

Study of Postpartum Hemorrhage in Tertiary Care Centre

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Abstract- The aim was to analyse factor responsible for causing PPH and its management. Methodology: This study included all patients admitted for delivery and ending up in PPH. Out of 5998 patients 96 patients landed up in PPH. Uterine atony is the major cause of PPH followed by traumatic and retained tissue. In 70.83% cases of PPH had a more than one predisposing factors like anaemia, prolonged labour, placenta previa, multiparity, multifetal gestations, macrosomia, uterine inversion, fibroid uterus. Total 62.50% cases respond to medical line of treatment. 8.33% patients required bimanual uterine massage with medical treatment. 22.91% patients required conservative surgical interventions & 6.25% patients required radical surgery (sub total obstetric hysterectomy). We conclude that identification of predisposing factor and timely medical, surgical and bimanual massage can reduce mortality and morbidity in PPH

Index Terms- Postpartum hemorrhage, Uterine atony, Bimanual massage

I. INTRODUCTION

Postpartum hemorrhage is a life threatening situation and an obstetrician's nightmare. It remains a major cause of maternal morbidity and mortality worldwide. It is still an important issue in the developing world. About 13% of all deliveries may result in PPH. There are 6,00,000 maternal deaths reported worldwide every year and 99% of these occur in developing countries¹.

Around 25% of deaths in developing world are due to PPH. Uterine atony is the most common cause of PPH, in about 75-90% of cases. Other causes include placenta previa, accreta, lower genital tract laceration, coagulopathy, uterine inversion and ruptured uterus¹.

Oxytocin, syntometrine, ergometrine, PGF₂ alpha and misoprostol are different medical preparations used as uterotonics for prophylaxis and therapeutic management of PPH. The two main aspects of management of PPH are resuscitation and identification/management of underlying cause. Interventions like application of compression sutures, internal iliac artery ligation, uterine artery embolization and hysterectomy are other life saving measures. Objectives of this study were to determine the frequency, causes of PPH and various treatment options.

II. METHODOLOGY

Source of Data: This study was carried out in our hospital, Miraj from Dec 2010 to September 2012. Method of data collection:

Sample collection method: Random

Study method: Prospective study

Inclusion criteria: This study included all patients admitted for delivery & ending up in PPH or presenting with PPH in outpatient department, casualty or referred from outside as PPH.

Exclusion criteria: Patients with history of coagulation disorder & patients who were taking heparin & warfarin.

For calculation of frequencies, the total number of deliveries in the setting during study period was used. All subjects underwent a complete obstetrical clinical workup comprising of history, general physical examination, abdominal & pelvic examination, relevant laboratory investigations.

Diagnosis of PPH was made clinically based on findings of pelvic examination, condition of uterus and amount of bleeding. Maternal condition was assessed and managed according to established hospital protocols which included both pharmacological and surgical interventions. All maternal complications were noted and recorded in predesigned proforma.

III. RESULTS

No PPH cases out of total delivery:

96 cases land up in PPH out of 5998 cases of delivery.

Table 1: No PPH cases out of total delivery

No of total delivery	5998
No PPH cases	96

Incidence of PPH in different mode of delivery:

Incidence of PPH increase with instrumental vaginal delivery.

But nearly equal in vaginal and caesarian section.

Table 2 : Incidence of PPH in different mode of delivery

Title	Percentage
PPH in vaginal delivery	1.32%
PPH in instrumental vaginal delivery	5.26%
PPH in caesarian section	1.80%

Causes of PPH

Atony was present in 79.17% of cases, traumatic was in 16.67% & retained placenta in 4.16%.

Table 3: Causes of PPH

Causes of PPH	Total cases	Percentage
Atony	76	79.17%
Traumatic	16	16.67%
Retained placenta	4	04.16%

Treatment of PPH:

Total 62.50% cases responds to medical line of treatment. 8.33% patients required bimanual uterine massage with medical treatment. 22.91% patients required conservative surgical interventions & 6.25% patients required radical surgery.

Table 4: Treatment of PPH

Treatment	Total cases	Percentage	
Medical	60	62.50%	
Medical + Bimanual uterine massage	08	08.33%	
Surgical	Conservative	22	22.91%
	Radical	06	06.25%

Maternal mortality:

Only one patient died due to PPH out of 96 patient

Table 5: Maternal mortality

Total no PPH cases	96
Mortality	1

IV. DISCUSSION

Incidence of PPH in different study.

- In present study, 96 mothers were having postpartum haemorrhage during study period giving incidence of 1.60%.
- A study by Lu, MC, Fridman, M, Korst, LM et al., found incidence of 2.4% of deliveries.

Table 6: Incidence of PPH in different study.

Present study	1.6%
Lu, MC, Fridman et al study ²	2.4%

Incidence PPH associate with different mode of delivery:

- Present study show 5.26% incidence of PPH in all instrumental deliveries, incidence lower with caesarian section i.e. 1.80%.
- In Combs and colleagues study incidence of PPH with instrumental deliveries is 3%.
- In Magann and colleagues study incidence of PPH with caesarian section is 2.25%.

Table 7: Incidence PPH associate with different mode of delivery

Mode of delivery	Instrumental delivery	Vaginal delivery	Caesarian section
Present study	5.26%	1.32%	1.80%
Combs and colleagues study ³	3%		
Magann and colleagues study ⁴			2.25%

Uterine atony:

- Present study show uterine atony is the major cause of PPH i.e. 79.17% cases.
- In study by Anderson J, Etches D, Smith D., Uterine atony, the most common cause of postpartum haemorrhage, is reported in 70% of cases.
- In study done by Dildy GA uterine atony was present in 80% of cases.

8: Table Uterine atony

Name of study	%
Present study	79.17%
Anderson j and colleagues study ⁵	70%
Dildy GA ⁶	80%

Medical line of management:

- In study done by Soriano D and colleagues observed that Oxytocin is an effective first-line treatment for postpartum haemorrhage 10 international units (IU)

should be injected intramuscularly, or 20 IU in 1 L of saline may be infused at a rate of 250 ml per hour. As much as 500 ml can be infused over 10 minutes without complications.

In present study, oxytocin was required in 36.45% of cases.

- In present study, 15 methyl PGF2 alpha was used in 5.20% of postpartum haemorrhage. A study done by Mousa HA and colleagues found that 15 methyl PGF2 alpha has been proven to control haemorrhage in up to 87 percent of patients.

Manual removing of placenta:

Manual removal of placenta was required in 4.16% of postpartum haemorrhage cases in present study. A study done by Carroli G & colleagues retained placenta occurred in less than 3 percent of vaginal deliveries.

Management of PPH with obstetrical hysterectomy:

In present study 6 out of 5998 patients requires obstetrical hysterectomy and in Yamamoto study only 1 out of 6978 patients required obstetrical hysterectomy.

Table 9: Management of PPH with obstetrical hysterectomy

Name of study	No. obstetrical hysterectomy in all deliveries.
Present study	6/5998
Yamamoto study ⁸	1/6978

V. CONCLUSION

Identification of predisposing factors like anaemia, multiparity, macrosomia, multiple pregnancy ,placenta previa and prolonged labour with use of appropriate laboratrical investigation, clinical judgement and ultra sound & timely

medical and surgical intervention can reduce maternal morbidity and mortality in cases with postpartum hemorrhage.

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