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CAUSES OF POSTPARTUM VAGINAL BLEEDING, DIAGNOSIS, PHYSICIAN MANAGEMENT, AND PREVENTIVE MEASURES

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Annotation: This article discusses postpartum vaginal bleeding as one of the most serious obstetric emergencies associated with high maternal morbidity and mortality. The study analyzes the main causes of postpartum hemorrhage, including uterine atony, retained placental tissue, birth canal trauma, and coagulation disorders. Special attention is given to modern diagnostic approaches, clinical manifestations, and physician management tactics based on evidence-based obstetric guidelines. The article also examines emergency treatment methods such as uterotonic therapy, fluid resuscitation, blood transfusion, and surgical interventions. In addition, preventive measures including antenatal risk assessment, active management of the third stage of labor, and early postpartum monitoring are highlighted. According to modern clinical protocols, early diagnosis and rapid intervention significantly reduce severe complications and maternal death associated with postpartum hemorrhage.

Keywords: Postpartum hemorrhage, vaginal bleeding, uterine atony, obstetrics, maternal mortality, diagnosis, physician management, prevention, uterotonic agents.

Introduction

Postpartum vaginal bleeding, also known as postpartum hemorrhage (PPH), is a serious obstetric emergency that occurs after childbirth and threatens maternal life and health. It is defined as blood loss of more than 500 mL after vaginal delivery or more than 1000 mL after cesarean section. Severe postpartum hemorrhage may rapidly lead to hypovolemic shock, anemia, disseminated intravascular coagulation (DIC), and maternal death. Despite advances in obstetric care, postpartum hemorrhage remains one of the most important causes of maternal morbidity and mortality worldwide. The most common cause of postpartum bleeding is uterine atony, in which the uterus fails to contract effectively after delivery. Other important causes include retained placental fragments, genital tract trauma, uterine rupture, and coagulation disorders. Risk factors such as prolonged labor, multiple pregnancy, polyhydramnios, previous postpartum hemorrhage, and operative delivery significantly increase the risk of severe bleeding. Early recognition and rapid intervention are essential to reduce complications and improve maternal outcomes. Accurate diagnosis includes clinical assessment, monitoring of vital signs, evaluation of uterine tone, and laboratory investigations. Management depends on the severity and cause of bleeding and may include uterine massage, uterotonic drugs, fluid resuscitation, blood transfusion, surgical intervention, and intensive care support when necessary.

Relevance

The main causes of postpartum hemorrhage include uterine atony, retained placental tissue, birth canal trauma, and coagulation disorders. Early diagnosis and appropriate physician management are essential for saving the mother's life and preventing serious complications. Therefore, studying the causes, diagnostic methods, medical management, and preventive measures of postpartum vaginal bleeding remains one of the most important and actual issues in modern obstetrics.

Main part

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Postpartum vaginal bleeding, also known as postpartum hemorrhage (PPH), is one of the most dangerous obstetric emergencies and a major cause of maternal mortality worldwide. It is defined as blood loss exceeding 500 mL after vaginal delivery or more than 1000 mL after cesarean section. Postpartum hemorrhage is classified into primary and secondary forms. Primary PPH occurs within the first 24 hours after delivery, while secondary PPH develops from 24 hours up to 6 weeks postpartum. The main etiological factors are explained by the “4T” principle: Tone, Tissue, Trauma, and Thrombin. Tone refers to uterine atony, which is responsible for nearly 70–80% of all cases. In this condition, the uterus fails to contract effectively after delivery, resulting in continuous bleeding from uterine vessels. Tissue includes retained placental fragments or membranes remaining inside the uterus. Trauma involves injuries of the cervix, vagina, perineum, or uterine rupture during labor. Thrombin refers to coagulation disorders and abnormalities of the blood clotting system. Major risk factors include prolonged labor, multiple pregnancy, polyhydramnios, fetal macrosomia, chorioamnionitis, and a previous history of postpartum hemorrhage. In the pathogenesis of uterine atony, insufficient contraction of myometrial fibers prevents compression of blood vessels, causing severe hemorrhage. Excessive blood loss leads to hypovolemia, decreased tissue perfusion, metabolic acidosis, and disseminated intravascular coagulation (DIC). If not treated rapidly, postpartum hemorrhage may result in multi-organ failure and maternal death.

