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Original Research Article

Emergency peripartum hysterectomy and its association with cesarean section: a 3 years retrospective study

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ABSTRACT

Background: Emergency peripartum hysterectomy refers to the abdominal hysterectomy performed during or immediately after cesarean section or vaginal delivery, in a setting of life threatening haemorrhage. Over the past two decades, incidence of cesarean section has greatly increased which emerges as one of the cause for abnormal placentation in subsequent pregnancies thus resulting in increased incidence of haemorrhage. The unplanned nature of the surgery and acute blood loss renders the patient in a less than ideal situation to undergo such a dramatic surgery. Evaluation of risk factors, adequate resuscitation, involvement of senior obstetrician and timely decision for EPH in cases of refractory peripartum haemorrhage would help in significantly reducing the maternal mortality and morbidity. Objective was to study the association between cesarean section and emergency peripartum hysterectomy.

Methods: It is a retrospective study of all women who had undergone emergency peripartum hysterectomy between January 2015 to January 2018 in the Department of Obstetrics and Gynaecology, Guru Gobind Singh Medical College, Faridkot. Incidence, indications, risk factors and complications of emergency peripartum hysterectomies (EPH) were recorded.

Results: During three years period the overall incidence of EPH was 1.85 per 1000 deliveries.

Conclusions: Emergency peripartum hysterectomy is a challenging procedure performed in obstetrics when all other conservative methods to control uterine haemorrhage have failed. With increased incidence of cesarean sections the cause of emergency peripartum hysterectomy has greatly shifted from uterine atony to abnormal placentation. Abnormal placentation has now become the most commonly associated indication for EPH. Recognising and assessing patients at risk with appropriate and timely intervention would help in ensuring a better outcome in this otherwise difficult situation.

Keywords: Abnormal placentation, Cesarean section, EPH

INTRODUCTION

Emergency Peripartum Hysterectomy (EPH) is removal of uterus after 20 weeks of gestation for uncontrolled uterine bleeding not responding to conservative measures at the time of delivery or within 24 hours of delivery. It is the most demanding obstetrical surgery performed in very trying circumstances of life threatening haemorrhage. The increasing rate of the procedure in

developed countries such as the United States and Canada despite proper use of effective antenatal and delivery facilities, has been attributed to increasing caesarean section rate which predisposes to placenta previa and placenta accreta. Caesarean section predisposes women to ruptured uterus and placenta previa and accreta.

It is considered the most devastating complication in obstetrics resulting in high costs to the health care system

and adverse outcome for women desiring to maintain their fertility. Despite its significant association with increased maternal morbidity and mortality it is a potentially life saving procedure.

The incidence for Emergency Peripartum Hysterectomy in recent years has changed from traditional uterine atony to abnormal placentation i.e. placenta previa and morbidly adherent placenta.¹⁻³ This shift in etiology is due to several factors. The incidence of morbidly adherent placenta is increasing mainly due to increasing cesarean section rate.^{4,5}

The incidence of EPH in literature varies from 0.3 to 6.2 per 1000 deliveries.^{6,7} It is associated with significant maternal morbidity and mortality.

The incidence of abnormal placentation and rest of EPH increase with increasing number of prior cesarean section.⁸

According to study by Kwee A et al the incidence of placenta accreta, increta or percreta in women with one prior cesarean section has increased by 47-fold in women with four previous cesarean sections.⁵

Given the association of cesarean section with EPH, the increased risk of EPH should be factored into the decision of whether to proceed with cesarean delivery, particularly for women desiring more children.

METHODS

It is a retrospective study including all women who had undergone EPH between January 2015 to January 2018 in the Department of Obst. and Gynaecology, Guru Gobind Singh Medical College, Faridkot. All the women who had EPH were identified from labour ward. All surgeries were performed by senior consultants.

Medical and pathological records of the patients were reviewed retrospectively. Cases were ascertained via a review of the hospital obstetric database and by also checking operation theatre and pathology records. Antenatal women at and after 28 weeks of gestation were enrolled in the study.

Hysterectomy was performed shortly (within hours) after delivery. Both medical and surgical modalities were used to control the hemorrhage before hysterectomy. Information obtained from the medical records included demographic details, previous obstetric history, details of the current pregnancy and delivery, postpartum hemorrhage, indications for peripartum hysterectomy, outcomes of hysterectomy as intraoperative and postoperative complications, length of hospital stay, amount of blood transfused, and neonatal outcomes. Maternal complications such as maternal death, serious hemorrhagic, neurological, urological, infectious,

respiratory, renal, and thromboembolic complications were also noted.

