

Original Research Article

Determine the frequency of peripartum hysterectomy in placenta previa

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ABSTRACT

Background: Peripartum hysterectomy is one of the life saving procedure performed after vaginal delivery or caesarean birth or in the immediate postpartum period in cases of intractable haemorrhage due to uterine atony, rupture uterus and placental disorders and it is usually reserved for the situations where conservative measures fail to control the haemorrhage. The objective of the study was to determine the frequency of peripartum hysterectomy in placenta praevia. **Methods:** The study was cross-sectional. It was conducted at the Department of Obstetrics and Gynaecology, Punjab Medical College and affiliated Hospital, Faisalabad. Study was carried out over a period of six months from October 2010 to March 2011. Total 130 cases of placenta praevia undergone caesarean section were included in this study. In cases of primary postpartum haemorrhage conservative management was done first in the form of intramuscular syntometrine (Oxytocin 5 IU/ergometrine 0.5 mg). Intravenous infusion syntocinon (40 IU in 500ml 0.9% saline over 4-6 hours).

Results: Mean age of the patients was found to be 30.9±6.7 years. Distribution of cases by gestational age shows, 52 (40.0%) patients had gestation of 28-36 weeks and 78 (60.0%) patients had gestation of 37-41. Mean gestational age was observed 37.5±3.4 weeks. Parity distribution was as follows: 76 (58.5%) patients had parity 0-3, 34 (26.1%) patients had parity 4-6 and 20 (15.4%) patients had parity > 6 with mean parity of 3.2±1.9. Conservative management was done in 129 patients (99.3%). Peripartum hysterectomy was found to be in 1 patient (0.7%).

Conclusions: Placental pathology is the leading cause of postpartum hemorrhage and the main indications of peripartum hysterectomy. Timely operation minimizes the morbidity and mortality.

Keywords: Placenta praevia, Peripartum hysterectomy, Caesarean section

INTRODUCTION

Peripartum hysterectomy is defined as any hysterectomy performed within 24 hours of delivery. It is usually performed in the presence of life threatening obstetrical haemorrhage that can lead to severe complications like disseminated intravascular coagulopathy, renal and hepatic failure, death.¹

The overall rate of peripartum hysterectomy was 0.8 per 1000 deliveries.¹ Maternal mortality was 0.6%. The most commonly reported causes of haemorrhage leading to peripartum hysterectomy are uterine atony (53%), placenta praevia (9.39%), placenta accreta (39%) uterine rupture (8%) and extension of uterine incision at delivery (6%).^{2,3}

Placenta praevia refers to a placenta that over lies or is proximate to the internal os of the cervix. It complicates

approximately 0.3-0.5% of pregnancies. Risk factors for placenta praevia include prior caesarean delivery, pregnancy termination, intrauterine surgery, smoking, multiple gestation, increasing parity and maternal age.⁴

Morbidities associated with placenta praevia include antepartum haemorrhage, need for hysterectomy, morbid adherence of placenta, intrapartum haemorrhage, postpartum haemorrhage.⁵

Placenta Praevia is not an uncommon but underestimated, under reported and preventable condition. Prevention is possible in case of known risk factors. Maternal and fetal mortality can be reduced by identifying high risk patients.⁷ Women with low-lying placenta have at least 60% chance of vaginal birth, but should be monitored for postpartum haemorrhage.⁸

The rationale of my study was to know the frequency of peripartum hysterectomy in placenta praevia as placenta praevia is a common condition and it is associated with significant maternal morbidity and mortality. So my study will not only add to the existing data but also enable us to take appropriate steps at organizational levels for better backup facilities to improve outcome in such patients.

METHODS

This cross-sectional study is conducted in Department of Obstetrics and Gynaecology, Punjab Medical College and affiliated Hospital, Faisalabad. Sample size of 130 was calculated with confidence level $1-\alpha$ as 95% absolute precision (d) as 5%, anticipated proportion (p) as 9.39%.³ So 130 cases of placenta praevia undergone caesarean section were included in the study. This study was carried out over a period of six months from October 2010 to March 2011. Sampling technique used in these cases was Non-probability – consecutive sampling.

In the study all the patients undergone caesarean section for placenta praevia at any gestational age after 28 weeks to 41 weeks were included. Patients who have undergone caesarean section due to causes other than placenta praevia like: placental abruption, Fetal distress, mal-presentation, were not included in the study.

After taking approval from the hospital ethical committee women from the emergency and obstetric ward of the DHQ Hospital, Faisalabad, who full fill the inclusion and exclusion criteria was taken along with their written informed consent.

Blood was arranged and cross matched for the patient before caesarean section. In cases of primary postpartum hemorrhage conservative management was done first in the form of intramuscular syntometrine (Oxytocin 5 IU/ergometrine 0.5 mg); Intravenous infusion syntocinon (40 IU in 500 ml 0.9% saline over 4-6 hours); injection PGF₂ α (1 cc in each cornu of uterus); tablet Misoprostol 800 mg (4 pessaries) into uterus.

