



A FIVE-YEAR REVIEW OF PERIPARTUM HYSTERECTOMY IN REGIONAL INSTITUTE OF MEDICAL SCIENCES, NORTH-EAST INDIA (MANIPUR).

Obstetrics & Gynaecology

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ABSTRACT

Emergency Hysterectomy is defined as cesarean hysterectomy or hysterectomy performed within 24 hours of delivery because of massive, life-threatening hemorrhage or sepsis after prolonged labour. The risk factors for hysterectomy are advancing maternal age, increased parity, previous cesarean scars and abnormal placentation. The study which have been undertaken was retrospective study. Data was collected from records of 36 cases peripartum hysterectomy performed during the period 2018(January) -2022(December) at Regional Institute of Medical Sciences (RIMS), Imphal Manipur. In our study the incidence of Peripartum Hysterectomy in last 5 years was 0.09%. In this study Peripartum Hysterectomy was mostly prevalent among the patients with age>30 years. 47.2% of the patients had history of previous abortion. 63.8% of the patients had number of parity between 1 – 2 which was significantly higher than other parity. 63.9% of the patients had period of gestation>37.0 weeks which was significantly higher than the patients with period of gestation≤37.0 weeks. The result of this study revealed that among the symptomatic presentations Post CS (22.4%) followed by Placenta Previa (16.7%) and Placenta Accreta (11.1%) were the most common causes of Peripartum Hysterectomy ($p<0.0001$). PPH (72.2%) was the most immediate cause of peripartum hysterectomy which was significantly higher than other immediate causes. In most of the cases (57.14%) less than 10 units of blood transfusion was required. The duration of hospital stay in 55.6% of the patients were between 1 – 2 weeks. Shock (44.4%) followed by ICU stay (33.3%) and IUD (29.4%) were significantly higher than others. Generally Emergency Hysterectomy is being performed on emergency basis due to lack of facilities in the district or other hospitals. Though the incidence is very rare tertiary centres must be well prepared with a multidisciplinary team approach to perform peripartum hysterectomy and post operative management to reduce the mortality.

KEYWORDS

Emergency Hysterectomy, cesarean scars, abnormal placentation

INTRODUCTION

Emergency Hysterectomy is defined as cesarean hysterectomy or hysterectomy performed within 24 hours of delivery because of massive, life-threatening hemorrhage or sepsis after prolonged labour.

^[1] It is the last resort to save a woman's life in cases where conservative measures fail and interventional radiology is not readily available.^[2] The first cesarean hysterectomy was performed by Horatio Storer in 1869.^[3,4]

Indications for Emergency Peripartum Hysterectomy have been changing over years, uterine atony and rupture uterus are now being replaced by abnormal placentation as a major cause of EPH. This change may also be due to the increasing tendency towards cesarean deliveries which predisposes to abnormal placentation.^[5] Severe postpartum hemorrhage continues to be the leading cause of maternal deaths accounting for 27% of deaths worldwide.^[5,6] The incidence of Emergency Peripartum Hysterectomy varies around the world ranging from 0.64 to 5.09 per 1,000 deliveries.^[7] The risk factors for hysterectomy are advancing maternal age, increased parity, previous cesarean scars and abnormal placentation.^[8]

OBJECTIVES

The study was retrospective study based on 36 cases peripartum hysterectomy performed during the period 2018(January)-2022(December) at Regional Institute of Medical Sciences (RIMS), Imphal Manipur. This study aimed at to assess the rate/ incidence of peripartum hysterectomy along with its indications and clinical implications.

RESULTS

The total number of deliveries during last 5 years (2018-22) was 39,981 out of which in 36 cases Peripartum Hysterectomy was required. Thus the incidence of Peripartum Hysterectomy in last 5 years was 0.09%.

The mean ($\pm$ s.d.) age of patients was 33.22 $\pm$ 5.77 years with range 21–42 years and median age was 35 years. 69.5% of patients were with age>30 years which was significantly higher than patients were with

age≤30 years (30.5%) ($Z=5.65$; $p<0.001$). Thus in this study Peripartum Hysterectomy was mostly prevalent among patients with age>30 years.

47.2% of patients had history of previous abortion ($Z=0.84$; $p=0.39$). The mean ($\pm$ s.d.) number of previous abortion of patients was 1.29 $\pm$ 0.47 with range 1-2 and the median number of previous abortion was 1. Out of 17 (47.2%) patients with previous abortion. 70.6% had single previous abortion.

The mean ($\pm$ s.d.) number of parity of patients was 2.39 $\pm$ 1.66 with range 0–8 and median number of parity was 2. 63.8% of the patients had number of parity between 1–2 which was significantly higher than other parity ($Z=4.67$; $p<0.0001$).

