Original Articles

Evaluation of different techniques for management of postpartum hemorrhage.

***Dr. Megha S. Patel, **Dr. Satvik Patel, ***Dr. Pankti Jayswal, ****Dr. Jigar Thakkar,**

*Professor, **3rd Year Resident, ***Senior Resident, ****2nd Year Resident

AMC MET Medical College, Ahmedabad

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ABSTRACT:

BACKGROUND : Postpartum hemorrhage accounts for a quarter of maternal deaths worldwide. Although maternal mortality has decreased in the developed world over the years due to institutional deliveries, improved surgical techniques and availability of blood and blood components, PPH still remains a leading cause of maternal mortality.

MATERIAL AND METHOD: This study includes patients who developed PPH following their delivery at tertiary care center (Sheth L. G. Hospital) from 1stAugust 2016 to 31st July2018 in Obstetrics and Gynecology department. During this period there were total 14798 deliveries and 55patients developed PPH.

RESULTS : In present study, 67.28% patients were unregistered and 32.72% were registered patients. In present study, 92.72% Patients were delivered at hospital and 7.28% were delivered at home. In present study, 61.82% patients with cesarean sections and 38.18% with vaginal delivery were having PPH. 85.46% patients developed atonic PPH,14.55% traumatic, 5.45% associated with coagulopathy..In 49.09% of patients operative intervention required in form of uterine artery ligation (27.27%), Ovarian Artery Ligation (3.64%), uterine compression sutures(3.64%), tear suturing(9.09%), obstetric hysterectomy(10.91%). Maternal mortality was 3.64%. **CONCLUSION:** PPH is preventable condition. By identifying risk factor and anticipating PPH we can prevent and manage PPH. Thus intelligent and anticipatory early interventions with proper planning are required to reduce the mortality and morbidity in PPH. Active management of labour, especially the third stage with routine prophylactic administration of uterotonic drugs to reduce the risk of PPH have become an integral part of the management of labour and delivery.

BACKGROUND

Postpartum hemorrhage accounts for a quarter of maternal deaths worldwide1. According to the recent Confidential Enquiries into Maternal and Child health (CEMACH) report obstetric hemorrhage occurs around 3.7 per 1000 birth with uterine atony being the commonest cause. An Indian hospital study found the MMR to be 4.2 per 1000 live births. Postpartum hemorrhage is defined as blood loss of more than 500ml following vaginal delivery and more than 1000ml following caesarean section, within first 24 hours of childbirth. Although in this triennium, there has been a significant reduction in number of maternal deaths due to obstetric hemorrhage.

Worldwide, PPH continues to contribute to significant maternal morbidity and mortality. Review of recent Indian literature reveals that hemorrhage accounts for over 25% of maternal deaths of which 30% deaths are caused by PPH. Patients who survive may run the risk of immediate and late complication that may cause physical and psychological disabilities. Rapid diagnosis of PPH is essential for its successful management. Although maternal mortality has decreased in the developed world over the years due to institutional deliveries, improved monitoring, investigative enhancements, improved surgical techniques and availability of blood and blood components, PPH still remains a leading cause of maternal mortality in developing countries. The rate of PPH with a morbidly adherent placenta is markedly increasing, due to increasing rates of cesarean sections. Organization and association including WHO, ACOG and RCOG have released a guidelines for PPH prevention and management. A systemic approach using algorithms

Correspondence Address : **Dr. Satvik Patel**
B-8, Mira Park, Opp. Ghevar Complex, Shahibaug, Ahmedabad-380004.
E-mail : patel_satvik@yahoo.com

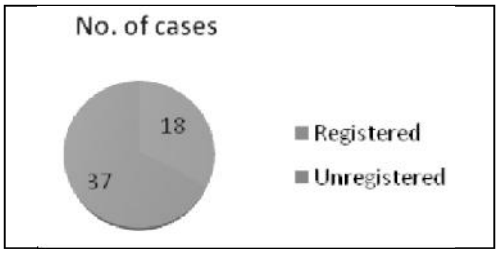
such as HAEMOSTASIS to ensure timely and appropriate action may reduce morbidity and mortality. Hence main objective of the present study is to study different management protocols of PPH which decrease maternal mortality and morbidity.

METHODS

This is a prospective study of cases of postpartum hemorrhage delivered at/referred to L.G hospital during 1st august 2016 – 31stjuly 2018.Out of 14798 delivery during this period 55 patients suffered from PPH. Detailed history were noted to identify risk factor which can contribute to PPH. The data collected was analyzed systemically, tabulations were made and observations compared with series present by various foreign and Indian authors.

RESULTS

As this study was carried out in our general hospital 78.18% patients belonged to rural areas and most of which are admitted as an emergency case. Present study shows that occurrence of PPH is maximum in emergency cases as compared to registered cases. Registered patients have the benefit of several antenatal checkups, anemia being treated, screening of high risk patients done and complications during pregnancy have been diagnosed and managed accordingly. Further on their mode of delivery can also be planned which is not done in emergency patients.



Present study shows that 92.72% of patients had hospital delivery out of which 3.64% were referred from other hospital and 7.28% are delivered at home. Patients delivered at home or referred from other hospitals are referred from distance more than 5-7km.At the time of admission there was significant blood loss

In present study, uterine atony is the most common cause for PPH accounting for about 85.46%which is 70.5% in Bibi samshad study8, traumatic PPH in 14.55% patients which is 20% in I.Macrovivi9 study. 5.45% patients had PPH due to altered coagulation profile as a complication of jaundice and abruption.

