



PERIPARTUM HYSTERECTOMY IN A TEACHING HOSPITAL IN INDIA

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ABSTRACT

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“Peripartum hysterectomy is potentially a life saving procedure but the mortality and morbidity is high, especially if performed late when the hemodynamic instability has already set in. The final decision to perform subtotal or total hysterectomy should be influenced by patient’s condition”

Objectives: To find the incidence and clinical implications of peripartum hysterectomy in a tertiary care centre of India.

Methods: A retrospective study of all cases of caesarean and postpartum hysterectomy between January 2006 and December 2011. Maternal characteristics, method of delivery, indications for hysterectomy and complications were reviewed.

Results: The rate of peripartum hysterectomy was 0.47:1000 deliveries. Most were operative deliveries. The main indications were placenta accreta (38.88%), massive atonic PPH (36.11%) and uterine rupture (22.22%). Half the hysterectomies were subtotal while the rest were total. Maternal morbidity was high and there were seven maternal deaths (19.44%). All deaths were in patients brought in a critical condition to the hospital after massive blood loss.

Conclusion: Peripartum hysterectomy is potentially a life saving procedure but the mortality and morbidity is high, especially if performed late when the hemodynamic instability has already set in.

Keywords: Morbidly adherent placenta, uterine rupture, Peripartum hysterectomy, coagulopathy.

INTRODUCTION

Emergency peripartum hysterectomy is often performed as a life saving procedure to control haemorrhage that is unresponsive to conservative methods. Eduardo Porro performed the first successful operation in 1876¹. In the past, the most common indications for emergency peripartum hysterectomy were uterine atony and uterine rupture. Recent studies list placenta accreta as the most common indication especially in the developed countries due to an increase in the caesarean delivery rate².

The aim of this study was to find the incidence and clinical implications of peripartum hysterectomy in a tertiary care referral centre of India.

MATERIALS AND METHODS

A retrospective cohort study was performed to identify and analyse all cases of peripartum hysterectomy that were performed at Lady Hardinge Medical College & Smt. Sucheta Kriplani Hospital, New Delhi in India between Jan'2006 to Dec'2011. Case records were collected from the medical records department and maternal characteristics, indications for hysterectomy, complications and type of surgery were reviewed. The statistical analysis was conducted with the Microsoft excel and SPSS program.

RESULTS

During the six-year study period, there were 75912 deliveries with 36 peripartum hysterectomies identified (rate of 0.47 per 1000 deliveries). The demographic and clinical characteristics of women with peripartum hysterectomy are shown in table 1. There was one primigravida (2.77%), five primiparas (13.88%) and 30 multiparas (83.33%). Eighteen (50%) women were booked cases of our hospital, 16 (44.44%) were unbooked while 2 (5.55%) were referred from other hospitals. Most women were delivered operatively (table 2). Eight of the 36 women (22.22%) had a previous one CS;

Table 1: Demographic and clinical characteristics of women with peripartum hysterectomy

Characteristics	
Age (years)	27.61 ± 5.04
Gravidity	3.75 ± 1.38
Parity	2.11 ± 0.85
Period of gestation (weeks)	34.98 ± 6.73
Previous cesarean section; n (%)	16 (44.44%)
Previous curettage; n (%)	6 (16.66%)
Average duration of hospital stay (days)	13.3 ± 8.72
Blood transfusion (units)	5.77 ± 2.48
Fresh frozen plasma (units)	3.52 ± 3.71
Birth weight (kg)	2.23 ± 0.87

Table 2: Mode of delivery in women with peripartum hysterectomy

Mode of delivery	No.	%
Vaginal	10	27.77%
Operative vaginal	1	2.77%
Cesarean section	18	50%
Laparotomy	7	19.44%

The main indications were placenta accreta (38.88%), massive atonic PPH (36.11%) and uterine rupture (22.22%). Among patients with rupture, 75% of cases were unbooked and brought from peripheries in unstable condition with rupture uterus and an absent foetal heart. The remaining 25% of cases of uterine rupture occurred in admitted patients. All the admitted patients with rupture had a previous CS but the foetus was salvaged in all due to timely detection of rupture. There were two cases of elective hysterectomy while emergency hysterectomy was performed in 34 cases. The indication for both the elective surgeries was previous 2 CS with diagnosed placenta accreta on Doppler studies. There were no intra or post-operative complications in both. Table 3 shows the complications associated with the 36 cases of peripartum hysterectomy. Most

common complication was febrile morbidity, which was present in 9 out of 36 women (25%). Bladder injury occurred in four cases (11.11%) and all cases were associated with a prior caesarean delivery. Two patients had wound infection and resuturing was required in one. One patient had to be reexplored due to clinical evidence of internal bleeding. ICU admission was required in 24 (66.66%) cases. The mean duration of hospital stay was 13.3 ± 8.72 days. There were seven cases of maternal deaths. Four deaths were due to consumptive coagulopathy and the other three due to irreversible hemorrhagic shock and renal failure.

