

DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20161686>

Research Article

A retrospective study of maternal and perinatal outcome in patients of postpartum haemorrhage in a tertiary care hospital

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Received: 03 April 2016

Accepted: 07 May 2016

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ABSTRACT

Background: Postpartum hemorrhage is one of the most important causes of maternal mortality and morbidity. Maternal Hemorrhage is the commonest cause of maternal mortality in India. Identification of risk factors, early diagnosis and timely intervention can help in reducing significant maternal morbidity and mortality due to postpartum hemorrhage. The aim and objectives of the study was to study socio-demographic profile of patients admitted with the diagnosis of post-partum Haemorrhage, to study the various risk factors and causes of post-partum Haemorrhage, to study maternal and perinatal outcome in patients suffering from post-partum haemorrhage.

Methods: It was a record based retrospective study. Files of the patients admitted with diagnosis of postpartum haemorrhage from September 2014 to February 2015 were retrieved and detailed analysis was done regarding patients' socio demographic characteristics, various risk factors, causes and maternal and perinatal outcome.

Results: It was a record based retrospective study. It was found that majority (88%) of the patients belonged to age group of 21-30 years. Majority of them (59%) were from rural background. It was found that the commonest (26%) risk factor associated with postpartum hemorrhage in our study was prolonged labour, followed by ante partum hemorrhage (20%). It was found that the commonest (68%) underlying cause of postpartum hemorrhage was atonicity of uterus, followed by genital tract trauma (24%).

Conclusions: Postpartum hemorrhage is one of the biggest menace in today's times. It adds to significant maternal morbidity and mortality.

Keywords: PPH, Atonicity, Maternal mortality, Prolonged labor, APH

INTRODUCTION

Postpartum hemorrhage is important cause of maternal mortality in developing as well as developed countries. It is defined as blood loss of more than 500ml in normal vaginal delivery and more than 1000ml in a case of caesarean section or amount of blood loss that can affect hemodynamic stability of patient.^{1,2} It is a significant cause of maternal morbidity and mortality. Primary PPH is defined as blood loss within 24 hours of delivery and Secondary PPH is blood loss after 24 hours of vaginal delivery.²⁻⁴ Prevalence of postpartum hemorrhage is 6% worldwide and Africa being the one with the highest prevalence rate of 10.1%.⁵ Maternal Hemorrhage is the

commonest cause of maternal mortality in India. Proportion of maternal deaths due to postpartum hemorrhage is significantly low in developed countries (8% as compared to 25% in developing countries) suggesting that it is preventable to an extent.⁶ Identification of risk factors, early diagnosis and timely intervention can help in reducing significant maternal morbidity and mortality due to post-partum hemorrhage. Atonicity of uterus is the commonest cause of postpartum hemorrhage. Therefore, based on evidence based intervention active management of third stage of labor is being promoted in developing countries for preventing this complication.⁷⁻⁹ However, on review of few studies it was found that there are gaps in reducing maternal

morbidity and mortality during application of active management of third stage of labour, either due to inappropriate knowledge about it or its incorrect use.¹⁰⁻¹² Anaemia is also one of the most significant factor which complicates maternal outcome in patients with postpartum hemorrhage. Therefore it is very important to identify high risk patients during antenatal visits and modification of those risk factors if possible. WHO in 2007 has provided guidelines for the prevention of Postpartum hemorrhage based on the best available evidence regarding various interventions which come under active management of third stage of labour.¹³ Thus proper training of health professionals, early diagnosis and timely intervention can reduce maternal mortality due to postpartum hemorrhage to large extent.

Therefore, this study was planned at the Obstetrics and Gynecology department of Post Graduate Institute of Medical Sciences, Rohtak for studying the socio demographic profile, various risk factors and causes of post-partum hemorrhage. It was also aimed to study the various management techniques adopted for the treatment of these patients, maternal complications encountered during the treatment and maternal and perinatal outcome in these patients.

Aim and objectives

- To study socio-demographic profile of patients admitted with the diagnosis of post-partum Haemorrhage
- To study the various risk factors and cause of post-partum Haemorrhage.
- To study maternal and perinatal outcome in patients suffering from post-partum haemorrhage.

