

International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622
© Gynaecology Journal
www.gynaecologyjournal.com
2019; 3(1): 159-161
Received: 14-11-2018
Accepted: 18-12-2018

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Emergency peripartum hysterectomy: A five year study from a tertiary care hospital in Mysore, South India

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DOI: <https://doi.org/10.33545/gynae.2019.v3.i1c.28>

Abstract

Introduction: Peripartum hysterectomy is defined as a hysterectomy performed at the time, or within 24 hours, of delivery. It is certainly a lifesaving procedure when all medical and surgical methods fail to control bleeding.

Objective: To determine the incidence, indications, maternal and perinatal outcome of emergency peripartum hysterectomy (EPH).

Methods: A retrospective, analytical study of all patients who underwent peripartum hysterectomy over a period of 5 years from January 2014 to September 2018 in the Department of Obstetrics and Gynecology, JSS Hospital an associated hospital of JSS Medical College, Mysuru.

Results: There were 12 cases of peripartum hysterectomy (9 caesarean hysterectomies 75%, 3 postpartum hysterectomy 25%, making an incidence of 0.498/1000 deliveries. Most of the patients were para 8 (66.6%) were mostly in age group of 20-30 years and 10 (83.3%) belonged to rural areas. Overall the most common indication for emergency peripartum hysterectomy was uterine atony 9 (75%), abnormal placentation 3 (25%), uterine rupture 1(8.3%). One patient required total abdominal hysterectomy, 11 (91.6%) patients required subtotal hysterectomy. There were 2 (16.6%) maternal and 1 (8.3%) perinatal deaths; all were due to severity of conditions necessitating hysterectomy.

Discussion: Atonic uterus was the commonest indication for emergency peripartum hysterectomy. Previous scar, multiparity and abnormal placentation were the significant risk factors.

Conclusions: Emergency peripartum hysterectomy is potentially a lifesaving procedure, at times when all conservative surgical modalities fail and interventional radiology is not immediately available. It is associated with significant maternal morbidity and mortality.

Keywords: Emergency obstetric hysterectomy, maternal near miss, atonic PPH

Introduction

Emergency Peripartum Hysterectomy by definition is a life saving procedure performed at the time of delivery, vaginal or abdominal, or in the immediate post partum period in case of intractable obstetrical haemorrhage unresponsive to other measure [1]. such a haemorrhage may be due to abnormal placentation (eg. Placenta previa, accrete, increta or percreta), uterine atony, uterine rupture, accidental haemorrhage, leiomyomas, coagulopathy, sepsis or laceration of uterine vessel, not treatable by conservative measures. Maternal mortality rate associated with emergency hysterectomy ranges from 0 to 30%, with the higher rates in regions with limited medical and hospital resources [2]. One meta analysis reported an annual increase of 8% in the incidence of emergency peripartum hysterectomy around the world [3].

Our department being a part of a tertiary care teaching hospital receives a good number of complicated cases in emergency. There is sparse data about this from South Indian centres in scientific literature. This study was hence undertaken to review and critically evaluate the incidence, indications, maternal and neonatal morbidity and mortality associated with emergency peripartum hysterectomies.

Methods

This was a retrospective, analytical study of all patients who underwent emergency peripartum hysterectomy. Data of five year period from January 2014 to October 2018, from the medical records of department of Obstetrics and Gynaecology was collected in JSS Hospital, Mysuru, Karnataka, India.

Included for analysis were case data of all patients who delivered singleton infant or twins at hospital or outside hospital, booked or unbooked who underwent hysterectomy in postpartum period. We excluded data of women who delivered before 24 weeks of gestation, undergoing hysterectomy for indications other than obstetric and outside the stipulated time of 42 days.

After collecting relevant data from the operation theatre records, each patients case record was scrutinized with regard to incidence, age, parity, antenatal high risk factors, indications, hysterectomy type and complications, alongwith ultimate fetomaternal outcome. Data specifically on the incidence of emergency peripartum hysterectomy, the total number of deliveries, the maternal parameters, the indications of peripartum hysterectomy and associated maternal morbidity and mortality were recorded on a proforma. Data thus collected was subjected to appropriate statistical analysis.

Statistics

Statistical analysis was done using SPSS program. Categorical variables are expressed as numbers and percentage. Categorical variables were analysed using Chi square test and normally distributed continuous variables were compared by unpaired ttest. P value less than 0.05 was considered as significant.

Results

There were a total of 24052 deliveries. Among them 10141 (42.1%) were delivered by Emergency peripartum hysterectomy was performed in 12 cases (incidence = 0.498/1000 deliveries). Table 1 shows the basic demographic characteristics of women who had to undergo emergency peripartum hysterectomy. The age of the patient ranged from 20 to 41 years and women in the 20-30 years old age group constituted over 83.3%, those between 31-40 years and who were >41 years comprised 8.3% each. Most of the cases were Reffered. Majority of the women were multiparous (66.7%).

Figure 1.shows mode of delivery, 75% of the cases delivered by LSCS, 16.6% of cases by FTVD, 1 case delivered by instrumental delivery. Table 2. Shows- 83.3% of cases subtotal

hysterectomy was performed, while 16.7% of cases required total hysterectomy. Total hysterectomy was performed mainly for cases of low lying placenta, adherent or otherwise, where the removal of the cervix was considered mandatory for complete hemostasis. The most common indication for emergency peripartum hysterectomy was atonic PPH (75%), followed by abnormal placentation (25%).

It also shows frequency of intraoperative and post operative complications and need for ICU admission. 58.3% of cases required ICU admission. 50% of the patients went into DIC. 91.7% patients required blood transfusion. Two patients had cardiac arrest on the operation table following massive postpartum haemorrhage and could not be resuscitated and died on the operation table. There were 2 (16.6%) maternal deaths and 1 perinatal death, which was due to total necrotizing enterocolitis.