In present study, surgical interference was required in 49.09% cases in form of uterine artery ligation, cervical and vaginal tear repair, hysterectomy, compression sutures, repair of lower segment rupture etc. SJ Kore6 study on stepwise devascularization on 23 patients achieved success in 95.7% cases. O'Leary in review of 265 women who underwent uterine artery ligation, reported success rate of greater than 95%.

Table 1 : Mode of Delivery

	Mode of delivery	No of cases	Percentage
Cesarean delivery	Lscs	34	61.82%
Vaginal delivery	Vaginal delivery	16	32.73%
	Assisted breech delivery	2	3.64%
	Forceps delivery	1	1.81%
Total		55	100%

Table 2 : Types of Pph

Type of PPH	Present study	Bibi shamshad et al[2]	I. Marcovivi (2005)[3]
Atonic	85.46%	70.5%	70%
Traumatic	14.55%	29.4%	20%
Coagulopathy	5.45%	-	-

Table 3 –Mode of Management and PPH

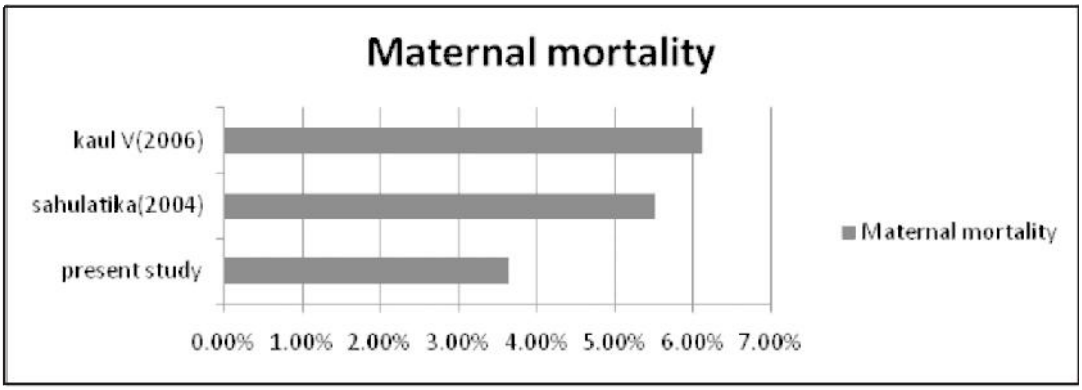
	Methods	Present study	Bibi shamshad et al[2]
Medical management	Medical treatment	50.91%	22%
Surgical management	Uterine artery ligation	27.27%	2.2%
	Cervical and vaginal tear repair	9.09%	15.5%
	Repair of ruptured uterus	3.64%	-
	Total hysterectomy	10.91%	-
	Uterine packing	7.27%	-
	Compression sutures	3.64%	2.2%
	Ovarian artery ligation , Hypogastric artery ligation	3.64%	0.7%
	Manual removal of placenta	-	8%
	Removal of retained placental tissue	-	8.9%

Table 4 – Medicalmanagement of PPH

	No of patients	percentage
O	5	9.09%
O + M	15	27.27%
O + E + M	6	10.91%
O + E + M + C	2	3.64%

O – Oxytocin E-ergometrine M – Misoprostol C- Carboprost

Table 5 – Maternal Mortality In PPH



Medical means of management were used in all patients to no avail. In present study, about 50.91% of patients responded to medical treatment alone.9.09% responds to only oxytocin and 27.27% responds after adding tablet misoprostol to oxytocin.3.64% patients required all for agents to stop the bleeding.

Walter Prendiville et al (1988)4 stated that routine administration of oxytocin does have an effect on the rate of PPH, reducing it about 40% Merrikay A. et al (1990)5 study states that hemorrhage was successfully controlled immediately after the administration of hemabate sterile solution (15methyl PGF2alpha) in 87.8% cases (208/237)

Out of 55, two patients were expired In present study mortality rate is 3.64% which is comparable to sahulatika7 5.5% and kaul V8 6.1%. one patient died because of complications of PPH like DIC and septicemia & second patient died because of hypovolemic shock and cardiopulmonary arrest. Low incidence is due to better antenatal care, good tertiary care facilities and skilled staff.

CONCLUSION

Despite the keen interest of international health agencies, worldwide maternal mortality has not declined substantially due to high rates of PPH . This can be attributed to non-availability of health care resources in rural settings, lack of means of rapid transport system and local cultural practices. Once PPH is diagnosed coordinated functioning of multidisciplinary practitioners such as – midwife, obstetrician, anesthesiologist, hematologist, and laboratory team including blood bank services is required. PPH is preventable condition. By identifying risk factor and anticipating PPH we can prevent and manage PPH. Active management of labour, especially the third stage with routine prophylactic administration of uterotonic drugs to reduce the risk of PPH have become an integral part of the management of labour and delivery. Since the last decade conservative surgical procedures have been successfully used in various forms. Conservative surgical approaches not only control PPH, but also preserve a woman's reproductive functions and avoids hysterectomy and its related complications and consequences.

Thus following are the measures to be taken to reduce the mortality and morbidity in PPH :

Regular and adequate antenatal check up, Aseptic vaginal examination, Avoidance of prolonged labour ,Follow the protocol of AMTLS to prevent PPH, Accurate diagnosis of cause of bleeding , Adequate and prompt restoration of circulatory volume, Any form of operative procedure should be performed timely before patient is in extremis and guided by an experienced person ,Measures should be taken for subsequent recovery.

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