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A STUDY OF EMERGENCY PERIPARTUM HYSTERECTOMY

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ABSTRACT

Background: Peripartum hysterectomy is surgical removal of uterus at the time of delivery or following delivery. Complications associated with emergency hysterectomy includes severe blood loss, risk of transfusion, intra operative complications and significant post operative morbidity and mortality. **Method:** This study is done in 30 cases of peripartum hysterectomy performed over a period of 2 years in our hospital. Patients who required emergency peripartum hysterectomy at delivery and had gestational age more than 28 weeks were included in the study. **Results:** Out of 30 emergency peripartum hysterectomy cases in a 2 year period, maternal mortality was reported in 2 cases (6.67%). Perinatal mortality rate in our 2 years study period is noted in 10 cases (32.25%). Out of 30 cases, 12 were lost to follow up. Among 18 cases, early menopausal symptoms (10), pervaginal spotting and chronic leucorrhea (5 cases), 6 were followed with papsmear/vault smear which were negative for malignancy. **Conclusion:** Peripartum hysterectomy is the "near miss event" in both developed and developing countries. There should be availability of flying squad services for obstetric emergency cases and for this, provision of emergency ambulance facility services provided by the government has played a major role in quicker access for health care facilities. Further these measures will help in reducing maternal and perinatal morbidity and mortality in cases of emergency peripartum hysterectomy.

KEYWORDS

Peripartum hysterectomy, Postpartum hemorrhage, Placzenta previa, Uterine atony, Uterine rupture

INTRODUCTION

Peripartum hysterectomy is surgical removal of uterus at the time of delivery or following delivery.[1] Cesarean and postpartum hystetrectomy are included in it. Horatio Storer performed first obstetric hysterectomy in 1869 which revolutionsed the management of obstetric emergencies hence reducing the maternal mortality.[2] Incidence of peripartum hysterectomy varies from 0.4% - 0.8% higher in caesarean deliveries. Its incidence at any institution reflects the level of obstetric care and health care provided in that area.[3]

The incidence of emergency peripartum hysterectomy is 0.35-1.22/1000 births in developed countries and in developing countries it is 0.83-9.5/1000 deliveries, which also implies the high incidence of morbidity and mortality reported from developing countries. [4-6]

Various methods of management in 3rd stage of labour includes better antibiotics and use of prostaglandins, oxytocics and surgical methods like B-lynch suture, internal iliac artery ligation, Cho's sutures, Guna Sheela's Global circlage for total compression of uterus, where peripartum hysterectomy remains the last resort in critical circumstances at the cost of her reproductive capacity.

The main causes of Postpartum hemorrhage necessitating an emergency peripartum hysterectomy have changed. Uterine atony and rupture were most common but abnormal placentation is emerging these days. Abnormal placentation includes both placenta previa and morbidly adherent placenta, is thought to be rising because of increasing rate of caesarean section.

Emergency peripartum hysterectomy is associated with severe blood loss, risk of transfusion, intraoperative complications and significant postoperative morbidity and mortality. The high incidence of morbidity and mortality is reported from developing countries.

The WHO defines severe maternal outcome as a combination of maternal deaths and maternal near miss. An maternal near miss is a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy. To enable identification of near-miss cases, the WHO described near miss criteria, which have been validated in low-resource settings as a tool for assessing severe maternal morbidity; and these include clinical, laboratory and management markers.

Complications associated with emergency hysterectomy includes severe blood loss, risk of transfusion, intra operative complications and significant post operative morbidity and mortality. This study is done in 30 cases of peripartum hysterectomy performed over a period of 2 years in our hospital.

MATERIAL & METHODS

A Hospital based prospective observational study was conducted on 30 patients with emergency peripartum hysterectomy. This study was carried out in the department of obstetrics and gynecology, at our tertiary care centre.

Inclusion Criteria

- Patients who required emergency peripartum hysterectomy at delivery and had gestational age more than 28 weeks.

Exclusion Criteria

- Patients who had EPH before 28 weeks of gestation.

Detailed Procedure

All cases of peripartum hysterectomy performed over a 2 year period from 2019 to 2021 in a tertiary care hospital is studied. Basic demographic data regarding name, age, residence, socio economic status, diagnosis on admission, reason for referal, treatment received prior admission, present complication, previous significant histories contributing to the present condition are recorded. After initial diagnosis, details regarding the status of the patient on admission with respect to vitals, presence of shock, organ failure, need for vasopressor, blood transfusion and indication to perform hysterectomy is noted.

General physical examination including vitals, obstetric examination and systemic examination, indication to perform peripartum hysterectomy is noted, investigations are collected like Hb%, BT, CT, CRT, prothombin time etc. Failure of relatively innovative techniques, surgical technique involved, associated surgical complications are noted.

