



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

INCIDENCE, INDICATION AND OUTCOME OF EMERGENCY PERIPARTUM HYSTERECTOMIES IN A TERTIARY CARE HOSPITAL

KEY WORDS: Peripartum Hysterectomy, Placenta Accreta, Postpartum Haemorrhage, Morbidity, Mortality

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ABSTRACT

BACKGROUND: Emergency peripartum hysterectomy is the life-saving procedure to control a life-threatening haemorrhage performed at the moment or within 24 hrs of delivery (caesarean or vaginal). It is linked to a substantial percentage of maternal morbidity and mortality. **AIM:** To estimate the incidence, indication, and outcome of emergency peripartum hysterectomy over a 1-year period in a tertiary care hospital and the leading cause of the increased no of hysterectomies in the defined time interval. **MATERIAL AND METHODS:** This is a prospective study done in SMGS HOSPITAL, JAMMU, a tertiary care hospital. This study included all women who underwent emergency peripartum hysterectomy over a span of 1 year (August 1, 2021, to July 31, 2022). Detailed review including previous obstetric history, details of index pregnancy, an indication of peripartum hysterectomy, outcome, and infant morbidity was taken into account. **RESULTS:** During the course of the research, there were 33 women who had undergone peripartum hysterectomy. The incidence rate was 1.8 cases per 1000 births. The predominant indications were placenta accreta (69%), Atonic PPH (Postpartum haemorrhage) (18%), and uterine rupture (9%). Emergency peripartum hysterectomies were more prevalent after caesarean section (73%) than vaginal births (27%). Previous caesarean, multiparity, any past uterine surgeries, and older age were risk factors. 48% of women needed intensive care postoperatively. The common maternal complications were bladder injury (intraop) (12%), febrile morbidity (18%), disseminated intravascular coagulation (DIC) (8%), acute kidney injury (AKI) (9%), and wound infection (10%). There were 2 maternal deaths (6%) following emergency peripartum hysterectomy. The patient's condition was taken into consideration while deciding whether a complete or partial hysterectomy would be best. **CONCLUSIONS:** Abnormal placentation, placenta accreta, has surpassed uterine atony as the leading cause of emergency hysterectomy during the perinatal period in recent years. The primary reason for this is the growing popularity of caesarean sections. Peripartum hysterectomies for diagnosed cases of placenta accreta with antenatal anticipation of the risk factors, a multidisciplinary approach and ICU backup had better outcomes with less morbidity. An important factor influencing the maternal outcome was the timing of the decision to perform a peripartum hysterectomy which is neither too early nor too late.

INTRODUCTION

Obstetrics is “Bloody Business”. In cases of life-threatening haemorrhage, an emergency peripartum hysterectomy is the most difficult and life-saving obstetric procedure performed. Postpartum haemorrhage (PPH) is the most common cause of maternal death and disability across the globe. Emergency peripartum hysterectomy is done as a last option to save a woman's life when all other attempts to save the uterus have failed, despite the fact that several conservative interventions, medications, and surgical procedures have been developed throughout time [1]. The decision of hysterectomy should not be delayed to the point that disseminated intravascular coagulation (DIC) sets in and the patient could not be salvaged even after a hysterectomy.

In the past, the most frequent grounds for emergency peripartum hysterectomy were atonic PPH and uterine rupture but nowadays, placenta accreta has become the most prevalent indication owing to the increased number of caesarean sections [2]. Placenta accreta is strongly associated with placenta previa and placenta previa is associated with uterine scars, mainly due to previous caesarean section. Moreover, uterine rupture is associated with an emergency peripartum hysterectomy and uterine rupture occurs mostly after a previous caesarean scar. Hence, caesarean section itself increases the risk of emergency peripartum

hysterectomy [3]. Emergency peripartum hysterectomy can be total or subtotal. When an accreta is found in the lower uterine segment or active bleeding occurs from the lower uterine segment, a total hysterectomy is the most effective treatment option. As a result, patient won't have to undergo as many cytological tests or deal with complications like bleeding or discharge per vaginam as often. It decreases cervical stump cancer risk [4]. The advantages of subtotal hysterectomy is lesser blood loss, reduced operating time, reduced need for blood transfusion and reduced intra and postoperative complications[5].

We have gone through all the emergency peripartum hysterectomies done at our institute over a period of 1 year with the aim to evaluate the incidence, indication, complications and outcome of the procedure.