METHODS

It was a record based retrospective study. The Central Registration Number of patients admitted with the diagnosis of post-partum hemorrhage from September 2014 to February 2015 was noted from the records available in the labor Room. These files were retrieved from the Medical Record Section. Files of seventy six patients admitted with diagnosis of postpartum hemorrhage during the study period were retrieved and extensively analysed. The patient’s demographic details, various risk factors, etiology of postpartum hemorrhage and mode of delivery, type of management viz. medical management, surgical management or combined (Medical and Surgical) management, maternal complications etc. were studied in detail. The maternal and perinatal outcome was also analysed in detail from the patient’s case files.

Data analysis

The data was entered into the excel sheet and the data base was created. The data was analysed in detail and various tables were prepared and analysis was done.

Ethical justification

No ethical issues are involved in this study as it was a record based retrospective study. There was no human or animal experimentation involved in this study. The confidentiality of the patient data was properly maintained and their identity was not revealed.

RESULTS

Table 1: Sociodemographic profile and other obstetrical details of patients suffering from post-partum hemorrhage.

No.	Item	No. of patient	Sr. No.	Item	No. of Patient
Age wise distribution			Parity wise distribution		
1	<20 Year	3 (4%)	1	Para 1	38 (50%)
2	21-30 year	67 (88%)	2	Para 2	23 (30.3%)
3	>31 year	6 (8%)	3	Para 3	7 (9.2%)
Religion wise distribution			4	>Para 4	8 (10.52%)
1	Hindu	75 (99%)	Mode of delivery		
2	Muslim	1(1%)	1	Vaginal	45 (59%)
Area wise distribution			2	Caesarean	31 (41%)
1	Rural	45 (59%)	Anti natal (ANC) visits		
2	Urban	31 (41%)	1	Booked	21 (27.63%)
Place of delivery			2	Un Booked	55 (72.4%)
1	Home	1 (1.3%)	History of abortions		
2	Hospital Setting	75 (98.7%)	1	Yes	6 (8%)
			2	No	70 (92%)

Table 2: Study of the risk factors associated with post-partum haemorrhage.

No.	Characteristics	No. of Patient
Risk factors associated with post-partum haemorrhage		
1	Prolonged Labour	20 (26.3%)
2	Ante partum haemorrhage	15 (19.7%)
3	Multiparity	11 (14.5%)
4	GHTN/Preeclampsia	10 (13.2%)
5	Multiple Pregnancy	5 (6.6%)
6	Macrosomia	3 (3.94%)
7	Infection	2 (2.63%)
8	Abnormalities in uterus	2 (2.63%)
Causes of post-partum haemorrhage		
1	Atonicity	52 (68.4%)
2	Genital Tract Trauma	18 (23.7%)
3	Retained Placenta	7 (9.2%)
4	Rupture Uterus	2 (2.6%)
5	Uterine inversion	1 (1.3)

Table 3: Analysis of different types of management techniques adopted for treatment of post-partum hemorrhage.

Type of management	No. of patients	
Medical management	42(55.26%)	
Surgical management	4(5.26%)	
Combined (Medical and Surgical)	Devascularisation + Balloon tamponade	4(5.26%)
	Caesarean hysterectomy	2(2.63%)
	Compression sutures (B-lynch, Hayman suture)	2(2.63%)
	Devascularisation + Compression sutures	1(1.31%)
Balloon tamponade	5(6.57%)	
Repair of perineal tear	19(25%)	
Other (MRP, Correction of uterine inversion)	6(7.89%)	

It was found that majority (88%) of the patients were in the age group of 21-30 years. Almost all (99%) patients were Hindu by religion. Majority of them (59%) were from rural background. It was also observed that majority of them (50%) were primiparous followed by 30% of patients who had two live issues. Majority (72%) of the patients were unbooked. 59% of patients had normal vaginal delivery followed by 41% of patients who underwent cesarean section. On careful analysis of obstetric history it was revealed that only 8% of patients had history of prior abortion. It was revealed from the files that majority of them (99%) had delivery in hospital settings. It was observed that the commonest risk factor associated with postpartum hemorrhage in our study was prolonged labour (26%), followed by ante partum

