



STUDY OF CAUSES OF POSTPARTUM HEMORRHAGE AND ITS MANAGEMENT AT TERTIARY CARE TEACHING HOSPITAL

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ABSTRACT

Background- Postpartum hemorrhage is one of the most common cause of maternal death, especially in developing country like India. Pregnancy and childbirth involve significant health risks, even to women with no preexisting health problem. The objective of this study was to analyze the role of various interventions in the management of PPH and its complications. **METHODS-** This prospective observational study was conducted in the Department of Obstetrics and Gynecology, MGM Medical college and MYH group of hospitals, Madhya Pradesh. A total number of 50 cases of postpartum hemorrhage that fulfilled the selection criteria were included. Data collected and analyzed in PPH patient with medical and surgical management. **RESULTS -** In present study most of the cases were multigravida (60%) and the most common cause was atonic PPH (50%). Most of the cases were managed by medical methods that is Uterotonic drugs (44%). This was possible due to early identification and timely intervention. **Conclusion-** Active management of third stage of labour is recommended in all cases. 44% percent case were managed by medical methods while rest of the surgical cases required surgical management. Among the medical management uterotonic drug and bimanual uterine compression was used while among the surgical methods repair of cervical and vaginal laceration was mostly required .

KEYWORDS : PPH, Blood loss, Multigravida.

Introduction –

Postpartum haemorrhage is defined as more than 500ml blood loss within 24 hours following vaginal delivery and 1000ml following caesarean delivery.(1,2) Every year about 14 million women around the world suffer from PPH.(3) The risk of maternal mortality from haemorrhage is 100 per 100 000 live births deliveries in developing countries. Most deaths (about 99%) from PPH occur in low- and middle-income countries compared with only 1% in industrialized nations.(4) With 56,000 maternal deaths, India accounted for 19% of global burden of maternal deaths in 2010, though it has only 16% of global population.(5) PPH is a frequent complication of delivery and its reported incidence in India is 2%-4% after vaginal delivery and 6% after caesarean section with uterine atony being the most common cause (50%).(6) In case of PPH, uterine atony stands as the most common cause. Other causes include injury to genital tract, prolonged labour, retained placenta, foetal macrosomy, multiple pregnancies, polyhydramnios, uterine myoma, placenta praevia, grand multiparity, uterine infection and trauma. A number of drugs and various surgical techniques are used for prevention and control of PPH. But prevention is always better than cure and this study is focused on it. Active management of third stage of labour is implemented as a package including uterotonic therapy with delivery of the anterior shoulder, early cord clamping and placental delivery by controlled cord traction following signs of placental separation.(7) Oxytocin is the most commonly used uterotonic agent for the prevention of PPH. Other uterotonic agents like methylergometrine (ergot alkaloids) and prostaglandins have been studied and have been shown to reduce PPH.(8) The two main aspects of postpartum haemorrhage are resuscitation and identification and management of underlying cause. Interventions like application of compression sutures, internal iliac artery ligation, uterine artery embolization and hysterectomy are other life saving measures.(9) The objective of this research study is to optimize different causes and its management protocols in cases of postpartum haemorrhage .

METHODS

A cross-sectional study was conducted from September 2019 to February 2021 on all cases of postpartum hemorrhage

admitted in Department of Obstetrics and Gynecology of MGM Medical college and MYH group of hospitals. A predesigned semi-structured questionnaire was prepared based on the review of literature on post-partum hemorrhage. The questionnaire included the information regarding age, gestational age, parity, history of abortions, comorbidity and addiction. It also included information regarding amount of blood loss, risk factors, mode of delivery, birthweight of child, causes of PPH, blood transfusion, management of PPH and maternal morbidity.

Inclusion criteria:

- Patients with estimated blood loss more than 500 ml after vaginal delivery and more than 1000ml after caesarean delivery
- Patients with excessive bleeding that makes the patient symptomatic (e.g. lightheadedness, vertigo, hypotension, tachycardia or oliguria) and/or 10 percentage decline in postpartum hemoglobin concentration from prepartum levels.

Exclusion criteria:

- Patient unwilling to participate in the study
- Women who are too sick to give consent or to be interviewed.

Statistical analysis

Data recorded and analysis done using software.