MATERIAL AND METHODS

We conducted a prospective analysis of all the cases of emergency peripartum hysterectomies performed in the department of obstetrics and gynaecology, SMGS Hospital, a teaching hospital and referral institute from August 1, 2021, to July 31, 2022 and collected data regarding the maternal characteristics like age, parity, gestational age, previous mode of delivery, previous uterine curettage, history of antepartum haemorrhage, post-partum haemorrhage and

what management techniques, if any, were tried before the decision of hysterectomy was taken. Data was also collected to determine the indication for surgery, type of hysterectomy, patient status, intra and post operative surgical and anaesthetic complications, need for blood transfusion required, ICU (Intensive care unit) admission, baby status, duration of hospital stay, and maternal death.

Peripartum hysterectomies for cancer and other medical indications or deliveries before 24 weeks of gestation were excluded from the study. The surgical procedures were performed by experienced consultant surgeons of the department. The case definition of peripartum hysterectomy was any hysterectomy performed for haemorrhage unresponsive to any treatment within 24 hrs of birth. Febrile morbidity was defined as a temperature >38°C measured at least 24 hrs after the surgery and repeated at least once and other causes of fever were excluded.

RESULTS

During this one-year study period, 18250 deliveries were performed with 33 emergency peripartum hysterectomies (rate of 1.8 per 1,000 deliveries). The incidence of emergency peripartum hysterectomy was higher after caesarean section (73%) than after vaginal delivery (27%) [6]. The mean age of the women in the study group was 34 years. As shown in Figure:1 of these 33 women, 1 (3.1%) were primigravida, 7 (21.2%) were second gravida, and the remaining 25 (75.7%) were multigravida. Only 2 women were booked in our institute and the other 31 (93.9%) were referrals.

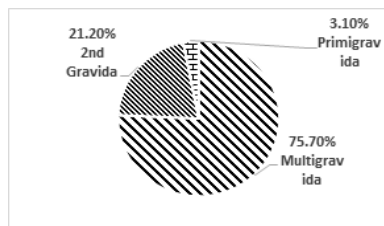


Figure 1: Distribution of Patients Undergone Emergency Peripartum Hysterectomy According to their Parity.

From Table 1 it can be analyzed that 20 (60.6%) patients had more than 36 weeks of gestation at the time of surgery, 6 (18.1%) had between 36 and 32 weeks, 4 (12.1%) had between 32 and 28 weeks and 3 (9.09%) had < 28 weeks of gestation at the time of surgery.

TABLE-1
Distribution of Patients Undergone Emergency Peripartum Hysterectomy According to Gestational Age

Gestational Age	No. of Hysterectomies	Percentage (%)
≥36 Weeks	20	60.6
32-36 Weeks	6	18.1
28-32 Weeks	4	12.1
<28 Weeks	3	9.09

As shown in Figure:2 only 5(15.1%) women had an unscarred uterus. 28 (84.8%) women had previous cesarean sections, of which 7 (21.2%) had previous one cesarean and 21 (63.6%) had undergone 2 or more previous caesareans [7].

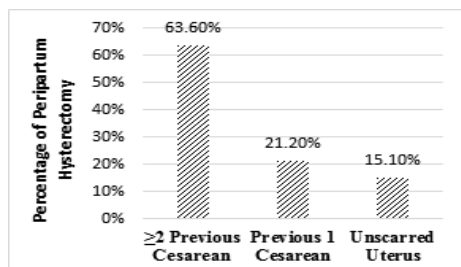


Figure 2: Distribution of Patients Undergone Emergency Peripartum Hysterectomy Acc to No. of previous Caesarean section.

The main indications for peripartum hysterectomy in this study is shown in Figure: 3 placenta accrete 23 (69%), atonic PPH 6 (18%), and rupture uterus 3 (9%) and abruptio placenta 1 (3.03%). All the women who presented with uterine rupture were referrals from some other institutes. Two-thirds of the patients with uterine rupture were hemodynamically unstable at the time of admission.

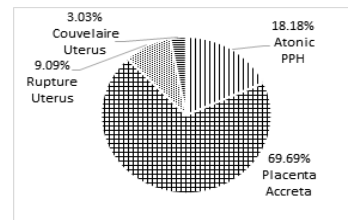


Figure 3: Indications of Emergency Peripartum Hysterectomy

Preoperatively, 9 (27.2%) patients were hemodynamically unstable and required resuscitation.