The mean ($\pm$ s.d.) period of gestation of patients was 35.55 $\pm$ 6.43 weeks with range 19.7 – 44.1 weeks and the median period of gestation was 37.9 weeks. 63.9% of patients had period of gestation>37.0 weeks which was significantly higher than patients with period of gestation≤37.0 weeks (36.1%) ($Z=3.95$; $p<0.0001$).

Among the symptomatic presentations Post CS (22.4%) followed by Placenta Previa (16.7%) and Placenta Accreta (11.1%) were the most common causes of Peripartum Hysterectomy ($Z=4.06$; $p<0.0001$). (Table-2) 9 (25.0%) were referred from other hospitals.

CS (66.7%) was the most common mode of delivery which was significantly higher than other modes of delivery ($Z=8.61$; $p<0.0001$) (Table-3). All the pregnant mothers had single fetus.

PPH (72.2%) was the most immediate cause of peripartum hysterectomy which was significantly higher than other immediate causes ($Z=3.60$; $p<0.0001$) (Table-4).

The mean ($\pm$ s.d.) number of blood transfusion of patients was 9.66 $\pm$ 9.45 with range 2 – 55 and the median number of blood transfusion was 7. In 35 (97.2%) cases blood transfusion was required. In most of the cases (57.14%) less than 10 units of blood transfusion

was required ($Z=2.83$; $p=0.0046$).

The mean ($\pm$ s.d.) number of duration of hospital stay of patients was 11.53 ± 9.03 with range 4 – 49 and the median duration of hospital stay was 8.5. The duration of hospital stay in 55.6% of patients were between 1 – 2 weeks (55.6%) ($Z=4.98$; $p<0.0001$).

Shock (44.4%) followed by ICU stay (33.3%) and IUD (29.4%) were significantly higher than others ($Z=4.24$; $p<0.001$). The mean ($\pm$ s.d.) duration of ICU stay of the patients was 3.25 ± 2.18 days with range 1- 9 days and the median duration of hospital stay was 3 days. For 12 (33.3%) patients ICU admission was required out of which 91.6% were discharged within one week ($Z=11.87$; $p<0.0001$) (Table-5).

DISCUSSION

A total number of 36 cases of peripartum hysterectomy were included in this study which was undergone at the study centre during the period of study. All the information of the patients was collected from the medical records of the patients. As per this the incidence of Peripartum Hysterectomy was 0.09% which was moderate one as per the available literatures (Table-1).

Table-1: Reported Incidences Of Obstetric Hysterectomy

Author	Incidence
Baskett (2003)19	0.53%
Bakshi and Meyer (2002)15	0.27%
Kant and Wadhvani (2005)23	0.26%
Sahu et al (2004)21	0.20%
Mukherjee et al (2002)17	0.15%
Kastner et al (2002)16	0.14%
Present study	0.09%
Parmeshwari Devi et al. (2004)20	0.07%
Sheiner et al (2003)18	0.05%
Mesleh et al (1998)14	0.03%
Kwee et al (2005)22	0.03%

As per this study the mean ($\pm$ s.d.) age of the patients was 33.22 ± 5.77 years with range 21 – 42 years and the median age was 35 years. 69.5% of patients were with age >30 years which was significantly higher than the patients were with age ≤ 30 years (30.5%) ($Z=5.65$; $p<0.001$). Thus in this study Peripartum Hysterectomy was mostly prevalent among patients with age >30 years. However, the mean age of the patients was 30.5 years^[4], 27.61 ± 5.04 years^[9], 30.25 years^[10] and 28.4 ± 3.8 years^[12]. Thus the mean age of patients of this study was higher than other studies.

In this study 47.2% of patients had history of previous abortion ($p=0.39$) which was higher than as mentioned by Agrawal et al. (22.22%)^[9] but it was lower than Tahmina et al. (50.0%)^[12].

According to this study 63.8% of patients had number of parity between 1–2 which was significantly higher than other parity ($p<0.0001$). The number of parity between 1-2 was in 38.46%^[4], in 52.0%^[9], 50.91%^[10], 49.09%^[11] and 36.0%^[13].

We found that 63.9% of patients had period of gestation >37.0 weeks which was significantly higher than patients with period of gestation ≤ 37.0 weeks (36.1%) ($p<0.0001$). Period of gestation >37.0 weeks was in 58.3%^[11].

