Original Article

Post Partum Hemorrhage

Post Partum Hemorrhage; Risk Factors and Management among Women Presenting to a THQ Hospital

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ABSTRACT

Objective: To evaluate risk factors of post partum hemorrhage and its management among women presenting to a tertiary care hospital.

Study Design: Retrospective / cross sectional study

Place and Duration of Study: This study was conducted at the THQ hospital, Indus Hospital (Manawan Campus) Lahore from January to July 2018.

Materials and Methods: Women presenting to the study hospital with post partum hemorrhage or developed it after admission during study period were included in this study. Retrospective data was collected regarding mode of delivery, causes of hemorrhage, treatment modalities and maternal mortality rate. Blood loss during post partum hemorrhage was estimated on the basis of visual parameters, history and signs of anemia in patients. Proper consent was taken from all patients included in this study and also from the ethical committee. All relevant data was properly documented and analyzed using Microsoft office and SPSS.

Results: Total 900 cases were admitted in the ward for obstetrical emergency. Out of them 2.2% cases developed post partum hemorrhage. Ages of these cases were 15 to 37 years with mean age of 25 years. Out of 20 cases having PPH, 85% were severe anemic and blood transfusion was done in them, 30% cases were critical and admitted in HDU for intensive care. One patient died despite all measures, so mortality rate was 5%. Out of 20 cases 15% were delivered in other private hospitals, 25% delivered at home and 60% delivered in the study hospital. 35% mothers underwent spontaneous vaginal delivery, in 45% cases cesarean section done and in 20% cases instrumental delivery performed.

Conclusion: Although post partum hemorrhage has low prevalence but it can lead to lethal complications and can be fatal. Early diagnosis and prompt management is mainstay of treatment. It can be prevented if risk factors are evaluated during pregnancy such as high parity, uterine atony, previous history of PPH or bleeding disorders, multiple pregnancies or large fetus etc.

Key Words: Post partum hemorrhage, Risk factors, complicated labour.

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INTRODUCTION

Post partum hemorrhage is defined as excessive bleeding more than 500-1000ml within first 24 hours following childbirth. This is a major cause of maternal mortality worldwide. Prolonged pregnancy of more than 20 weeks is its risk factor.[1] According to a WHO study conducted in 28 countries; rate of post partum hemorrhage was reported as 1.2%.[2]

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Maternal mortality rate is high in underdeveloped and developing countries due to inadequate health facilities and skilled health professionals. In developed countries this rate is low. PPH is a major cause of morbidity and mortality in Africa and Asian countries.[3] It can be defined as loss of more than 500ml blood from genital tract after delivery of baby in first 24 hours is called post partum hemorrhage.[4] Incidence of PPH reported in various studies was around 6%, which can be different in different geographical areas depending on health facilities.[5] PPH causes much disturbed life for women and disease burden. Complications associated with PPH include anemia, DIC, liver or renal failure and ARDS.[6,7] Uterine atony is a major cause of post partum excessive bleeding. Use of uterotonic medications before child birth can reduce chances of PPH.[8] In this regard use of oxytocin is best to control bleeding by increasing tone of uterus as proved by a WHO report.[9] Causes of post partum hemorrhage are uterine tony, tissue trauma, retained tissue or thrombosis. In emergency cesarean section chances of PPH are more as compared to

elective cesarean. According to a study 76% deliveries in Pakistan take place at home.

Maternal mortality rate can be reduced 80% by improving medical care. Proper actively management of third phase of labour can reduce maternal mortality rate by avoiding tissue trauma and prevention of blood loss anemia. Blood transfusion is life saving in critical situation.

In some cases having PPH, there are no risk factors. Prompt management with saving lives of mother and child is the best result of treatment moreover life of mother is superior to that of child. When bleeding is not stoppable by conservative management then surgical option can be used to stop hemorrhage to save life of the patient.

MATERIALS AND METHODS

This is a retrospective type of study started in January 2018 and completed after 7 months duration in July 2018. This study was conducted in Indus Hospital Lahore (Manawan campus). Permission was taken from ethical committee of the hospital for conducting study. An inclusion and exclusion criteria were defined for patients.

According to inclusion criteria all patients presenting with postpartum hemorrhage to the study institution within duration of study were selected for the study. Blood loss was estimated from number of soaked guazes, clothes and blood in drainage bag.

According to exclusion criteria those cases with secondary PPH, referred from other hospitals after 24 hours of the event and those without complete previous record were not included in this study.

All data relevant to the study was documented properly such as age of the patients, mode of delivery either at home or in hospital, SVD or via cesarean section, estimated blood loss, cause of PPH, mode of admission either through out-patient doors or COD in general ward or ICU, any history of previous abortion or PPH, parity, multiple pregnancies, oligohydromnias or polyhydrominias, induction of labor, prolonged labor and maternal outcome after management either recovered or died.

Such patients admitted to the study institution were categorized on the basis of blood loss and their condition. Those with massive blood loss and severe anemic were kept in medical ICU and others with stable condition and less severe hemorrhage were kept in general ward.

Management given to them included either single or multiple blood transfusions depending on severity of anemia, uterine massage, use of drugs to enhance uterine contraction such as oxytocin and prostaglandins and surgical exploration of uterus. All collected data was analyzed using Microsoft office and SPSS version 2017. Frequencies, percentages and P-value were determined and results were expressed via tables and graphs.

RESULTS

Patients admitted to gynecology and obstetrics ward of study institution during study period of one year were included in this study. There were total 900 obstetrical admissions in the ward during seven months. These cases were in reproductive age group. Out of 900 cases only 20(2.2%) cases developed post partum hemorrhage.

Table No.1: Risk factors of Post partum hemorrhage in 20 study cases.

