

Emerging Trends in Peripartum Hysterectomy; A High Alert in Obstetrics

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Author's Contribution

¹ Conception of study

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Abstract

Objective: Peripartum hysterectomy is one of the major obstetrical procedures that need to be performed electively/emergency in patients having morbidly adherent placenta (MAP) for the sake of the patient's life.

Need to conduct this study arises because we want to highlight the increasing rate of peripartum hysterectomy secondary to MAP, the emerging trend of increased LSCS in our socio-demographic strata, and its effects on maternal morbidity and mortality.

Materials and Methods: This was a retrospective study which was carried out in the Department of Obstetrics and Gynaecology Unit II, Holy Family Hospital, Rawalpindi. All patients who underwent peripartum hysterectomy were included in the study. Data was collected from record files and labor room registers in accordance with ethical guidelines.

Results: Out of 11,440 deliveries in one year, 60 patients underwent peripartum hysterectomy with an incidence of 5.2 per 1000 deliveries. The majority of patients (87%) fell in the age group of 25-33 years. 4(6.6%) patients undergone peripartum hysterectomy for postpartum hemorrhage (PPH) due to uterine atony, 3(5%) due to the ruptured uterus, and 53(88%) due to MAP. All patients who had undergone a peripartum hysterectomy due to MAP were previously scarred for LSCS (100%). 5% with previous 1 LSCS, 31% with previous 2 LSCS, 44% with previous 3 LSCS and 18% with previous 4 LSCS.

Conclusion: The high incidence of peripartum hysterectomies in young patients secondary to MAP highlights the need for critical review and audit of indications of primary LSCS and repeat LSCS. It also highlights the need for expertise at the time of surgery to decrease the rate of maternal morbidity and mortality.

Keywords: Morbidly adherent placenta, peripartum hysterectomy, uterine atony, lower segment caesarean section, postpartum hemorrhage.

Introduction

Peripartum hysterectomy is one of the life-saving procedures that might need to be performed at the time of delivery or just after delivery in the postpartum period.¹ Previously it was rarely needed to be performed because of decreased number of lower segment caesarean sections but whenever this procedure needs to be performed it was associated with increased morbidity and mortality. It is not only distressing for the patients and their families but it also strongly stressed out the surgeons and the health care system as well. Not only this procedure itself costs very high to the health care system but the need for blood and blood products, ICU care involvement of multidisciplinary teams makes it a financial and social burden for the health care providers and the system. The devastating outcomes secondary to this procedure include the need for surgical expertise, involvement of general surgeons, injury to adjacent structures like bowel and bladder, loss of fertility, increase surgical time, febrile illness, sepsis, blood reactions, anaesthesia, and ICU related complications, re-exploration, and even death.^{2,3}

Although it is a stressed and burdening procedure peripartum hysterectomy is one of the life-saving major obstetrical procedures that need to be performed as a last resort for the mother's life in cases of life-threatening haemorrhage at and after the time of delivery. The incidence of this procedure is different at different places and varies between 0.24-8.9 / 1000 deliveries from time to time.⁴ The incidence itself is dependent on a number of factors like availability of resources, the literacy rate among females of reproductive age, antenatal care, availability of adequate health resources, and awareness about hazards of surgical procedures. One of the major and independent risk factors of morbidly adherent placenta is a mode of delivery that profoundly affects the incidence of peripartum hysterectomy. The incidence of this procedure is found constant after vaginal deliveries from 0.1- 0.3 / 1000 deliveries but varies from 0.17-0.70 / 1000 in abdominal deliveries.⁵ The presence of morbidly adherent placenta is very high in patients who previously have lower segment caesarean sections.⁶ The incidence of this procedure is rising worldwide and the reasons previously responsible for the performance of this procedure like uterine rupture and atony are now greatly replaced by morbidly adherent placenta secondary to increased lower segment caesarean sections.⁶

Peripartum hysterectomy is one of the life-saving procedure lead to more vulnerable, unplanned and unpredictable outcomes in patients. The need for speed and expertise at the time of surgery and the involvement of senior health care providers matters a lot. Increased acute blood loss and the need for replacement with blood and blood products endanger the patient's life by both means.⁷ Identification of risk factors, triage of patients, anticipation about the emergency need of this procedure in specified patients, counselling, anemia correction, use of MRI and Doppler USG, assessment by a senior obstetrician, and involvement of multidisciplinary teams may have promising effects. The timely and appropriate intervention would ensure better outcomes and might help to avoid difficult situations.⁸

This study highlights the increasing rate of peripartum hysterectomy secondary to MAP, the emerging trend of increased LSCS in our population, and its impact on maternal morbidity and mortality.