18 (54.5%) women required more than 4 units of blood transfusion and maximum amount transfused was 8 units in one patient. 22 (66.6%) patients were extubated on operation table after surgery while 11 (33.3%) had delayed extubation. About 16 (48.4%) patients were shifted to the Intensive Care Unit (ICU). In ICU, the maximum duration of stay was 9 days and minimum was 1 day. Two (6%) of patients who were shifted to ICU died. Both of them were referrals from outside and were hemodynamically unstable on admission and cause of death in both of them was atonic PPH. Subtotal hysterectomy was performed in 3 cases and there was no statistically difference in terms of duration of operation, blood loss, transfusion rate, and hospital stay. Pharmacological and surgical maneuvers were first tried to control haemorrhage in order to avoid surgery like oxytocin, methergine, carboprost, carbetocin and curettage was performed for suspected retained placental fragments, any cervical laceration and placental bed was sutured.

As mentioned in Table 2 the common maternal complications were bladder injury (intra-op) 4(12%), febrile morbidity 6(18%), disseminated intravascular coagulation (DIC) 2(8%), acute kidney injury (AKI) 3(9%), and wound infection 4(10%). There were 2 maternal deaths 2(6%). Most common complication was febrile morbidity.

TABLE-2
Complications of Emergency Peripartum Hysterectomy

Complications	Number	Percentage (%)
Bladder Injury	4	12
Febrile Morbidity	6	18
DIC	2	8
AKI	3	9
Wound Infection	4	12
Maternal Death	2	6

As shown in Table 3 out of 33 born infants, 5(15.15%) were documented IUD (3 in rupture uterus, 1 in abruptio placenta, 1 in placenta accreta at 27 weeks due to anti partum haemorrhage (APH)), 4(12.12%) had Apgar score of less than 6/10 (out of which 3 were born with gestational age less than 28 weeks) and rest 24(72.72%) had Apgar score of more than 6/10.

TABLE-3
Apgar Score of Babies Born by Emergency Peripartum Hysterectomy

Apgar Score	No. of Babies	Percentage (%)
0/10 (IUD)	5	15.15
≤6/10	4	12.12
>6/10	24	72.72

Discussion

In India, PPH is a substantial contributor to maternal mortality, along with other conditions such as sepsis and hypertensive disorders of pregnancy. A hysterectomy done during the peripartum period is a potentially life-saving procedure for a woman who had an obstetric haemorrhage that was difficult to control. There is marked reduction in maternal deaths from PPH due to active management of third stage of labour, drugs like misoprostol and uterine artery embolization. However, the reduction in fatality rate is just revealing the tip of an iceberg. As a result, the World Health Organization has placed an emphasis on the idea of maternal near miss. Any pregnant woman who undergoes peripartum hysterectomy thus could have potentially died without prompt medical attention and proper management.

Today's rising rate of peripartum hysterectomies is likely not due to improperly managed third-stage of labour or obstructed labour, but rather due to the widespread increased incidence of caesarean sections. This raises the possibility of a subsequent caesarean delivery. The risk of placenta previa and placenta accreta is eventually increased as a result of this. It is quite probable that an increase in the number of caesarean sections is to blame for the current trend of an increased incidence of peripartum hysterectomy.

According to our analysis, the incidence of peripartum hysterectomy is significantly increased over years in our institute although the indications have changed. This may be explained by the fact that our institution is a referral centre and that women are referred either after a complication or electively for surgery after detecting accreta in the antenatal period.

In our study, 84.8% of women had a history of previous caesarean section, and out of these, 63.6% had ≥2 caesareans. Peripartum hysterectomy rates are much greater in women who had a history of either one or two previous caesarean sections [6]. Placenta accreta has been the leading cause of it [9][10][11]. In our study, the most common indications of peripartum hysterectomy where placenta accrete (69%), atonic PPH (18%), and rupture uterus (9%). In a similar study from our institute 16 years ago, the main indications were uterine rupture (40%) followed by atony (28.7%) and adherent placenta (9%) [12]. The frequency of uterine rupture as an indication of emergency peripartum hysterectomy has drastically dropped from 40% to 9%. There was a total of 2 maternal fatalities and both of them were referral from the outside, with atonic PPH being the cause of death.

Conclusion:

There is shift from indication of peripartum hysterectomy from atonic PPH in past to placenta accreta being the commonest. This is due of increasing rates of caesarean sections and earlier diagnosis obtained by imaging. There was higher mortality in patients who underwent emergency peripartum hysterectomy due to atonic PPH. Emergency peripartum hysterectomies performed using a multidisciplinary approach and intensive care unit backup with diagnosed case of placenta accreta has better outcome with lesser morbidity. Antenatal anticipation of the risk factors, involvement of an experienced obstetrician at an early stage of management and a prompt hysterectomy after adequate resuscitation would go a long way in reducing morbidity and mortality.

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