hemorrhage (20%), multiparty(15%) and gestational hypertension/preeclampsia(13%). It was found that the commonest underlying cause of postpartum hemorrhage was atonicity of uterus (68%) followed by genital tract trauma (24%). It was noted that majority of the patients recovered successfully by medical management (55%) alone, followed by 5% of patients where surgery alone was sufficient. In 12% of patients, combined medical and surgical treatment was found effective in reviving patients. Out of these 12% patients, commonest (5.3%) procedure found to be successful in combating PPH was systematic devascularisation followed by balloon tamponade. It was also observed that balloon tamponade was effective in 7% of patients. 25% of patients had traumatic PPH so repair of perineal tear was done in these patients. While analysing the complications, it was found that 25% patients had no complications, in remaining patients commonest (57%) complication encountered was anaemia. It was observed that only one maternal death was there in our study sample. It was also observed that 75% of patients had live birth, followed by 16% of patients whose babies had admission in Neonatal Intensive Care Unit (NICU) and 9% patients had stillbirth.

Table 4: Study of maternal complications and fetal and maternal outcome.

No.	Nature of complications	No. of patients
Maternal complications		
1	Anaemia	43 (56.6%)
3	DIC	4 (5.3%)
4	Others	11 (14.5%)
5	No Complications	19 (25%)
Maternal outcome		
1	Alive	75 (98.7%)
2	Dead	1 (1.3%)
Fetal outcome		
1	Live Birth	57 (75%)
2	NICU Admission	12 (15.6%)
3	Still birth	7 (9.2%)

DISCUSSION

As stated above the maternal hemorrhage is a leading cause of maternal morbidity and mortality. Present study aimed to find out the socio-demographic profile of patients with postpartum hemorrhage, various risk factors associated with it, its management and maternal and fetal outcome in such cases. In our present study, it was found that most of the patients with post-partum hemorrhage had history of prolonged labor (26%) followed by history of ante partum hemorrhage (20%) during their antenatal period. This finding is in correlation with many studies, where prolonged labour is cited as one of the most common cause of post-partum hemorrhage, also there are various studies in which ante partum hemorrhage is described as an important risk factor of post-partum

hemorrhage.¹⁴⁻¹⁹ On detailed analysis of record files, it was found that in majority of the cases underlying cause of PPH was atonicity (68%), followed by genital tract trauma (24%) and retained placenta (9%). This is in correlation with various studies, where atonicity was the most common cause of PPH, followed by traumatic PPH as the second most common cause of PPH.^{1,17,20-22} As discussed above, it was found in present study that 55% patients responded to the medical management followed by 5% patients who were managed by the surgical management. However total nine patients (12%) were managed by the combined medical & surgical treatment. On further analysis of the combined management, it was found that in two patients (3%) post-partum hemorrhage was controlled by haemostatic sutures (B-Lynch, Hayman) alone. In other two patients (3%), patients' general condition was deteriorating despite all medical and surgical measures; so caesarean hysterectomy was performed. In addition there were four patients who were referred to our hospital with post-partum hemorrhage with retained placenta, therefore manual removal of placenta was performed in these cases. It was also found that two patients presented to our hospital with uterine inversion with postpartum bleeding with shock, immediate reposition of uterine inversion was done in these cases. The commonest complication encountered in patients with post-partum hemorrhage was anemia (57%) due to excessive blood loss. Anemia is shown to be the most common cause of morbidity in few other studies.^{23,24} Out of total patients studied, one maternal mortality was there. Out of total births, 75% were alive and healthy babies followed by 16% babies who were admitted in Neonatal Intensive Care Unit (NICU).

CONCLUSION

Postpartum hemorrhage is one of the biggest menace in today's times especially in developing countries. In this study it was observed that majority of the patients with post partum hemorrhage were from rural background and were in the age group of 21-30 years. The patients were mostly primiparous. The commonest risk factor found in this study was prolonged labor followed by antepartum hemorrhage. The commonest underlying cause of PPH was atonicity of the uterus. Out of total births, 75% were alive and healthy babies followed by 16% babies who were admitted in Neonatal Intensive Care Unit (NICU). Encouragement of regular antenatal visits, timely referral of high risk patients, training of health personals and timely intervention can save many lives.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Duhan L Nanda S, Sirohiwal D, Dahiya P, Singhal S, Vandana. A retrospective study of maternal and perinatal outcome in patients of postpartum haemorrhage in a tertiary care hospital. *Int J Reprod Contracept Obstet Gynecol* 2016;5:1897-1901.