Management Of Postpartum Hemorrhage Cases In Kasr El Aini Hospital

Thesis Submitted for Fulfillment of the M.Sc degree in
Obstetrics & Gynecology

BY

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Abstract

Postpartum hemorrhage is an acute life threatening condition, immediate management is life saving. Medical treatment with uterotonics and surgical correction of bleeding, replacement of plasma component to reverse coagulopathy and red cell transfusion to maintain tissue oxygenation are the basic aims of management.

Key Words**:**

Postpartum hemorrhage / active and expectant management of the third stage of labour / blood loss / ICU/ maternal morbidity and mortality / Hysterectomy.

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List of Abbreviations

Abbreviation	Title
AFE	Amniotic fluid embolism.
AIDS	Acquired immunodeficiency syndrome.
APH	Antepartum hemorrhage.
BP	Blood pressure.
CI	Confidence interval.
CS	Caesarean section.
DIC	Disseminated intravascular coagulation.
dl	Deciliter.
DVT/PE	deep vein thrombosis/pulmonary embolism.
FFP	Fresh frozen plasma.
FIGO	International Federation of Gynecology and Obstetrics.
g	Grams.
HELLP	Hemolysis, elevated liver enzymes, and low platelets.
HIV	Human immunodeficiency virus.
ICU	Intensive care unit.
IM	Intramuscular.
IMM	Intramyometrially.
ITP	Idiopathic thrombocytopenic purpura.
IU	International units.
IUD	Intrauterine death.
IV	Intravenous.
kg	Kilogram.
L	Litres.
mcg	Micro gram.
ml	Milliliter.
mm3	Cubic millimeters.
MPA	Misoprostolic acid
NSAID	Non-steroidal anti-inflammatory drug.
PET	Preeclamptic toxemia.

PPH	Postpartum hemorrhage.
RBC	Red blood cell.
RCTs	randomized controlled trials.
rF	Recombinant factor.
SD	Standard deviation.
SROM	Spontaneous rupture of membranes.
USA	United States Of America.
vWD	Von Willebrand's disease.
WCC	White cell count.
WHO	World Health Organization.

Introduction

Postpartum hemorrhage, defined as the loss of more than 500 ml of blood after delivery, occurs in up to 18 percent of births. Blood loss exceeding 1,000 ml is considered physiologically significant and can result in hemodynamic instability. Even with appropriate management, approximately 3 percent of vaginal deliveries will result in severe postpartum hemorrhage. It is the most common maternal morbidity in developed countries and a major cause of death worldwide **(Anderson and Etches, 2007)**.

In developing countries, complications of pregnancy and child birth remain the leading cause of death, disease, and disability in women of reproductive age. There are signs of global improvement in the health and well-being of mothers, but most maternal deaths occur in the poorest countries. The lifetime risk of maternal death in sub-Saharan Africa is 1 in 16, compared with 1 in 2800 in developed countries. The reasons for these inequalities are complex and include poverty, inequality, war and civil unrest, and the destructive influence of HIV/AIDS, as well as failure to translate life-saving knowledge into effective action and to invest adequately in public health and a safe environment **(Ramanathan and Arulkumaran, 2006)**.

Risk factors for postpartum hemorrhage include a prolonged third stage of labour, multiple delivery, episiotomy, fetal macrosomia, and history of postpartum hemorrhage. However, postpartum hemorrhage also occurs in women with no risk factors, so physicians must be prepared to manage this condition at every delivery. Strategies for minimizing the effects of postpartum hemorrhage include identifying and correcting anemia before

delivery, being aware of the mother's beliefs about blood transfusions, and eliminating routine episiotomy. Reexamination of the patient's vital signs and vaginal flow before leaving the delivery area may help detect slow, steady bleeding **(Anderson and Etches, 2007)**.

High-quality evidence suggests that active management of the third stage of labour reduces the incidence and severity of PPH (**Prendiville et al, 2000**). Active management is the combination of (1) uterotonic administration (preferably oxytocin) immediately upon delivery of the baby, (2) early cord clamping and cutting, and (3) gentle cord traction with uterine counter traction when the uterus is well contracted (i.e., Brandt-Andrews maneuver).The value of active management in the prevention of PPH cannot be overstated . The use of active versus expectant management in the third stage was the subject of 5 randomized controlled trials (RCTs) and a Cochrane meta-analysis (**Khan et al, 1997; Rogers et al, 1998; Prendiville et al, 2000**).

The findings show a conclusive benefit for active management, with an approximate 60% reduction in the occurrence of PPH greater than or equal to 500 ml and 1000 ml, hemoglobin concentration of less than 9 g/dl at 24-48 hours after delivery, and the need for blood transfusion. An 80% reduction in the need for therapeutic uterotonic agents was noted. These results were all highly significant as indicated by the 95% confidence interval figures. The results indicate that for every 12 patients receiving active rather than physiological management, one PPH would be prevented. For every 67 patients so treated, one patient would avoid transfusion with blood products **(Smith et al, 2006)**.

As PPH is a major cause of maternal morbidity and mortality **(Hebert et al, 1999; King et al, 2004)** and the risk of recurrent PPH is high, it is suggested that women with a PPH in a prior pregnancy should be delivered in hospitals with onsite blood cross-match facilities. Reporting the risks of recurrent PPH enables informed risk-counseling of pregnant women about the most appropriate place to give birth and the need for rigorous application of active management of the third stage of labour **(Prendiville et al, 2000)**.

Aim Of Work

To shed some light on the etiology and management options in postpartum hemorrhage, and to analyze postpartum hemorrhage cases in Kasr El Aini hospital, and their outcome with special emphasis on the maternal morbidity and mortality.

Definition Etiology &Risk Factors

Traditionally, primary postpartum hemorrhage (PPH) is defined as bleeding from the genital tract of 500 ml or more in the first 24 hours following the delivery of the baby. Alternative cut-off levels of 600ml, 1000 ml, 1500 ml, and a substantial fall in the haematocrit or the need for blood transfusion have also been suggested. Under estimation of blood loss following delivery is a common problem. The diagnosis is usually made subjectively and many cases remain undetected. Primary PPH with a loss greater than 1000 ml occurs in one to five per cent of vaginal deliveries in high-income countries **(Mousa & Alfirevic, 2007)**.

PPH is classified as primary or secondary. Primary PPH occurs within the first 24 hours after delivery, and secondary PPH occurs between 24 hours and 6-12 weeks postpartum**(ACOG Practice Bulletin, 2006)**.

Patients cope with blood loss in different ways depending on their pre-existing health e.g. anemia or pre-eclampsia. New methods for more accurate measurement of blood loss have been devised (e.g. plastic bedpans, linen-savers) **(Ramanthan & Arulkumaran, 2006)**.

Bleeding after childbirth (postpartum hemorrhage, PPH) is an important cause of maternal mortality. It accounts for nearly one-quarter of all maternal deaths worldwide, with an estimated of 125,000 deaths per year. As there are about 125 million births annually in the developing world, the risk of maternal death from PPH is approximately 1 in 1000 deliveries. In the United Kingdom, the risk of maternal death from PPH is about 1 in 100,000 births **(Carroli et al., 2008)**.