All statistical analysis were done using Student's t-test and chi-squared test.

RESULTS

During three years period there were total 4589 deliveries. Out of which 2892 were vaginal deliveries and rest were cesarean deliveries.

Table 1: Risk factor of EPH with cesarean deliveries.

Risk factor cesarean section	Number	Rate of EPH per 1000 deliveries
No	2	0.43
Yes	15	3.25

The overall incidence of EPH was 1.85 per 1000 deliveries. The rate of EPH was 3.27 per 1000 cesarean sections and 0.43 per 1000 vaginal deliveries as shown in Table 1.

Table 2: Indications for EPH.

Indication	Number	%
Morbidly adherent placenta	11	64.72
Placenta previa without morbid adherence	3	17.64
Uterine atony	2	11.76
Uterine rupture	1	5.88

The most common indication for EPH was abnormal placentation as shown in Table 2.

64.72% women had morbidly adherent placenta (n=11) and 17.64% women (n=3) had placenta previa without morbid adherence. 11.76% of women had uterine atony and 5.88% had uterine rupture.

Prior to hysterectomy all the conservative means were tried. All the women received adequate resuscitation including blood transfusion.

Table 3: Complications of EPH.

Complications	Number	%age
Mortality	4	23.5
Sepsis	10	58.8
Acute renal failure	6	35.29
Bladder Injury	7	41.17
Vesicovaginal fistula	2	11.76

The maternal mortality was noted in four women i.e. 23.5% cases as shown in Table 3.

As shown in Table 3 other complications include sepsis, acute renal failure, bladder injury and vesicovaginal fistula.

DISCUSSION

The reported incidence EPH varies from 0.24 to 8.9 per 1000 deliveries which is comparable to present study.^{9,10} Zeteroglu et al reported the incidence of EPH to be as high as 5.09/1,000 deliveries in a teaching hospital, owing to more number of referral cases.¹¹

A difference in the incidence of EPH is noted following vaginal deliveries and cesarean section as shown in Table 1 which is comparable to current study.⁵

There has been a significant shift in the indication of EPH over a period of time and from one region to the other. Earlier on uterine atony was the commonest cause for EPH but now it has been replaced by abnormal placentation. This shift has been supported by many studies.^{12,13} Stanco et al reported that, 43.4% EPH were done due to uterine atony and 33.9% were done due to abnormal placentation. In 1993, they reported that in the same institution 45% EPH were performed due to placenta accrete and 20% were because of uterine atony.¹⁴ The findings in our study are consistent with the studies reported in the literature. Main cause of EPH being morbidly adherent placenta in 64.7% of cases followed by 17.6% of cases who had placenta previa without morbid adherence followed by uterine atony and uterine rupture.

This is probably because placenta previa accreta and uterine rupture tend to be relatively less amendable to medical and conservative surgical treatments and sometimes necessitate radical surgical interventions.

The complication rate in emergency peripartum hysterectomy is high, mainly because of need for multiple blood transfusion and transfusion related disorders, sepsis, coagulopathy, bladder injury and acute renal failure.⁵ Acute renal failure was noted in 35.29% (n=6) patients, which is probably because of hypovolaemic shock due to massive blood loss prior to EPH. Bladder injury was seen in 41.17% (n=7) cases. These patients had previous cesarean deliveries. Bladder injuries are due to scarring and adhesions in vesicouterine space that develop following previous cesarean delivery. Four (23.5%) patients had died after the EPH. In these two patients had developed acute renal failure followed by multiorgan failure and two patients had developed sepsis with multiorgan failure. The mortality rate following EPH in various studies conducted worldwide is variable, ranging from 4 – 4.5% to as high as 23.8%.^{5,15-17}

Higher rates of cesarean delivery contribute to higher rates of EPH. Because of grave consequences associated with cesarean sections, the decision to perform cesarean section should be undertaken only when the benefits

outweigh the potential risks and not on the maternal request.¹⁸

CONCLUSION

There is increase in incidence of Emergency Peripartum Hysterectomy because of placental abnormalities because of history of previous cesarean sections, so the incidence of primary cesarean section should be decreased. Performing cesarean section at maternal request should not be encouraged. The increased risks of EPH should be factored into the decision of whether to proceed with cesarean delivery particularly for women desiring more children. Improvement in female literacy level will improve socioeconomic status of women, increasing the number of women receiving antenatal care. Vigilant intrapartum care will help in reducing the EPH rate.

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