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Research Article

RISK FACTORS AND MANAGEMENT OF POST PARTUM HEMORRHAGE AMONG WOMEN PRESENTING TO A TERTIARY CARE 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 and duration: This is a cross sectional study completed in duration of six months from January to June 2020.

Setting: This study was conducted in Bolan Medical Complex Quetta.

Patients and methods: Sample size was calculated using WHO sample size formula. Non-probability consecutive sampling technique was used. 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-24. Privacy of data of patients was maintained.

Results: Total 1000 cases were admitted in the ward for obstetrical emergency. Out of them 3.2% cases developed post-partum hemorrhage. Ages of these cases were 15 to 37 years with mean age of 25.3±5.3 years. Out of 20 cases having PPH, 86% were severe anemic and blood transfusion was done in them, 31% cases were critical and admitted in HDU for intensive care. One patient died despite all measures, so mortality rate was 6%. Out of 20 cases 16% were delivered in other private hospitals, 26% delivered at home and 58% delivered in the study hospital. 36% mothers underwent spontaneous vaginal delivery, in 46% cases cesarean section done and in 18% cases instrumental delivery performed. Mean hospital stay was 3.5±2.5 days.

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 labor

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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] 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. Early cord clamping is no longer included in the International Federation of Gynecology and Obstetrics (FIGO) definition of active management of the third stage of labor, and uterine massage after delivery of the placenta has been added. Delaying cord clamping for about 60 seconds has the benefit of increasing iron stores and decreasing anemia, which is especially important in preterm infants and in low-resource settings. The delay has not been shown to increase neonatal morbidity or maternal blood loss. [7-10] Prophylactic administration of oxytocin (Pitocin) reduces rates of postpartum hemorrhage by 40 percent this reduction also occurs if oxytocin is given after placental delivery. [10] Oxytocin is the drug of choice for preventing postpartum hemorrhage because it is at least as effective as ergot alkaloids or prostaglandins and has fewer side effects. [11-14] Misoprostol (Cytotec) has a role in the prevention of postpartum hemorrhage, this agent has more side effects but is inexpensive, heat- and light-stable, and requires no syringes. Maternal mortality rate can be reduced 80% by improving medical care. Proper active management of third phase of labor 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 cross sectional study conducted at Bolan Medical Complex Quetta. Sample was selected via consecutive non-probability technique.

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 gauze pads, 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 polyhydromnias, 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-24. 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 1000 obstetrical admissions in the ward during seven months. These cases were in reproductive age group. Out of 1000 cases only 22(2.2%) cases developed post partum hemorrhage (Figure-3).

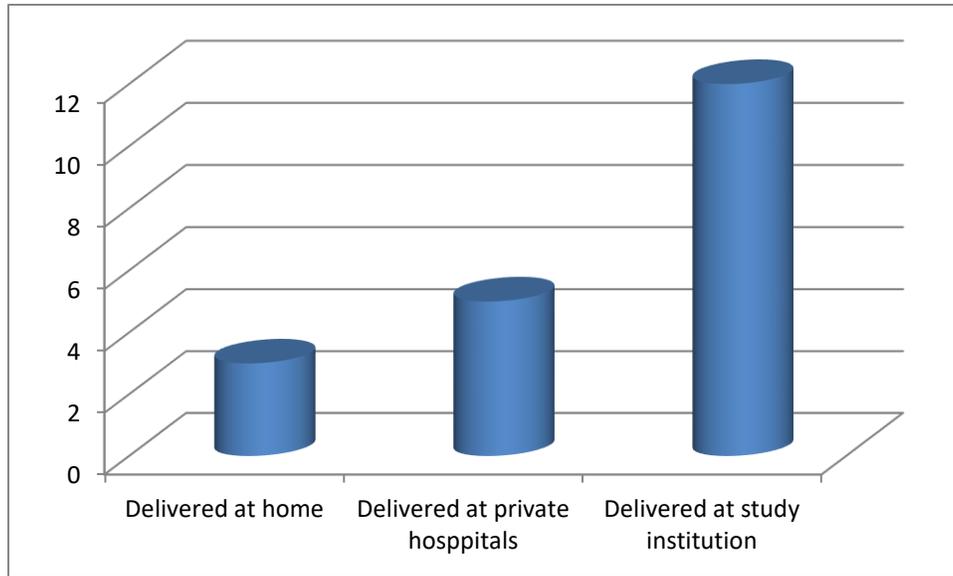
Ages of these cases were 15 to 37 years with mean age of 25.3 ± 5.3 years. Out of 20 cases having PPH, 86% were severe anemic and blood transfusion was done in them, 31% cases were critical and admitted in HDU for intensive care. One patient died despite all measures, so mortality rate was 6%. Out of 22 cases 16% were delivered in other private hospitals, 26% delivered at home and 58% delivered in the study hospital. 36% mothers underwent spontaneous vaginal delivery, in 46% cases cesarean section done

and in 18% cases instrumental delivery performed.