Table 3: Complications

Complications	No.	%
Febrile morbidity	9	25%
Paralytic ileus	1	2.77%
Wound infection	2	5.55%
Endotoxic shock	1	2.77%
Urinary infection	2	5.55%
Re-laparotomy	1	2.77%
Pelvic collection	2	5.55%
Bladder injury	4	11.11%
DIC	4	11.11%
Maternal death	7	19.44%

Subtotal hysterectomy was performed in 18 (50%) women while the rest 18 (50%) had a total hysterectomy. The comparison of both types of hysterectomy with regards to indication and complications in each is shown in table 4. Blood transfusion was required in all patients. The number of blood transfusions required ranged from 2 to 15 depending upon the blood loss. There was 27 % foetal mortality overall out of which 60% was in patients with uterine rupture.

DISCUSSION

The incidence of peripartum hysterectomy varies in literature from 0.2 to 0.85 per 1000 deliveries^{3,4}. In our study, its incidence was 0.47 per 1000 deliveries.

1000 deliveries. The incidence of peripartum hysterectomy occurring with a history of previous CS has increased significantly over the last few decades. In the present study, 44.44% of patients had a history of either one or two previous caesarean sections. This is consistent with findings in recent literature, with a range from 18.8 to 60.5%^{5,6,7}.

Table 4: Comparison according to the type of hysterectomy

	Subtotal hysterectomy	Total hysterectomy
Indications		
Placenta Accreta	7(19.44%)	7(19.44%)
Atonic PPH	7(19.44%)	6(16.66%)
Uterine rupture	4(11.11%)	5(13.88%)
Blood transfusion >4 units	12(66.66%)	12(66.66%)
Intraoperative complications		
Bladder Injury	3(16.66%)	1(5.55%)
Post operative complications		
Coagulopathy	3(16.66%)	1(5.55%)
Wound infection	2(11.11%)	0(0%)
Febrile Morbidity	3(16.66%)	6(33.33%)
Death	5(27.77%)	2(11.11%)

The association between the incidences of peripartum hysterectomy with a history of previous CS is mainly because of the occurrence of morbidly adherent placenta. In the present study, placenta accreta was the primary indication for peripartum hysterectomy and accounted for 38.88% of our cases of peripartum hysterectomy. Seventy one percent of these cases of placenta

accreta had a history of at least one CS in the past. There has been a remarkable increase in the incidence of placenta accreta over the past 50 years and it has been the most common indication for peripartum hysterectomy in recent studies where it has accounted for 38 to 50 % of all cases of peripartum hysterectomy^{8,9,10,11}.

Uterine atony was the second most frequent indication for peripartum hysterectomy in our study accounting for 36.11% of all cases. The incidence of atonic PPH has declined relatively over the decades due to the increased success of treatment with uterotonic agents, embolization and better surgical procedures. However this largely preventable indication for peripartum hysterectomy continues to predominate in developing countries due to lack of proper facilities and delayed patient admission from distant areas².

Rupture of the uterus accounted for 22.22% of all cases of peripartum hysterectomy in the present study. There has been a significant decrease in the incidence of uterine rupture as the indication for peripartum hysterectomy in the developed world where it accounts for only 4% of cases of peripartum hysterectomy¹² but it continues to be a predominant indication in developing countries like ours due to grand multiparity, lack of antenatal care and unsupervised labour at home¹³.

The choice between subtotal and total hysterectomy has long been debated. Total hysterectomy is the preferred surgical method due to the potential risk of malignancy developing in the cervical stump. However, proponents of subtotal hysterectomy report lesser blood loss, reduced operating time and reduced intra and postoperative complications¹⁴. Studies have shown that both types of hysterectomies are comparable with regards to blood loss and complication rates rupture^{9,15}. Ironically, in the present study, there was a higher incidence of intraoperative and

postoperative complications in the subtotal hysterectomy group which may be explained by the fact that it was carried out in moribund patients to reduce the operative time. The final decision to perform subtotal or total hysterectomy should be influenced by patient's condition. Hence, while total abdominal hysterectomy is a desirable procedure, subtotal hysterectomy may be a better choice in certain conditions where surgery needs to be completed in a shorter time¹⁶.

There were seven maternal deaths in the present study giving a mortality rate of 19.44%. The maternal mortality in previous studies has ranged from 1.1% to 16.7%^{17,2}. This high mortality rate may be related to the characteristic of our hospital as a referral hospital. All the maternal deaths were in unbooked or referred patients who were brought in a hemodynamically unstable condition with varying degrees of shock.

There were few limitations of the present study. A potential limitation was the small number of cases and its retrospective nature. Several aspects of peripartum hysterectomy could not be commented upon because of lack of documentation of information.

To conclude, emergency peripartum hysterectomy is an obstetric emergency that has potentially devastating consequences. The worldwide increase in caesarean section rates may lead to a rise in the number of peripartum hysterectomies required in the future because of morbidly adherent placenta. Thus, there is a need for institutions to monitor their caesarean section rates. Also, there is a need for more effective implementation of family welfare and reproductive health measures in the developing nations to reduce the incidence of life threatening obstetric haemorrhage and uterine rupture.

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