Results of the procedure with respect to incidence, most common

indication to perform peripartum hysterectomy, risks involved surgical complication, post operative need for ICU care, recovery rate associated with maternal and perinatal morbidity and mortality are inferred.

OBSERVATION AND RESULTS

- All cases of peripartum hysterectomy performed over a 2-year period from 2019 to 2021 in a tertiary care hospital is studied. Total 30 patients were included in the study as per inclusion as exclusion criteria.
- In present study, out of 30 patients, 22 patients of emergency peripartum hysterectomy were registered as compared to 8 patients who were unregistered. majority of cases belong to rural area (66.67%) and about (33.33%) from urban area.
- Of the total 30 cases of emergency peripartum hysterectomy, 8 cases (26.67%) of them had gestational age <36 weeks and 22 cases (73.33%) of them had gestational age >36 weeks.
- In this study, it was noted that emergency peripartum hysterectomy was most common in the age group of 21-25 years (53.3%) followed by 26-30 years (26.66%) and least number of cases belonged to the age group >30 years.

Table No. 01 Distribution of cases of emergency peripartum hysterectomy according to age of the patients

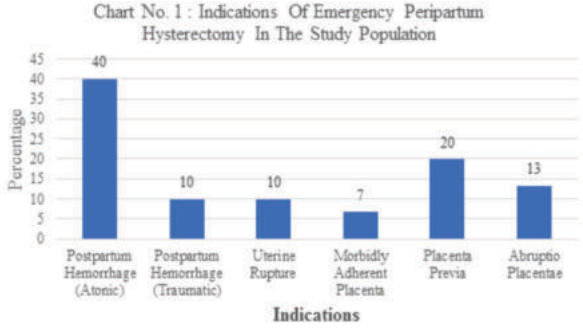
Age Group	No. Of Cases	Percentage (%)
<20	04	13.33
21-25	16	53.33
26-30	08	26.67
31-35	0	0
>35	02	6.67
Total	30	100

- Of the total 30 cases study, maximum number of emergency peripartum hysterectomy cases were seen in the 3rd para group – 10 cases (33.34%), followed by the 2nd and 1st para – 9 cases each (30%), and least number of cases in 4th para – 2 cases (6.66%).
- In the present study maximum status belong to class 5 and 4 i.e. 46.67% and 33.33% respectively and minimum of 6.66% cases belong to class 2.
- In this study of the total 30 cases, 21 cases were following caesarean section and 9 cases were following vaginal delivery. Among 9 cases, 1 was following forceps and 1 was following vaccum delivery.
- In this study, of the total 30 cases, (23.33%) 7 cases belong to low risk and (76.67%) 23 cases belong to high risk.

Table No. 02 : Distribution of cases according to risk category

Risk	Number	Percentage (%)
LOW RISK	7	23.33
HIGH RISK	23	76.67
- Twins	01	4.35
- PIH	08	37.78
- DM	-	-
- Anaemia	18	78.26
- Anaemia + PIH-	04	17.39

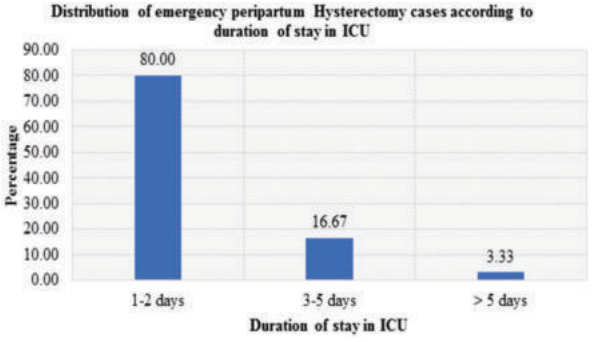
- In this study, of the total 30 cases, 12 cases were due to atonic PPH, 6 were due to placenta previa, 4 were due to abruptio placentae, 3 each due to traumatic PPH and uterine rupture and 2 were due to morbidly adherent placenta.