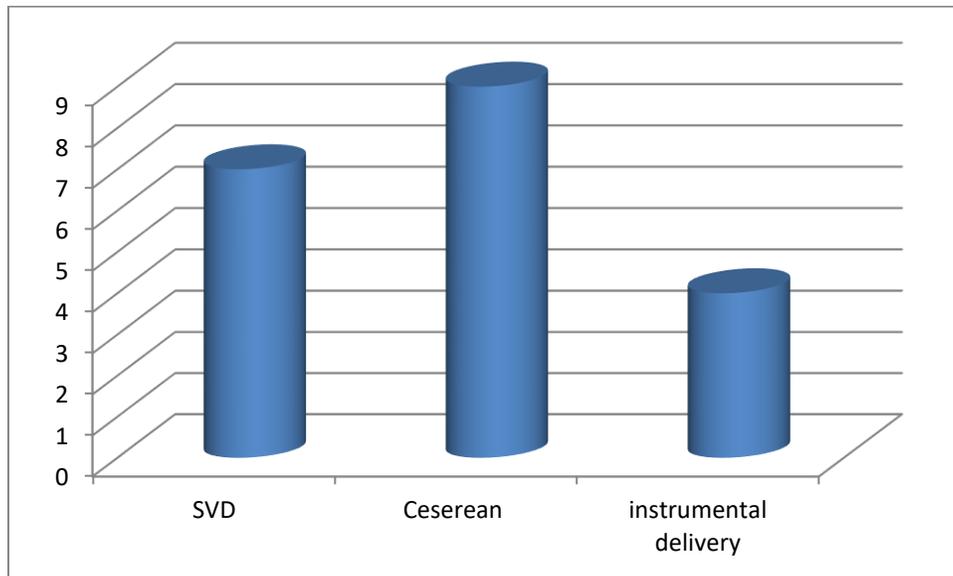
Mean hospital stay was 3.5±2.5 days.

(Table-1) Risk factors of Post-partum hemorrhage in 22 study cases.

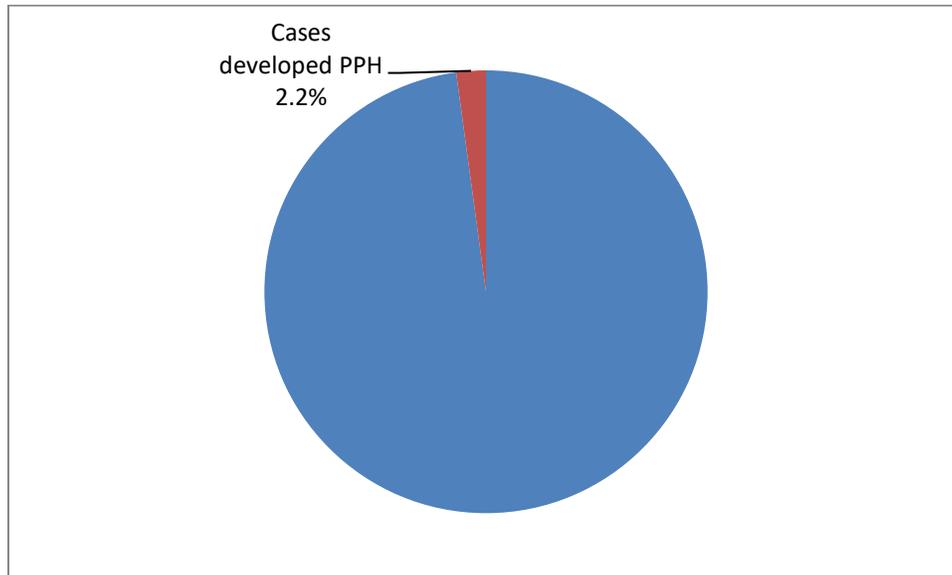
Risk factors of PPH	N	% (N/22)
High Parity	10	45.4%
Age (25-40 years)	8	36.3%
Anti partum hemorrhage	01	4.5%
More than 3 hours delay in delivery	03	6.6%
Unqualified birth attendants	02	9.1%
Delivery outside of hospital	03	13.6%
Pre-eclampsia	02	9.1%



(Figure-1) Place of delivery in 22 cases with PPH



(Figure-2) Mode of delivery among 22 cases in study group which developed PPH



(Figure-3) Frequency of PPH out of 100 deliveries

DISCUSSION:

Heavy bleeding after delivery (>500 ml) within 24 hours after birth is labelled as post-partum hemorrhage. The best preventive strategy is active management of the third stage of labor (number needed to treat [NNT] to prevent one case of postpartum hemorrhage = 12). Hospital guidelines encouraging this practice have resulted in significant reductions in the incidence of massive hemorrhage. Active management, which involves administering a uterotonic drug with or soon after the delivery of the anterior shoulder, controlled cord traction, and, usually, early cord clamping and cutting, decreases the risk of postpartum hemorrhage and shortens the third stage of labor with no significant increase in the risk of retained placenta. Compared with expectant management, in which the placenta is allowed to separate spontaneously aided only by gravity or nipple stimulation, active management decreases the incidence of postpartum hemorrhage by 68 percent.

Early cord clamping is no longer included in the International Federation of Gynecology and Obstetrics (FIGO) definition of active management of the third stage of labor, and uterine massage after delivery of the placenta has been added. Delaying cord clamping for about 60 seconds has the benefit of increasing iron stores and decreasing anemia, which is especially important in preterm infants and in low-resource settings. The delay has not been shown to increase neonatal morbidity or maternal blood loss. [7-10]

Prophylactic administration of oxytocin (Pitocin) reduces rates of postpartum hemorrhage by 40 percent this reduction also occurs if oxytocin is given after placental delivery.¹⁰ Oxytocin is the drug of choice for preventing postpartum hemorrhage because it is at least as effective as ergot alkaloids or prostaglandins and has fewer side effects. [11-14] Misoprostol (Cytotec) has a role in the prevention of postpartum hemorrhage, this agent has more side effects but is inexpensive, heat- and light-stable, and requires no syringes.

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 hematocrit 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-eclampsia, large size of fetus or multiple pregnancies and previous history of PPH.

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