pregnancy. Deliveries were conducted outside and referred to teaching hospital.

The commonest indication for EPH was rupture of uterus (Both scar rupture and traumatic), followed by uterine atony and morbidly adherent placenta. Other studies reported similar observations.<sup>3,5,9,10</sup> There is a significant change in the indication for EPH over a time and from one region to another. Some studies from developed countries reported uterine atony and rupture of uterus was less common among women who had EPH.<sup>9,11,12</sup> This could be result of advances in pharmacological and surgical modalities and widespread better antenatal and intrapartum care. The majority of rupture uterus in the present study was caused by injudicious use of oxytocics, forceps application and trial of labour with previous scar by unskilled birth attendants.

Abnormal placentation was the cause for EPH in one fourth of cases in this study. This could be due to increased rate of caesarean delivery. Abnormal placentation is higher in postcaesarean section compared to normal pregnancy.<sup>5</sup> A single caesarean increases risk of placenta previa by 0.65%, two caesarean sections increase risk by 1.5%.<sup>4</sup>

In the present study EPH was performed after trial of conventional methods failed to control the bleeding. Total abdominal hysterectomy was performed in 52.63 percent of patients and subtotal hysterectomy in 47.37 percent of patients. Some authors prefer to perform subtotal hysterectomy compared to total hysterectomy because of reduced surgical time, need for blood replacement and associated intra and postoperative complications.<sup>13,14</sup> The decision to perform total or subtotal was dependent on presence of bleeding deep in lower uterine segment and on the level of intraoperative risk to extract the uterine cervix and haemodynamic stability of patient.

Emergency peripartum hysterectomy is associated with a high incidence of maternal mortality and morbidity. The maternal mortality in present study was 15.79 percent. Other authors reported variable mortality rates Debjani (11.11%), Marwaha et al (12.2%), Nusrat Nissar et al (19%).<sup>5,6,15</sup> Higher mortality may be due to delay in arrival at the hospital, poverty, ignorance. All these patients were unbooked without antenatal care.

Other complications were shock due to massive blood loss. In our study all patients required blood transfusions. Febrile infections, urinary tract injuries, coagulopathy, wound infections, renal failure were other complications which were encountered.

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**CONCLUSION:** Emergency peripartum hysterectomy is associated with significant morbidity and mortality. The incidence of emergency peripartum hysterectomy was 0.6 per 1000 deliveries in present study. Rupture uterus was the commonest indication for EPH.

This is due to lack of skilled attendants and injudicious use of oxytocin. Other indications for EPH are uterine atonia and morbidly adherent placenta.

The incidence can be decreased by regular antenatal check-ups and referral and admission of high risk patients and up gradation of knowledge and skills of obstetricians practicing in peripheral areas.

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