

Preventing Postpartum Hemorrhage: Active Management of the Third Stage of Labor

The Truth About Maternal Death and PPH

515,000 women die during pregnancy and childbirth every year

99% of maternal deaths occur in developing countries

130,000 women bleed to death each year while giving birth

2/3 of women with PPH have no identifiable risk factors

90% of cases of PPH are due to uterine atony

Percentage of Maternal Deaths Due to PPH

Sub-Saharan Africa: 25%

West Africa: 27%

Indonesia: 45%

There are numerous definitions of postpartum hemorrhage (PPH). The most widely recognized definition is blood loss after childbirth in excess of 500 mL. Because it is often difficult to accurately measure blood loss, the true incidence of PPH may be underestimated by up to 50%.

The majority of cases of PPH occur in the immediate postpartum period (within 24 hours after birth) and are due to uterine atony, a failure of the uterus to properly contract after the child is born. As a result, bleeding from the blood vessels in the uterus is not controlled. Without immediate and proper medical attention, a woman with PPH will probably die. Anemic women are particularly susceptible to such blood loss.

Maternal mortality due to PPH is highest where there is poor access to skilled providers, transport systems and emergency services. This is not surprising considering that a woman will die within two hours, on average, after the onset of PPH if she does not receive proper treatment (e.g., appropriate drugs, blood transfusion or surgical intervention).

Consequences of Postpartum Hemorrhage

Women who survive PPH are likely to suffer from anemia and other complications. These women often must receive blood transfusions and are susceptible to the associated risks of transfusion reactions or infection with HIV or hepatitis. Bleeding that cannot be controlled using drugs often requires surgery, including hysterectomy. Such procedures are costly and painful and

may be emotionally devastating to the woman and her family. In addition, they carry the risk of infection, reactions to anesthesia and other complications.

Risk of Postpartum Hemorrhage

Although some factors have been associated with an increased incidence of uterine atony leading to PPH, two-thirds of the women who hemorrhage after childbirth have no identifiable risk factors. Therefore, every woman must be closely monitored after childbirth for signs of hemorrhage.

Preventing Postpartum Hemorrhage: Active Management of the Third Stage of Labor

The third stage of labor is the period of time from the birth of the child until the placenta is delivered. A series of procedures, conducted during the third stage and collectively called active management, enhance the ability of the uterus to contract after the child is born. By decreasing the amount of time necessary to deliver the placenta, active management can prevent PPH by preventing uterine atony. Active management consists of:

- giving a drug (uterotonic), within one minute of birth, that causes the uterus to contract;
- early clamping and cutting of the umbilical cord; and
- applying controlled traction on the umbilical cord while applying counter-traction on the uterus.

Following the delivery of the placenta, the uterus is massaged through the abdomen to ensure that it remains contracted.

Uterotonic Drugs

Giving women oxytocin immediately after childbirth is probably the single most important intervention used to prevent PPH. Women given oxytocin lose less blood, resulting in a decreased incidence of PPH and anemia. A woman receiving oxytocin delivers her placenta faster and is less likely to require manual removal of her placenta, a painful procedure that increases the risk of infection.

Timing of Administration

Oxytocin is most effective when administered within one minute after the birth of the baby. Waiting to give oxytocin until after the placenta is delivered increases the woman's risk of uncontrolled bleeding.

Oxytocin and Ergometrine

Oxytocin alone and oxytocin plus ergometrine are generally equally effective in reducing the incidence of PPH. Giving oxytocin alone, however, is associated with fewer side effects (e.g., nausea, vomiting and increased blood pressure). In addition, ergometrine cannot be given to women with high blood pressure (a common problem in pregnancy).

Misoprostol

Prostaglandins are effective in controlling hemorrhage but most have the disadvantages of being more expensive and having increased side effects (e.g., diarrhea, vomiting and abdominal pain). One notable exception is misoprostol, a prostaglandin analogue currently being investigated as a potential uterotonic drug for use in active management of the third stage of labor. Studies to date indicate that misoprostol is effective in reducing the incidence of PPH

without the side effects associated with other uterotonic drugs. Furthermore, misoprostol is inexpensive, stable at room temperature and can be given orally—all of which are tremendous advantages over currently available uterotonic drugs.

A Few Simple Procedures Save Lives

Active management of the third stage of labor can substantially decrease the following:

- Incidence of PPH due to an atonic uterus
- Length of the third stage of labor
- Need for additional drugs to treat excessive bleeding
- Need for a blood transfusion
- Need for surgical intervention
- Incidence of anemia and other problems associated with excessive blood loss

Performing just a few simple procedures—giving a uterotonic drug, clamping and cutting the umbilical cord, applying traction on the umbilical cord while applying counter-traction on the uterus and massaging the uterus through the abdomen—has the potential to prevent more than 130,000 maternal deaths every year.

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