- Of the total 30 cases of emergency peripartum hysterectomy, all 30 required ICU admission, 14 cases were put on vasopressors, 3 cases (10%) had septicemia, 5 cases (16.67%) had urological injury and wound sepsis in 3 cases. Maternal mortality was reported in 2 cases (6.67%).
- In this study, of all 30 cases of emergency peripartum hysterectomy, live births were eventual outcome in 21 (67.74%) cases, IUDs + Still births in 8 (25.80%) cases and neonatal deaths in 2 (6.46%) cases.
- In present study, 13 babies out of 31 babies were of normal birth weight. 18 babies out of 30 were low birth weight. 3 babies out of 30 were of very low birth weight.
- In this study, prematurity was the commonest perinatal complication in patients of emergency peripartum hysterectomy (4 cases) followed by RDS (3 cases), followed by birth asphyxia(2 cases) and neonatal jaundice + prematurity was seen in 2 cases.
- Out of 30 cases of emergency peripartum hysterectomy 22 gave live births with one twin pregnancy, so total 23 babies. 9 were shifted to NICU (7 were discharged from NICU and 2 were neonatal deaths). In this study take home baby rate was 21 (67.74%).
- Of the total 30 cases, 10 cases were put on single agent vasopressor and 4 cases on multiple agent vasopressor.
- Of the total 30 cases, internal iliac artery ligation was done in 8 cases (26.67%), uterine artery ligation was done in 12 cases (40%) and B lynch sutures in 3 cases (10%) and the combination as shown in the table.

Surgical Intervention	Number	Percentage (%)
B-lynch suture	03	10.00
Uterine artery ligation	12	40.00
B Lynch + uterine artery ligation	02	6.67
Internal iliac artery ligation	08	26.66
Uterine artery + internal iliac artery ligation	04	13.33

- On observation of HPR reports obtained, gestational hypertrophy and hyperplasia was found in 23 cases (76.66%), rupture uterus in 3 cases (10%), 2 cases each of abruption and placenta accreta + placenta previa (6.67%).
- Out of 30 cases, 12 cases (40%) were lost to follow up. Among 18 cases, 10 patients had early menopausal symptoms, 5 patients had PV spotting and chronic leukorrhea. 6 patients were followed with a PAP smear/Vault smear and with sexual dysfunction in 2 cases.
- Majority of patients presented with vaginal bleeding as seen in 17 cases (56.66%), vaginal bleeding associated with decreased fetal movements in 4 cases (13.33%), labor pains in 8 cases (26.67%) and leaking PV in 1 case (3.34%).
- Among total 21 cases of LSCS done for emergency peripartum hysterectomy, 6 were due to Placenta Previa in bleeding phase, 4 due to Abruptio Placenta Grade III, 5 were due to fetal distress, and 3 cases each due to Impending scar rupture and rupture uterus.
- Of the total 30 emergency peripartum hysterectomy cases, 10 cases had mild anaemia, 6 cases each had moderate and severe anaemia and 8 were not anaemic.
- Among 30 cases of emergency peripartum hysterectomy, Pfannenstiel incision was taken in 28 cases (93.33%), Pfannenstiel Incision extended cranially in 1 case (3.33%) and Midline Vertical Incision in 1 case (3.34%).
- Mean blood transfusion was 4-5 pints of blood in 14 cases (46.7%), 6-10 pints in 4 cases (13.3%), and 1-3 pints in 12 cases (40%). Average time taken is 40 mins to 1 hour in 19 cases (63.3%). Total hysterectomy was done in 18 cases (60%) and subtotal hysterectomy in 12 cases (40%).
- Average blood loss during surgery was 1600-2000ml in 16 cases (53.33%), 1100-1500 in 10 cases (33.33%), and 2100-2500 in 4 cases (13.34%).
- All 30 cases of emergency peripartum hysterectomy had ICU admission, average duration of stay was between 1-2 days in 24 cases (80%), 3-5 days in 5 cases (16.67%) and for > 5 days in only 1 case (3.33%).



DISCUSSION

Peripartum hysterectomy is a major operation often done as an emergency procedure, associated with significant maternal and fetal morbidity and mortality. It has become unique challenge in obstetrics. There were 20,095 deliveries conducted during the study period. 30 cases of peripartum hysterectomies were done during this period with incidence of 0.14% which is comparable to Kastner et al[7] (0.14%) and Mukherjee et al[8] (0.15%).

In this study, it was noted that EPH was most commonly seen in 21-25 years (53.3%) followed by 26-30 years (26.67%) and least number were beyond the age group of 30 years. On comparison – Marhawa Parween et al,[9] incidence of 70% in the age group of 26-35 years was noted. Another study as described in Durban and in Ghana, incidence of 60% in the age group of 25-30 years was noted.

In present study, the majority were in the low socioeconomic strata. They belonged to Class 5 and Class 4 i.e., 46.67% and 33.33% respectively which is comparable to other studies Jindal et al[10] (40%), Marhawa Parween[9] (60%). It has been observed that women of lower socioeconomic status do not avail of the existing maternal healthcare services during pregnancy and at the time of delivery.

Out of 20,095 deliveries, 5604 were of caesarean section and 14491 were of vaginal deliveries. In present study out of 30 EPH cases, 21 were of c section and 9 were of vaginal deliveries. On statistical analysis, chi square test was applied and P value was found to be < 0.05 and hence this is statistically significant.