Materials and Methods

This is a retrospective cohort study that was carried out in the Department of Obstetrics and Gynaecology Unit II, Holy Family Hospital, Rawalpindi from 1st September 2019 to 31st August 2020. All patients who underwent peripartum hysterectomy were included in the study. Data was collected from record files, labor room, and operation theater registers in accordance with ethical guidelines and was recorded on a predesigned proforma. Peripartum hysterectomy was defined as a hysterectomy performed in a life-threatening condition of postpartum hemorrhage. All deliveries were performed after 24 weeks of gestation, and the 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. Maternal complications such as maternal death and serious hemorrhagic, neurological, urological, infectious, respiratory, renal, and thromboembolic complications were also checked. Data was recorded on a predesigned proforma and analyzed using SPSS version 21. Percentages and frequencies were calculated.

Results

Out of 11,440 deliveries conducted in one year, 7021(61.4%) patients deliver vaginally while 4419(38.6%) patients by lower segment caesarean section. 60 patients underwent peripartum hysterectomy for different reasons. 55 patients (91.6%) were with previous LSCS and 5 patients (8.4%) with previous vaginal deliveries. In our study, the incidence of peripartum hysterectomy was 5.2 per 1000 deliveries. The primary LSCS rate was 40.8% and the repeat LSCS rate was 59.2% in our study. A maximum number of patients (87%) was fall under the age group of 25-33 years.

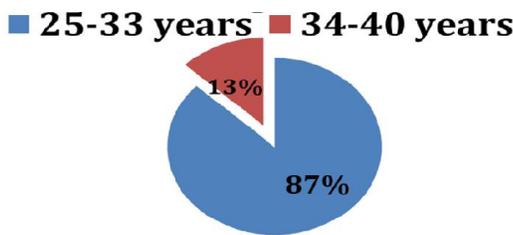


Figure 1: Age

4(6.6%) patients undergone peripartum hysterectomy for postpartum hemorrhage (PPH) due to uterine atony, 3(5%) due to the ruptured uterus, and 53(88%) due to MAP.

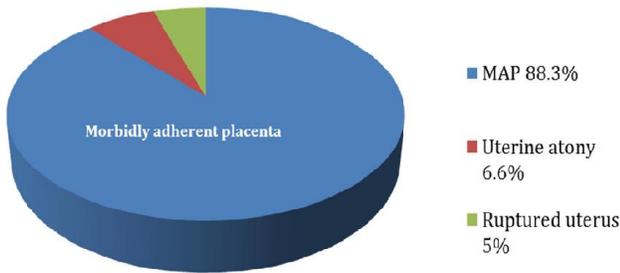


Figure 2: Causes

All patients who have undergone a peripartum hysterectomy due to MAP were previously scarred for LSCS (100%). 5% with previous 1 LSCS, 31% with previous 2 LSCS, 44% with previous 3 LSCS and 18% with previous 4 LSCS.

