Educational Topic 21: Fetal Demise

Rationale: Antepartum stillbirth is a devastating pregnancy complication that may cause additional risks to the patient. Early medical management and patient support is warranted. Evaluation of fetal demise is needed to assess the risk to future pregnancies.

Intended Learning Outcomes:

A student should be able to:

• Describe the symptoms and common causes of fetal demise in each trimester including genetic and nutritional factors
• Describe the diagnostic methods to confirm the diagnosis and etiology of fetal demise
• Describe the medical and psychosocial management of a patient diagnosed with a fetal demise
• Outline the steps to disclose a diagnosis of fetal demise to a patient
• Identify factors unique to developing countries that may lead to fetal demise

TEACHING CASE

CASE: A 30 year-old G1P0 woman presents for a routine prenatal visit at 36 weeks gestation. Her prenatal course has been uncomplicated. She had a normal ultrasound at 20 weeks gestation with a normal fetal anatomic survey. She reports no problems and good fetal movement. Unfortunately, no fetal heart tones were heard by Doppler and an ultrasound evaluation confirmed no fetal cardiac activity. She is very upset and you spend time counseling her.

COMPETENCY-BASED DISCUSSION & KEY TEACHING POINTS:

Competencies addressed:

• Patient care
• Medical knowledge
• Interpersonal and communication skills
• Professionalism
• System-Based Practice
1. **What is the definition of fetal demise?**

   Historically, pregnancy losses occurring before 20 weeks gestation have been classified as spontaneous abortions while fetal deaths that occur after 20 weeks gestation have been classified as stillbirths or fetal demise. There is some controversy regarding the gestational age cut off used to discriminate between fetal demise and spontaneous abortion. The World Health Organization defines stillbirth as pregnancy losses occurring after 20 weeks gestation. In cases where the gestational age is unknown, a birth weight of 500 grams or greater is characterized as a stillbirth.

2. **What are the symptoms and physical findings and diagnostic methods used to confirm the diagnosis of fetal demise?**

   - Cessation of fetal movements
   - Cessation or decrease in pregnancy-related symptoms including nausea (this is non-specific)
   - Possible bleeding, cramping and/or labor
   - In many cases there are no signs and/or symptoms and fetal demise is discovered at a routine OB visit
   - Uterine size less than dates
   - Diagnosis is made using ultrasound which confirms the presence of a fetus with no cardiac activity

3. **What risk factors are associated with fetal demise?**

   - Non-Hispanic black race
   - Nulliparity
   - Advanced maternal age
   - Obesity
   - Smoking
   - Multiple gestation
   - Poor nutritional status
   - History of fetal demise, preterm delivery, intrauterine growth restriction and preeclampsia in a prior pregnancy

4. **What are some causes and conditions associated with fetal demise?**

   - Fetal chromosomal, genetic and structural abnormalities
   - Intrauterine growth restriction
   - Placental abnormalities
   - Maternal medical conditions including diabetes, chronic hypertension, thrombophilias, systemic lupus erythematosis, renal disease, thyroid disorders, cholestasis of pregnancy, sickle cell disease
   - Preeclampsia and eclampsia
   - Infections including syphilis, listeria, human parvovirus B19, malaria, and cytomegalovirus
   - Cord accident
   - Placental abruption
   - Global: malaria, intrapartum death (obstructed labor), sickle cell disease, poor nutritional status
5. What work-up should be considered for a patient with a fetal demise?

- Obtain a complete perinatal and family history
- Perform a physical exam on the fetus
- Autopsy of the fetus or possibly radiologic studies (X-ray, MRI)
- Placental pathology
- Fetal karyotype
- Perform a physical exam and obtain laboratory studies to rule out underlying maternal medical conditions including diabetes, chronic hypertension, thrombophilias, systemic lupus erythematosus, renal disease, cholestasis of pregnancy, sickle cell disease
- Obtain laboratory studies to rule out infectious causes including syphilis, listeria, human parvovirus B19, malaria, and cytomegalovirus
- Antibody screen
- Fetal-maternal hemorrhage screen (Kleihauer-Betke)
- Urine toxicology screen

6. Describe the medical and psychosocial management of a patient diagnosed with a fetal demise.

- Offer the options of immediate induction of labor/delivery versus expectant management
- Rare complications associated with expectant management include intrauterine infection and maternal coagulopathy
- Evacuation of the uterus may be performed by D&E versus induction of labor depending on gestational age and patient preference
- Important to help patients and their families with bereavement
  - Offer opportunity to hold infant and keep mementos including photos and footprints
  - Offer psychological counseling and visits with clergy and support groups

7. How should a patient with a history of an unexplained fetal demise be followed in a future pregnancy?

- Antenatal surveillance with NSTs, biophysical profiles beginning at approximately 32 weeks gestation
- Ultrasound surveillance to follow fetal growth
- Fetal kick counts
- Frequent visits, documentation of fetal heart tones and reassurance

Refer to Educational Topic 16, Spontaneous Abortion for additional information on this topic.

REFERENCES


APGO Medical Student Educational Objectives, Topic 16: Spontaneous Abortion