Risk factors of PPH	N	% (N/20)
Parity	14	70
Age (25-40 years)	12	60
Anti partum hemorrhage	02	10
More than 3 hours delay in delivery	09	45
Unqualified birth attendants	01	05
Delivery outside of hospital	05	25
Pre-eclempsia	01	05

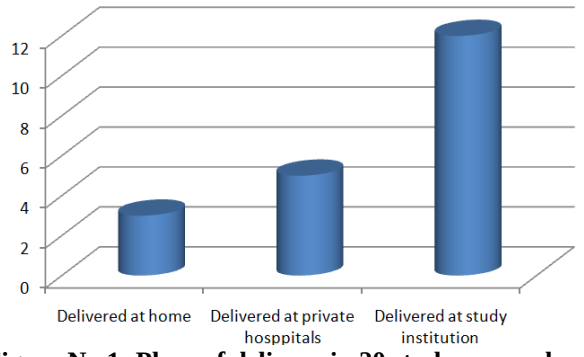

Figure No.1: Place of delivery in 20 study cases who developed PPH

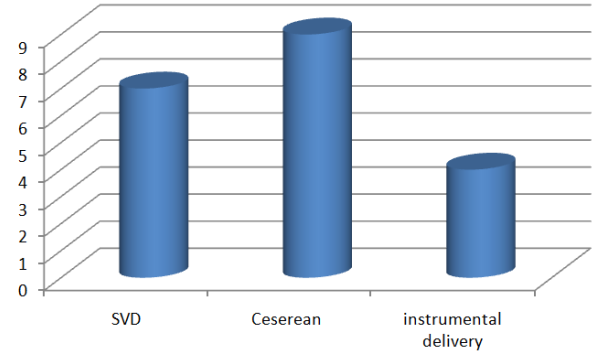

Figure No.2: Mode of delivery among 20 cases in study group which developed PPH

Risk factors of PPH evaluated in these 20 cases were, age between 25-40 years in 18(90%) cases, high parity in 14(70%) cases, 5(25%) cases delivered outside of study hospital, 3(15%) cases delivered at private

hospitals somewhere and 2(10%) delivered at home by birth attendants ,more than 3 hours delay in delivery in 9(45%) cases, history of antipartum hemorrhage in 2(10%) cases and pre-eclempsia was risk factor in 1(5%) case out of 20 cases (Table-1). Out of 20 cases 17(85%) were severe anemic and 6(30%) were admitted in medical ICU. Mean blood loss in patients with PPH was 1900ml. SVD was done in 7(35%) cases, cesarean done in 9() cases and instrumental delivery done in 4(20%) cases (Figure-2). Out of these 20 cases 5(25%) were booked and 15(75%) were non booked cases. P-value less than 0.05 were considered significant.

DISCUSSION

Obstetric causes of maternal mortality are very common worldwide. According to a report about 0.5 million women die each year due to complications of pregnancy especially hemorrhagic cause.[10] Post partum hemorrhage is defined as blood loss more than 500ml in vaginal delivery and more than 1500ml in C-section, another definition says that as much blood loss which causes hypovolemia or may decrease hematochrit by 10% or blood transfusion is indicated. [11] According to a study conducted in Abotabad a city of Pakistan, prevalence of PPH was 35%.[12] Post partum hemorrhage is of two types, primary and secondary PPH. Primary PPH occurs in first 24 hours after delivery while in secondary PPH blood loss occurs after 24 hours of delivery.[13] According to many studies main cause of PPH is decreased tone of uterus causing hematoma in vaginal wall, tears in vagina or cervix, adherence and retention of placenta. Other causes include inversion of uterus, in this condition placenta does not detach from uterus after child birth and turns uterus inside out which can be fatal for mother. Post partum hemorrhage may lead to acute renal shut down, liver failure, DIC and acute respiratory distress syndrome. According to another study PPH is 5th most common cause of maternal mortality and according to an estimation, one women die due to PPH in every 4 minutes.[13] Massive blood loss leads to tachycardia, sweating and hypovolemic shock which indicates immediately blood transfusion to save life of the mother. In some cases even prior recognition of condition and despite proper management, PPH cannot be prevented and maternal mortality may occur. Medications used to enhance tone of uterus are life saving by controlling bleeding. Such medications are called uterotonic. Misoprostol is very effective in this regard but very few studies support its use and still it is controversial. According to three studies in which misoprostol was administered in home delivered and hospital delivered patients and outcome was reported satisfactory.[15-17] In our study risk factors of PPH and management of it was discussed. Out of 20 cases with PPH mostly needed blood transfusion due to hypovolemic shock and few of them were so critical that they required admission in ICU. Few doctors prefer to give oxytocin as a uterotonic drug which is also effective to some extent but it is controversial as well. Blood loss in patients presenting to the hospital can be estimated by counting of number of soaked gauzes or clothes or weighing them and by fall of hematochrit and signs of anemia.[18-20] History of blood loss and physical examination to evaluate severity of anemia is very important in planning management.

CONCLUSION

Post partum hemorrhage is much prevalent in Pakistan with high morbidity and mortality rate which can be prevented if risk factors are evaluated early and delivery of mothers having risk of PPH is conducted in tertiary care hospital having proper ICU care and all necessary management facilities. Major cause of PPH is decreased tone of uterus, increased parity, pre-eclempsia, large size of fetus or multiple pregnancies and previous history of PPH.

Author's Contribution:

Concept & Design of Study:	Sara Gulbaz
Drafting:	Shahnilah Zafar
Data Analysis:	Sheeba Rehman
Revisiting Critically:	Sara Gulbaz, Shahnilah Zafar
Final Approval of version:	Sara Gulbaz

Conflict of Interest: The study has no conflict of interest to declare by any author.

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