RESULTS

The management of the patients will be as per decision of the consultant in charge of the patient. All patients will receive active management of third stage of labor. Patients with uterine atony with additional uterotonics will be noted. Patients with traumatic postpartum haemorrhage will be treated with repair of trauma. Patients with retained placenta will be treated by doing manual removal of placenta under general anaesthesia. Patients with disorder of coagulation will be treated with transfusing with blood and blood products. Patients with postpartum haemorrhage will be analysed for presence of risk factors and patients will be followed up in ward for maternal morbidity . In case of severe haemorrhage, cases will be given the usual management of postpartum haemorrhage and the supplemental treatment

will be noted. Data recorded and analysis done using software. Mean age 26.4±7.4 years (Table 1)

Table 1: Age distribution of cases

Age (in years)	Frequency	Percent
18-24	20	40%
25-28	10	20%
29-35	14	28%
35 and above	06	12%
Total	50	100%

Most of the cases were multigravida as per findings (Table 2)

Table 2 : Distribution of cases according to parity

Number	Frequency	Percent
Primigravida	20	40%
Multigravida	30	60%
Total	50	100%

Table 3 : Distribution of cases according to causes of PPH

Casues	Frequency	Percent
Atonic PPH	25	50%
Traumatic PPH	08	16%
Retained tissue	02	4%
Coagulation defect	05	10%
Placenta previa ,accreta	07	14%
Morbidity adherent placenta	03	6%
Total	50	100%

In our study, The most common cause of PPH was atonic PPH contributing to 50% of cases under study. (table 3)

Table 4: Distribution of cases according to management of PPH

Management	Frequency	Percent
Medical management		
Uterotonic drugs	15	30%
Bimanual uterine compression	07	14%
Surgical management		
Repair of cervical and vaginal laceration	08	16%
Removal of retained placenta	02	04%
Uterine artery ligation	02	04%
Internal iliac ligation	01	02%
Hysterectomy	15	30%
Total	50	100%

It was observed that 44% cases were managed medically either by uterotonic drugs or by bimanual uterine compression. Rest of cases managed by surgical intervention. In 30% cases obstetric hysterectomy was last resort to save the life of patient.

DISCUSSION:-

PPH remains a major cause of both maternal mortality and morbidity worldwide more so in developing countries with an estimated mortality rate of 140,000 per year or one maternal death every four minutes. PPH occur in 5% of all deliveries, majorities of death occur within four hours of delivery indicating that it is a consequence of third stage of labour. (11) The unacceptably high maternal death of 540 per 100,000 live births in India in last few decades remain a major challenge. Healthy pregnant women can typically tolerate 500 to 1,000 mL of blood loss without having signs or symptoms. Tachycardia may be the earliest sign of postpartum

hemorrhage. Other signs such as hypotension, orthostasis, nausea, dyspnea, oliguria, and chest pain may indicate hypovolemia from significant hemorrhage. If excess bleeding is diagnosed, the four T's mnemonic (uterine atony (tone); laceration, hematoma, inversion, rupture (trauma); retained tissue or invasive placenta (tissue); and coagulopathy (thrombin) can be used to identify specific causes. Regardless of the cause of bleeding, physicians should immediately summon additional personnel and begin appropriate emergency hemorrhage protocols. (11) Hysterectomy is the traditional treatment for cases of refractory PPH, when all other methods to arrest bleeding fails. Advances in interventional radiology and surgical techniques have provided safe and effective alternatives to hysterectomy in many cases. (10) In the present study, it was observed that 10 (20%) participants were between 25-28 years of age followed by 20 (40%) participants between 18-24 years of age. Similar finding reported by Ononge S et al, and HalleEkane GE et al. (10,11) In the study conducted by Ononge S et al, it was observed that 31 (20) cases were of primigravida and 76 (30) cases were of multigravida. Similar findings reported in present study. (10)

In the present study, it was observed that 25 (50%) cases had uterine atony, 08 (16%) cases had perineal trauma, 2 (4%) cases had retained placenta and 5 (10%) cases had bleeding disorder. Most of the studies reported same findings. (11, 12, 14)

In present study, it was observed 22 (44%) cases had medical management and 28 (56%) cases had surgical management. Among the medical management, 15 (30%) cases had used uterotonic drugs used and 04 (14%) cases had bimanual uterine compression.

Among the Surgical management, 08 (16%) cases had repair of cervical and vaginal laceration, 2 (4%) cases had removal of retained placenta, 2 (4%) cases had uterine artery ligation, 1 (2%) cases had internal iliac artery ligation and 15 (30%) cases had hysterectomy done. 14, 15 In the study conducted by Kodla CS et al, 4 (3.74) cases had internal iliac artery ligation, 9 (7.8) cases had uterine artery ligation and 23 (25.56) cases had hysterectomy done. (14)

CONCLUSION

Uterine atony followed perineal trauma were the most common causes of PPH. Haemorrhage is the leading cause of the admissions to the intensive care unit and the most preventable cause of the maternal mortality. There is not a universally agreed management strategy for PPH. Half of the cases were managed by medical methods while rest of the cases required surgical management. Among the medical management uterotonic drugs and bimanual uterine compression was used while among the surgical methods repair of cervical and vaginal laceration, removal of retained placenta, uterine artery ligation.

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