Morbidity adherent placenta

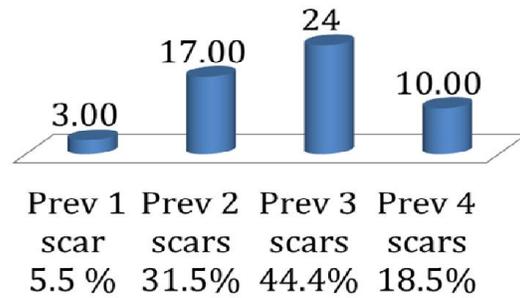


Figure 3: Morbidly adherent placenta

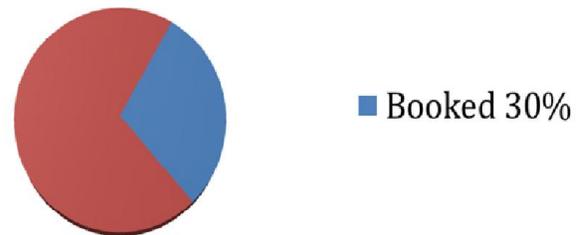


Figure 4: Booking Status

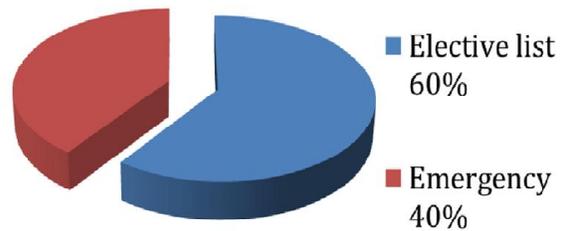


Figure 5: Elective / Emergency

Average blood transfusions were 5-8. 80% of patients shifted to ICU postoperatively for ventilatory support. There were 3(5%) maternal mortalities noted in the study population. The average hospital stay was 10-14 days.

Discussion

Peripartum hysterectomy is an unavoidable procedure in cases of MAP in this era where there is an increasing trend of LSCS. This increased trend of lower segment caesarean section ultimately increases the incidence of placenta previa and accreta. The indications of peripartum hysterectomy are markedly changed in the last few decades from obstructed labor, unmanaged third stage/ruptured uterus to MAP with previous LSCS scar.^{9,6}

We have conducted this study in a tertiary care center with full facilities of multidisciplinary teams. In our

setup, the primary LSCS rate increased from 27% to 40.8% in the last few years. This is comparable with other studies that also show an increase in caesarean section rate. The ideal rate for caesarean sections by the international healthcare community range from 10 to 15% which was based on a meeting held in Brazil in 1985 by WHO in which they recommended that there is no justification for a rate higher than 10–15% in any region.¹⁰ In the past few years, the trends changed leading to rising rates of Caesarean sections from 2% in Africa to 50–60% in Latin America and the Dominican Republic.^{11,12} Between 1970-2009 the caesarean section rate had risen from 4.5% to 32.9% in the UK.¹³ Establishment of private setups in Brazil lead to more than 90% births by caesarean sections in comparison to less than 30–40% births at government setups.^{14,15}

In literature, the incidence of peripartum hysterectomy ranges from 0.24-5.09/1,000 deliveries.¹⁶ Incidence of peripartum hysterectomy has drastically increased from 3.8% to 5.2% in our institute. 88% of patients underwent peripartum hysterectomy due to MAP and they all were previously scarred for LSCS. The placenta accrete spectrum rate in China increased from 0.1 to 2.1% in 2007-2008 to 2015-2016, along with an increase in elective repeat caesarean section from 5.0%-38.4%. Just like in our study another study done in Dublin also showing indications of peripartum hysterectomy has significantly changed with uterine rupture contributing from 40.5%-9.3% and now placenta accreta contributing from 5.4%-46.5% secondary to previous lower segment cesarean sections were markedly increased from 27%-57%.^{17,18}

On the contrary of our study, a study in North India in which they were able to collect data of 56 cases of peripartum hysterectomies in 8 years but we collected data of 60 patients who underwent a peripartum hysterectomy in 1 year which is quite alarming.^{19,20} One of the reasons is our institute being a referral center and women are referred either after a complication or electively for surgery after diagnosing low lying placenta with scar or accreta in the antenatal period but still such a high number of young patients in short duration of time with MAP along with LSCS highlights the need of critical evaluation. As peripartum hysterectomy is an unavoidable procedure in cases of MAP and might need to save a patient's life. So in our view as being the leading cause of MAP is previous LSCS, so indications of LSCS needed to be justified, and clinical expertise needs to be involved in the decision of LSCS in primary patient and previous 1 LSCS.^{21,22}

Conclusion

The high incidence of peripartum hysterectomies in young patients secondary to MAP highlights the need for critical review and audit of indications of primary LSCS and repeat LSCS. It also highlights the need for counseling regarding contraception and increased patient literacy regarding the compliance of birth spacing. At the same time in case of diagnosis of MAP with scans need surgical expertise to decrease maternal morbidity and mortality.

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