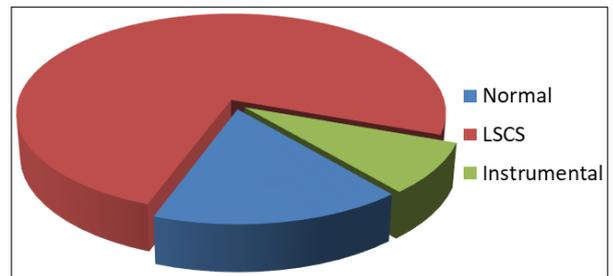


Fig 1: Shows mode of delivery

Table 1: Demographic characteristics of patients who underwent Peripartum Hysterectomy

Characteristic Feature		Total n, (%)
No of patients		12
Age in years	<30	10 (83.3)
	30-40	1 (8.3)
	>41	1 (8.3)
Referred/Booked at centre Parity	Referred	8(66.7)
	Booked	4(33.3)
	Primi	4(33.3)
	Multi	8(66.7)

Table 2: Clinical Characteristics of Patients who underwent Peripartum Hysterectomy

	Number (%)
Mode of delivery	
FTND	9(75)
LSCS	2(16.6)
Instrumental	1(8.3)
Type of hysterectomy	
Subtotal hysterectomy	10(83.3)
Total hysterectomy	2(16.6)
Cause for hysterectomy	
Atonic PPH	9(75)
Abnormal placentation	3(25)
Complications	
ICU admission	7(58.3)
DIC	6(50)
Bloodtransfusion	11(91.7)

Discussion

Storer performed the first cesarean hysterectomy in United States in 1869. Soon thereafter, Porro of Milan described the first cesarean hysterectomy in which the infact and mother survived. As a marks of honor, the procedure is frequently referred to as the Porro operation [4]. Cesarean hysterectomy traditionally is classified as elective and

emergency. Emergency peripartum hysterectomy is done to control intractable postpartum haemorrhage. However, there has been an upsurge in cases of post partum haemorrhage requiring hysterectomy [5]. Primary caescerean section is being on rising trend which attributes for raised surgical management of PPH in modern obstetrics. Rise in incidence of EPH is mainly due to a surge in complications like abnormal placentation and uterine

rupture, but also in the incidence of atonic post partum haemorrhage.

The incidence of EPH in our study was 0.49% which is similar to that reported from another study from India ^[6] (0.52%), Nigeria ^[7] (0.51%), (0.4%) in study done by Afaf RA ^[8] and Lah NA (2000). Other studies showed higher incidence than our study like 2.6/1000 deliveries reported by Kant and Wadhvani *et al.* ^[9] (2005), Sahu *et al.* ^[10] (2004) reported and incidence of 2.006/1000 deliveries in their study and Marwah P *et al.* ^[10] (2008) recorded 3.2/1000 deliveries.

In our study most of the patients undergoing EPH were multiparous (66.7%), and belonged to age group of 20-30years (83.3%), most of them were Referred cases (66.7%). Abnormal placentation, multiparity, previous cesarean section were significant risk factors. A study conducted by Knight *et al* concluded that EPH is strongly associated with age more than 35years and risk rises with parity greater than three and number of previous cesarean delivery ^[11].

The most common indication of EPH in our study was uterine atony (75%) followed by morbidly adherent placenta (25%) and uterine rupture (8.3%). This reflects the situation in most developing countries where atony accounts for the majority of cases of EPH, but also shows a rising contribution of placental causes, which is replicating the trend in the developed world studies from other tertiary care centres in India ^[12]. A Study conducted by Tapisiz OL *et al* in a tertiary hospital in Ankara, Turkey also revealed atonic post partum haemorrhage to be the most common indication for EPH ^[13].

In our study approximately 58% of parturients needed ICU admission similar to a study conducted by Taru gupta *et al* which showed 56% of patients needed ICU Admission ^[14].

In our study, there were 2 (16.6%) Maternal deaths, all were due to severity of condition necessitating hysterectomy. Similar rate of maternal mortality (17.7%) ^[15] was noted in a study conducted over a period of eight years by Chawla *et al.* Study conducted by Taru gupta *et al* showed lesser maternal mortality (10.1%) ^[14]. There were no maternal mortality in a study conducted by Mukherjee *et al.* ^[16]

Strength of our study is the duration of data collected is larger than similar studies from India. Also that the data has been collected from a single tertiary health care center, enabling better analysis of the maternal demographic parameters, maternal outcome associated with EPH.

Major limitation of our study is its retrospective design, so the cause and effect relationship cannot be established. Despite the limitations, the present study provides useful information for the planning in further management in future cases.

Conclusions

Peripartum hysterectomy is potentially a life saving procedure done in emergency situations. Although it curtails the future child bearing potential of the women, in many cases it saves the life of the mother. Most of its morbidity is attributable to its indications and underlying disorders rather than to the procedure itself. Other than, PPH morbidly adherent placenta, previous scar, multiparity were the significant risk factors which need further evaluation. Proper antenatal care, early referrals and booking in tertiary health centre certainly reduces the need for EPH. Liberal blood transfusions and reducing the number of primary cesarean sections are the keys to reduce morbidity and mortality associated with emergency peripartum hysterectomy.

Acknowledgments

We thank Dr. Sujatha MS Professor and Head Department of

OBG, JSS Hospital for her overall guidance. We are grateful to Mr. Shivananda Head, Medical Records Section JSS Hospital his cooperation and assistance during the study. We wish to express our sincere thanks to Dr. Mahesh M Professor of Internal Medicine for his kind advice in manuscript preparation.

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