Early diagnosis of postpartum hemorrhage is extremely important for reducing maternal morbidity and mortality. Clinical assessment is the first and most important step in diagnosis. Patients may present with excessive vaginal bleeding, tachycardia, hypotension, pallor, dizziness, and signs of hypovolemic shock. The physician should carefully assess uterine tone because a soft and enlarged uterus strongly suggests uterine atony. Accurate estimation of blood loss is necessary for determining the severity of hemorrhage. Laboratory investigations include complete blood count, hemoglobin level, hematocrit, platelet count, coagulation profile, and fibrinogen level. Ultrasound examination may help identify retained placental tissue or intrauterine blood clots. Management should follow the ABC principle, including airway stabilization, breathing assessment, and circulatory support. Two large-bore intravenous lines should be established immediately. Rapid infusion of crystalloids and blood products is necessary to restore hemodynamic stability. Uterine massage is performed to stimulate uterine contractions. Uterotonic agents such as Oxytocin, Methylergometrine, Carboprost, and Misoprostol are commonly used in treatment. If bleeding continues, bimanual uterine compression or balloon tamponade may be performed. Blood transfusion and correction of coagulation abnormalities are important components of management. In severe cases, surgical interventions such as uterine artery ligation, B-Lynch sutures, or hysterectomy may become necessary. Timely and appropriate physician management significantly reduces the risk of maternal death and severe complications.

Prevention of postpartum hemorrhage is one of the most important aspects of modern obstetric care. Early identification of risk factors during pregnancy plays a key role in prevention. Pregnant women with anemia, coagulation disorders, multiple pregnancy, polyhydramnios, or previous postpartum hemorrhage require close monitoring. Adequate antenatal care and correction of maternal anemia help reduce the risk of severe bleeding after delivery. Active management of the third stage of labor is considered the most effective preventive strategy. According to WHO recommendations, administration of 10 IU Oxytocin immediately after delivery significantly decreases the incidence of postpartum hemorrhage. Careful monitoring of uterine contractions after placental delivery is also essential. The physician should ensure complete placental separation to prevent retained tissue inside the uterus. Examination of the birth canal for lacerations and trauma is important, especially after operative vaginal delivery. Strict aseptic techniques during labor and delivery reduce infectious complications that may

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contribute to hemorrhage. Healthcare professionals should be trained regularly in emergency obstetric management and postpartum hemorrhage protocols. Availability of blood products, uterotonic medications, and emergency surgical equipment is essential in maternity units.

References

1. Cunningham F.G., Leveno K.J., Bloom S.L., et al. *Williams Obstetrics*. 26th ed. – New York: McGraw-Hill Education, 2022. – 1344 p.
2. Dildy G.A. Postpartum hemorrhage: New management options // *Clinical Obstetrics and Gynecology*. – 2021. – Vol. 64, №2. – P. 411–421.
3. American College of Obstetricians and Gynecologists (ACOG). Practice Bulletin No. 183: Postpartum Hemorrhage // *Obstetrics & Gynecology*. – 2022. – Vol. 140, №4. – P. 168–186.
4. FIGO Safe Motherhood and Newborn Health Committee. Management of postpartum hemorrhage // *International Journal of Gynecology & Obstetrics*. – 2022. – Vol. 157, Suppl. 1. – P. 3–50.
5. Evensen A., Anderson J.M., Fontaine P. Postpartum hemorrhage: Prevention and treatment // *American Family Physician*. – 2021. – Vol. 104, №5. – P. 442–449.
6. Bienstock J.L., Eke A.C., Hueppchen N.A. Postpartum hemorrhage // *New England Journal of Medicine*. – 2021. – Vol. 384, №17. – P. 1635–1645.