The result of this study revealed that among the symptomatic presentations Post CS (22.4%) followed by Placenta Previa (16.7%) and Placenta Accreta (11.1%) were the most common causes of Peripartum Hysterectomy ($p<0.0001$). The indications were abnormal placentation in 19.2%, uterine rupture in 15.3%, instrumental delivery 7.6%, sepsis in 7.6% and couvelaire uterus in 1.0% of cases^[4]. The main indications were placenta accreta (38.88%), massive atonic PPH (36.11%) and uterine rupture (22.22%)^[9]. However, in a study conducted by Begum^[24] the incidence of abnormal placentation was 14.28% while in our study it is 16.17%. There is a rise in abnormal placentation due to increasing caesarean section rate. There were 16.5% cases with abruption placentae leading to couvelaire uterus and ultimately uterine atony not responding to general measure, which needs hysterectomy to save women's life. Noor reported 37.50% cases requiring EPH for abruptio placentae^[25] while Begum reported 14.28% cases requiring EPH for abruption placentae which is comparable to our study.^[10] The most common indications of peripartum hysterectomy were placenta accreta (60.0%), atonic PPH

(27.6%), and rupture uterus (7.5%).^[12] In our study PPH (72.2%) was the most immediate cause of peripartum hysterectomy which was significantly higher than other immediate causes ($p<0.0001$).

Morbidly adherent placenta was the second most common indication in six (20%) women. Two of them had previous one cesarean section, one had placenta previa with previous one lower segment cesarean section, two had placenta accreta, and one had history of manual removal of placenta in previous pregnancy.^[13]

In our study CS (66.7%) was the most common mode of delivery which was significantly higher than other modes of delivery ($p<0.0001$). The mode of delivery in women with peripartum hysterectomy was CS (50.0%) followed by vaginal (27.77%) and laparotomy (19.44%).^[9]

As per this study maternal mortality was (13.9%). The maternal mortality was comparatively high in the study.^[4] 60.0% of foetal mortality was in the cases with uterine rupture.^[9] The maternal mortality was 10.5% comparable to 9.3% reported by Ambie and Venkatraman^[24] and 8% reported by Afaf^[26], Mantri et al. reported 14% mortality^[27], Noor reported 17% mortality^[25] and Allahabadia et al. reported 32%^[28]. Sturdee et al. reported no mortality in their series of 47 cases^[29]. The perinatal mortality was low in our study (13.9%), compared to other studies which reported rates of 37% to 64%^[10].

CONCLUSION

This study revealed that most common cause of peripartum hysterectomy was PPH (72.2%).

Generally this hysterectomy is being performed on emergency basis due to lack of facilities in district or other hospitals. Though the incidence is very rare tertiary centres must be well prepared with a multidisciplinary team approach to perform peripartum hysterectomy and post operative management to reduce the mortality. Patients who underwent emergency peripartum hysterectomy due to atonic PPH had a higher mortality. Thus the clinicians must take care of the management of PPH for the high risk group and time of referral to the tertiary centres must be optimized.

Table-2: Symptomatic Presentation

Symptomatic presentation	Number	%
Post CS with PPH	8	22.4%
Placenta Previa	6	16.7%
Placenta Accreta	4	11.1%
Severe Pre-eclampsia	3	8.3%
GDM	3	8.3%
Uterine rupture	2	5.6%
Handled labour	2	5.6%
Obstructed labor	2	5.6%
Placenta Increta	1	2.8%
Anemia	1	2.8%
Cardio-respiratory collapse	1	2.8%
Inevitable abortion	1	2.8%
MTP @ home	1	2.8%
Cardio-respiratory collapse during 2nd stage	1	2.8%
Cord prolapse	1	2.8%
Early labour	1	2.8%
Failed MTP	1	2.8%
Abdominal trauma	1	2.8%
PPH following EMLSCS	1	2.8%
Post VBAC+ Placenta Previa + APH	1	2.8%
PRIMI+ Chorioamnionitis+Pyrexia	1	2.8%
PROM	1	2.8%
Threatened abortion+ APH	1	2.8%

Table-3: Mode Of Delivery

Mode of delivery	Number	%
CS	22	64.7%
Instrumental	5	14.7%
VD	4	11.7%
Hysterotomy	3	8.8%
Total	34	100.0%

Table-4: Immediate Cause Of Peripartum Hysterectomy

Immediate cause	Number	%
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PPH	26	72.2%
	18	50.1%
Previous CS	14	38.9%
Uterine rupture	8	22.2%
Broad lig hematoma	7	19.4%
Abruptio	2	5.6%
Perforation from D & C	1	2.8%

Table-5: Complications

Complications	Number (n=36)	%
Shock	16	44.4%
ICU stay	12	33.3%
IUD	10	29.4%
Maternal mortality	5	13.9%
DIC	3	8.3%
Bladder injury	2	5.6%
AKI	2	5.6%
Right ureter ligation	1	2.8%
Septicemia	1	2.8%
Cardiac arrest	1	2.8%
VVF	1	2.8%
AF embolism	1	2.8%

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