Intrapartum Care: Placenta Delivery, Postpartum Hemorrhage, Laceration and Episiotomy

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The third stage of labor begins when the infant is delivered and ends when the placenta has delivered. At this time, the infant is in the hands of a pediatrician or labor/delivery nurse and the risk for operative delivery has ended. Now, the focus is on the safe delivery of an intact placenta and evidence of increased uterine tone, which will stop the intrauterine bleeding. This is the period of time when any lacerations of the cervix or perineum are evaluated and repaired.

Definition of Third Stage of Labor

The third stage of labor is generally the fastest stage of labor, lasting less than five minutes in an uncomplicated delivery. The infant has been delivered and there is still some minor bleeding.

The uterus contracts to expel the placenta, which ideally is intact with no remaining placental tissue in the uterus. There is a gush of blood when the placenta detaches, in a normal third stage of labor, the uterus continues to have a high tone, which stops any
intrauterine bleeding. **Episiotomies** and **lacerations** are evaluated and repaired and the placenta is evaluated to make certain it is intact.

70 % of all deliveries end in a normal vaginal delivery, with the remainder being planned or emergent cesarean section. The biggest risk in the third stage of labor is **postpartum hemorrhage**.

Postpartum hemorrhage of more than 500 cc has a prevalence of 5 % when active management is undertaken. When expectant management is undertaken, the risk of postpartum hemorrhage is 13 %. The prevalence of a hemorrhage of more than 1,000 cc is about 1 % when active management is pursued and about 3 % when expectant management is used.

**Symptoms and Signs of Third Stage of Labor**

The third stage of labor is marked by a **significant decline in pain**. The mother is generally distracted by the delivery of her infant and pays little attention to the third stage of labor. The woman will continue to have **cramping in the lower abdomen and pelvis** as the uterus contracts to expel the placenta. If the woman has had **epidural anesthesia**, this is continued so any lacerations or episiotomies can be repaired.

The third stage of labor presents with an **umbilical cord remaining in the vaginal opening**. The perineum may be intact or may have suffered some lacerations. Routine episiotomy is no longer recommended for normal vaginal deliveries but may be done when expeditious delivery is necessary in the third stage of labor. **Lacerations** or **episiotomies** can begin to be repaired before the placenta presents itself.

Signs that the placenta has detached include **elongation of the umbilical cord**, a **change in shape of the uterus** so that it is more globular, and a sudden **gush of blood** that signals the detachment of the placenta from the uterine wall.

The doctor or midwife can facilitate the **expulsion of the placenta** by putting downward **pressure in the suprapubic area** and gently **tugging on the cord**. Failing to put downward pressure in the suprapubic area may cause **inversion of the uterus** if too much traction is applied to the placenta. In some cases, **manual extraction of the placenta** may happen before the placenta disengages.

**Special Tests in Third Stage of Labor**

No special tests need to be done in a normal delivery. In cases of severe postpartum hemorrhage of unknown etiology, **tests of clotting function**, such as a bleeding time, **prothrombin time**, and partial **thromboplastin time** may be ordered to identify an underlying bleeding pathology in the mother.

**Treatment in Third Stage of Labor**

There are **two main interventions** that need to be done in the third stage of labor. The first is the facilitation of the **evacuation of the placenta** described above. If this is done correctly, continued **massage of the uterus** is done by a labor and delivery nurse to maximize the tone of the uterus.

If there is **ongoing uterine atony**, the patient may be given any one of four drugs to increase uterine tone. Additional intravenous oxytocin may be given to increase tone.
**Methylergonovine** can be given if there is no maternal hypertension. **PGF\textsubscript{2a}** can be given if there is no maternal asthma. **Misoprostol** can be given without any contraindications.

If uterine massage and medications fail to stop the bleeding, **surgical interventions** may be considered. The patient may be taken to the operating room to have a **curettage** to remove placental fragments. The cervix and perineum need to be carefully examined for an extrauterine cause of the bleeding.

If the curettage fails and there is ongoing hemorrhage not caused by a bleeding disorder, a **uterine artery embolization** may be necessary. Packing of the uterus may stop the bleeding. **Arterial ligation** may control hemorrhage. In severe cases, where nothing is stopping the bleeding, the patient may need an **emergency hysterectomy**.

If there is evidence for a **bleeding disorder** as the cause of the bleeding, the patient may need blood products to replace lost blood. Packed red blood cells can be given along with fresh frozen plasma, platelets, and cryoprecipitate as the cause of the bleeding disorder may be unable to be ascertained in the short period of time necessary to control the bleeding.

**Episiotomy repair** is the second intervention that needs to happen. There are several types of episiotomies. Most episiotomies are midline, meaning the cut is made straight down from the vaginal introitus toward the rectum. In cases where more room is needed, a **mediolateral** episiotomy can be done but this is more difficult to repair and causes more postprocedure pain.

In a **midline episiotomy**, a **first-degree laceration** can happen, which involves a tear into the vulva and vaginal epithelium. A **second-degree laceration** involves a tear into the perineal muscles with an intact anal sphincter. A **third-degree laceration** involves a tear involving the anal sphincter. A **fourth-degree tear** involves a tear into the mucosa of the anus.

These are repaired by repairing the anus and anal sphincter first, followed by repair of the perineal muscles. When these are approximated, the vulvar tissues and vaginal epithelium are approximated and the episiotomy is allowed to heal with little risk of infection or secondary complications.

**Complications in Third Stage of Labor**

The only complications of the third stage of labor are **retained placenta** or **retained placental fragments**, **postpartum hemorrhage**, and **tears into the perineum or rectum** that need to be repaired to restore the anus and perineal tissues so they are approximated with dissolvable sutures.

**Prognosis of Third Stage of Labor**

The prognosis is **excellent** in the third stage of labor. The risk of **postpartum hemorrhage** when there is active management to control bleeding is about 5 %. Care must be taken to remove the placenta without causing **inversion of the uterus**, and the anus, perineum, and cervix must be examined for **lacerations** or **hematomas**.

If lacerations are present, these are sutured with absorbable sutures to control bleeding and restore function to the anal and perineal structures.
Review Questions on the Third Labor Stage

The correct answers can be found below the references.

1. **You are treating a multiparous woman who has had two normal vaginal deliveries in the past. The third stage of labor is complicated by hemorrhaging after removal of the placenta. What do you suspect is the cause of the bleeding?**
   - A. Bleeding diathesis in the mother
   - B. Retained placental fragments
   - C. Uterine atony
   - D. Inverted uterus

2. **You are caring for a primiparous woman who required an episiotomy and who sustained a fourth-degree laceration of her midline episiotomy. How do you go about repairing the tear?**
   - A. Repair the anal sphincter first and then repair the perineal muscles.
   - B. Repair the anal epithelium first and then repair the anal sphincter before approximating the perineal tissues.
   - C. Approximate the vaginal mucosa only as the muscles will approximate themselves.
   - D. Repair the perineal muscles and then the anal sphincter. Follow this by repairing both the anal epithelium and the vaginal epithelium.

3. **You are caring for a woman who has retained placental fragments. She is bleeding moderately but is hemodynamically stable. What is your next step?**
   - A. Manually remove the placental fragments at the bedside.
   - B. Perform a uterine artery ligation.
   - C. Give misoprostol to increase uterine tone so the fragments can be expelled.
   - D. Do a dilatation and curettage in the operating room.

**References**


**Correct answers: 1B, 2B, 3C**

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