Most common indication of EPH is Atonic PPH, as seen in 12 cases (40%). Atonic PPH is the most common indication which is preventable by identification of high risk cases, early referral, timely intervention and by various techniques. One case was of primi with twin pregnancy, 2 cases had polyhydromnios, fetal macrosomia was present in one case and for the rest, augmentation of lobour with oxytocin was done.

The study reporting incidence of morbid adherent placenta (MAP) has been increased from 0.5 to 3.9% and the well known risk factors for MAP are placenta previa and previous caesarean birth. The EPH has been recommended as live saving procedure for MAP.[11]

In present study, rupture uterus was noted in 3 cases (10%) which is comparable to other studies.[10,12,13] Rupture uterus was significantly associated with risk factors like grand multipara in 1 case, third gravida in 2 cases, obstetric manipulation in 2 cases, injudicious use of oxytocin in 1 case. Low socioeconomic status, low educational status, unbooked and irregular ANC care, are all contributory factors leading to rupture uterus. Though a common obstetric problem, it is preventable.

In present study, Traumatic PPH was seen in 3 cases (10%) 3, Abruptiopalcenta with IUD was noted in 4 cases (13.33%), Wound infection was seen in 3 cases (10%), UTI in 2 cases (6.7%). Vesicovaginal fistula in 2 cases, Hypovolemic shock was noted in one case. Similar results were observed in other studies.[9,14,15] According to Jindal et al.[10] 10% women undergoing EPH died because of hypovolemic shock. DIC occurred in 3 cases giving incidence of comparable to others studies. [9,16]

Evaluation of late complications in all EPH cases where 12 cases were lost to followup. 10 patients had early menopausal symptoms like hot flushes, sweating, palpitations. 5 patients of subtotal hysterectomy had complaints of PV spotting and 6 were followed with a PAP smear who had inflammatory cervical smear with negative for intraepithelial lesion or malignancy. 5 patients presented with chronic leucorrhoea and were treated with antibiotics.

On comparing clinical complaints at admission, majority of cases presented with vaginal bleeding – 14 cases (46.66%), which includes cases of placenta previa and ruptured uterus. All 4 cases of abruption placenta presented with vaginal bleeding and decreased fetal movements. 11 cases (36.67%) presented with labor pains and leaking PV in 1 case (3.34%).

As per indication for LSCS, 5 Caesarean Sections (23.8%) were done due to fetal distress who later ended up in atonic PPH due to risk factors like induction with Dinoprostone, augmentation with Oxytocin, twin pregnancy, polyhydramnios etc.

Blood and blood products are liberally used in all cases and blood transfusion was done in 100% of cases and this can be compared to other studies.[13,15,17] Mean blood transfusion is 4-5 units of blood in 14 cases (46.7%). Blood transfusion plays a vital role in saving patients in cases of acute blood loss as during EPH surgeries.

Operating time taken is calculated from the time of incision to the end of procedure. Average time taken is 40 min to 1 hour in 19 cases (63.3%), maximum time taken was noted in 2 cases, 2 hour 10 min who had uncontrollable hemorrhage. Time taken for subtotal hysterectomy was less. Similar results were observed in other studies. [18,19]

In our study, total hysterectomy was done in 18 cases (60%) and subtotal hysterectomy was done in 12 cases (40%). Total hysterectomy is the choice but subtotal hysterectomy was done when patient condition was unstable. As subtotal hysterectomy is easy to perform when compared to total hysterectomy, it should be done in a setting where routine screening of ca cervix should be carried out. Both total and subtotal hysterectomies were done equally according to the study of M.K. Knight.[12]

Mean blood loss in our study was in between 1600-2000ml which was observed in 16 cases (53.4%) and 9 cases (30%) had blood loss in between 1100-1500ml and 4 cases (13.3%) had massive blood loss between 2100- 2500ml. Similar blood loss was noted other studies. [18,20] All cases of EPH required ICU admission giving 100%. Similar, MK Knight[12] study also reported high ICU admission of 84%.

CONCLUSION

Peripartum hysterectomy is the "near miss event" in both developed and developing countries. Emergency peripartum hysterectomy is the removal of uterus at the time of caesarean section, following caesarean section, immediately after vaginal delivery or in the period of puerperium in order to save maternal life.

Its prevention is the main goal in modern obstetrics and for this, there should be proper identification of high risk cases, early referral, timely performance of caesarean section, careful monitoring and timely procedures like B lynch and internal iliac artery ligation can reduce the near miss event of hysterectomy.

Though it is life saving in emergency obstetric conditions, it will be a painful dilemma for the obstetrician. The decision making for hysterectomy, especially in primi or in patients without living children remains a difficult one. So only it should be done judiciously weighing the need to sacrifice the obstetric future of the patient in favour of patient's life.

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