B-lynch (compression sutures applied on uterus); Uterine artery ligation were done. Peripartum hysterectomy was done if all these measures failed. Frequency of peripartum hysterectomy was noted on a specially designed proforma. This information was collected by researcher herself. The data were entered and analyzed in Statistical package for social sciences (SPSS) version 20.

Quantitative variables in this study were age, gravidity/parity, gestational age qualitative variables were conservative management and peripartum hysterectomy.

Mean \pm standard deviation was calculated for quantitative variables (age, parity, and gestational age). Frequency and percentages was calculated for qualitative variable (peripartum hysterectomy and conservative management). All the data was presented in the form of tables and graphs.

RESULTS

Present study was carried out over a period of six months from October 2010 to March 2011 in the Department of Obstetrics and Gynaecology, Punjab Medical College and affiliated Hospital, Faisalabad.

Table 1: Distribution of cases by age.

Age (year)	Number	Percentage
20-25	41	31.5
26-30	38	29.2
31-35	27	20.8
36-40	24	18.5
Total	130	100.0
Mean\pmSD	30.9 \pm 6.7	

Regarding age distribution of cases, majority of the patients, 41 (31.5%) were between 20-25 year and less patients i.e. 24 (18.5%) were 36-40 years of age with mean age of 30.9 \pm 6.7 years (Table 1).

Table 2: Distribution of cases by gestational age.

Gestational age (week)	Number	Percentage
28-36	52	40.0
37-41	78	60.0
Total	130	100.0
Mean\pmSD	37.5 \pm 3.4	

Distribution of cases by gestational age shows, 52 (40.0%) patients had gestation of 28-36 weeks and 78 (60.0%) patients had gestation of 37-41. Mean gestational age was observed 37.5 \pm 3.4 weeks (Table 2).

Parity distribution was as follows: 76 (58.5%) patients had parity 0-3, 34 (26.1%) patients had parity 4-6 and 20 (15.4%) patients had parity >6 with mean parity of 3.2 \pm 1.9 (Table 3).

Table 3: Distribution of cases by parity.

Parity	Number	Percentage
0-3	76	58.5
4-6	34	26.1
>6	20	15.4
Total	130	100.0
Mean±SD	3.2±1.9	

Table 4: Conservative management.

Conservative management	Number	Percentage
Yes	129	99.3
No	01	0.7
Total	130	100.0

Table 5: Peripartum hysterectomy.

Peripartum hysterectomy	Number	Percentage
Yes	1	0.7
No	129	99.3
Total	130	100.0

Conservative management was done in 129 (99.3%) patients (Table 4).

Peripartum hysterectomy was found to be in 1 patient (0.7%) (Table 5).

DISCUSSION

Peripartum hysterectomy is one of the life saving surgical procedures performed. Life-threatening haemorrhage resulting from uterine rupture and atony has become rare events in the developed world but they continue to pose a major problem in obstetric care in developing countries.⁹

As reported by Clark et al incidence of placenta praevia increases from 0.5% in general population to 3.9% after one caesarean section and upto 10% after four caesarean sections. The incidence of placenta accreta is 5% in patients with placenta praevia with one previous caesarean scar to 67% with four previous caesarean scar.¹⁰

Fixation of abnormal placentation as a primary indication is interrelated to the fact that incidence of caesarean section increased from 5.5% in 1970 to 16.5% in 1980 and upto 24.7% in 1988.¹¹

In present study, the parity of the patients ranged from 0-7 with a mean of 3.2±1.9. The highest frequency was in those who were para 2. These results are comparable with a study of Kwame-Aryee et al, they demonstrated mean parity 2.7±1.7.¹²

Problems arise when dealing with atony of the uterus; the diagnosis is made when conservative measures have failed

to control bleeding by which time the patient may have lost a large volume of blood and her condition may be in extremis. In our unit uterine atony is managed initially with manual massage of the uterus, administration of intravenous oxytocin and ergometrine supplemented by the replacement of blood volume with crystalloids, colloids and blood transfusion. Prostaglandin F2α and rectal misoprostol have also been used.¹³

Surgery is considered when these conservative measures have failed. Other considerations like low parity may contribute to the delay in performing a hysterectomy. These delays coupled with the limited supplies of blood and blood products may have contributed to some of the adverse outcomes associated with uterine atony in this study.

Early decision making and intervention may help reduce the high mortality associated with uterine atony. The use of hysterectomy to control bleeding in young women of low parity is undesirable and other methods like the B-Lynch brace procedure, ligation of the uterine arteries and ligation of the internal iliac arteries may be used in selected cases to control atonic uterine haemorrhage.¹⁴

Ligation of the internal iliac arteries requires the services of a skilled surgeon and may not be the procedure of choice in the setting of massive haemorrhage and an unstable patient as it may be associated with a substantial risk of failure.¹⁵ The B-Lynch procedure and ligation of the internal iliac arteries are used in our unit but no studies have been done to assess the effectiveness of these methods in our practice.

Packing of the uterus in severe atonic uterine haemorrhage has received both favourable and unfavourable reviews as one of the methods of controlling uterine haemorrhage. Concerns have been raised about its tendency to conceal continued bleeding, uterine trauma and infection. Some authors are of the view that these concerns have been overestimated. Complications from peripartum hysterectomy are high because of the increased blood supply to the pelvic organs during pregnancy, the distorted pelvic anatomy as a result of the enlarged uterus and the fragility of the tissues.¹⁶

The incidence of morbidity is influenced by many factors including the indication for surgery and the use of perioperative antibiotics.¹⁷ Antibiotics are given to all patients who undergo peripartum hysterectomy at the Department of Obstetrics and Gynaecology, Medical College and affiliated Hospital, Faisalabad. There was a high prevalence of infectious morbidity in the complications noted; we may have to study in detail our choice of postoperative antibiotics and the incidence of septic complications with the view to altering our antibiotics.

In current study, frequency of peripartum hysterectomy was found to be 1 (0.7%). This figure is consistent with the

study of Shah and Khan, they reported 0.68% frequency of peripartum hysterectomy.¹⁸

CONCLUSION

In conclusion, peripartum hysterectomy rates are increasing over time, possibly related to increasing caesarean deliveries, and other factors, such as abnormal placentation, that are known to be associated with increasing maternal age and delayed childbearing in today's society. Our results suggest that placenta praevia increase the risk for peripartum hysterectomy. Although it is not possible to prevent all cases of hysterectomy, women at particularly high risk should be counseled and preventative steps comprising early assessment and recognition of a woman's potential risks should be employed.

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Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Huque S, Roberts I, Fawole B. Risk factors for peripartum hysterectomy among women with postpartum haemorrhage: analysis of data from the WOMAN trial. *BMC Pregnancy Childbirth*. 2018;18:186.
2. Mahmood S, Ayaz A. Obstetrical hysterectomy. *J Surg Pak*. 2005;10:20-3.
3. van den Akker T, Brobbel C, Dekkers OM, Bloemenkamp KW. Prevalence, indications, risk indicators, and outcomes of emergency peripartum hysterectomy worldwide: a systematic review and meta-analysis. *Obstet Gynecol*. 2016;128(6):1281-94.
4. Oyelese Y, Smulian JC. Placenta previa, placenta accrete and vasa previa. *Obstet Gynecol*. 2006;107:927-41.
5. Malik AM, Siddique S, Shah IA, Placenta previa; a study to determine responsible factors. *Professional Med J*. 2007;407-10.
6. Campbell SM, Corcoran P, Manning E, Greene RA. Peripartum hysterectomy incidence, risk factors and clinical characteristics in Ireland. *Eur J Obstet Gynecol Reprod Biol*. 2016;207:56-61.
7. de la Cruz CZ, Thompson EL, O'Rourke K, Nembhard WN. Cesarean section and the risk of emergency peripartum hysterectomy in high-income countries: a systematic review. *Arch Gynecol Obstet*. 2015;292(6):1201-15.
8. WOMAN Trial Collaborators. Effect of early tranexamic acid administration on mortality, Hysterectomy, and other morbidities in women with post-partum haemorrhage (WOMAN): an international, randomised, double-blind, placebo-controlled trial. *Lancet*. 2017;389:2105-16.
9. Vandenberghe G, Guisset M, Janssens I. A nationwide population-based cohort study of peripartum hysterectomy and arterial embolisation in Belgium: results from the Belgian Obstetric Surveillance System. *BMJ Open*. 2017;7(11):e016208.
10. Clark SL, Koonings PP, Phelan JP. Placenta previa accrete and prior caesarean section. *Obstet Gynecol*. 1985;66:89-92.
11. Baker E. Caesarean section birth and hysterectomy. *Clin Obstet Gynecol*. 1994;37:806-15.
12. Kwame-Aryee RA, Kwakye AK, Seffahkwame-Aryee JD, Kwakye AK, Seffah JD. Peripartum hysterectomies at the korle-bu teaching hospital: a review of 182 consecutive cases. *Ghana Med J*. 2007;41:133-8.
13. Ouh YT, Lee KM, Ahn KH. Predicting peripartum blood transfusion: focusing on pre-pregnancy characteristics. *BMC Pregnancy Childbirth*. 2019;19(1):477.
14. Lier H, von Heymann C, Korte W, Schlembach D. Peripartum Haemorrhage: Haemostatic Aspects of the New German PPH Guideline. *Transfus Med Hemother*. 2018;45(2):127-35.
15. Singh A, Kishore R, Saxena SS. Ligating Internal Iliac Artery: Success beyond Hesitation. *J Obstet Gynaecol India*. 2016;66(Suppl 1):235-41.
16. Ono Y, Murayama Y, Era S. Study of the utility and problems of common iliac artery balloon occlusion for placenta previa with accreta. *J Obstet Gynaecol Res*. 2018;44(3):456-462.
17. WHO, UNICEF, UNFPA, United Nations, World Bank Group. Trends in maternal mortality: 1990 to 2015. Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Divisions. Geneva: World Health Organization. 2015. Last accessed on
18. Shah N, Khan NH. Emergency obstetric hysterectomy: a review of 69 cases. *Rawal Med J*. 2009;34:47-9.

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