Educational Topic 16: Spontaneous Abortion

Rationale: Spontaneous abortion is a common and often distressing complication of early pregnancy. An accurate and prompt diagnosis is warranted.

Intended Learning Outcomes:

A student should be able to:

- Develop a differential diagnosis for first trimester vaginal bleeding
- Differentiate the types of spontaneous abortion (missed, complete, incomplete, threatened, septic)
- List the causes of spontaneous abortion
- List the complications of spontaneous abortion
- Discuss treatment options for spontaneous abortion

TEACHING CASE

CASE: A 32 year-old G1 woman presents with a positive urine pregnancy test at 9 weeks 4 days from start of last normal menstrual period. She reports 5 days of moderate painless vaginal bleeding and chills. Physical examination shows a temperature of 101.5° orally, pulse 95, and BP 95/60 with normal bowel sounds, no rebound, and 5/10 suprapubic tenderness. Pelvic exam shows moderate amount of blood in vagina with a closed 5/10 tender cervix and an 8/10 tender uterus. No adnexal masses or tenderness.

Lab data shows a serum β-β-hCG level of 6,500 mIU/ml and ultrasound shows a gestational sac in the uterus with no fetus seen. The ovaries and tubes appear normal.

COMPETENCY-BASED DISCUSSION & KEY TEACHING POINTS:
Competencies addressed:
- Patient Care
- Medical Knowledge
1. What are the different types of spontaneous abortion?
   - Threatened abortion
   - Incomplete abortion
   - Inevitable abortion
   - Complete abortion
   - Missed abortion (subtype is blighted ovum)
   - Septic abortion
   - Recurrent abortion

2. Which type or types is most likely in this case and why?
   - Septic abortion
   - Fever
   - Tenderness
   - Hypotension
   - Tachycardia

3. Why does this patient have a fever and tenderness and what needs to be done about it?
   - The fever originates from infected non-viable products of conception. The patient needs immediate evacuation of the uterus and antibiotics in order to prevent worsening infection, sepsis and possible septic shock.

4. If this patient was 6 weeks pregnant with no fever or tenderness, had an β-hCG level of 700 mIU/ml and a negative ultrasound with no evidence of a gestational sac, what would be your differential diagnosis if she had a small amount of bleeding and no fever or tenderness?
   - The first diagnosis to exclude would be ectopic pregnancy. A closed cervical os could indicate either a threatened abortion with a gestation which was so early that it could not be visualized on ultrasound or completed abortion in which the products of conception have already passed though this is less likely given the small amount of bleeding she has had. A missed abortion occurs when the patient is asymptomatic but has a non-viable pregnancy, as diagnosed by falling β-hCG levels or ultrasound imaging.

5. How would you make the diagnosis in question 4?
   - If no intrauterine gestational sac can be seen on ultrasound, order serial beta β-hCG s since the initial B-HCG level is too low for ultrasound to show an intrauterine pregnancy (IUP) (which usually is seen on vaginal ultrasound at 1500-2000 mIU/ml β-hCG). If this is a viable intrauterine pregnancy, the β-hCG level usually will increase at least 66% when repeated in 48 hours. If it does not, then a viable intrauterine pregnancy is unlikely. If the patient is stable, repeated quantitative β-hCG levels can be performed and followed until negative. Diagnostic D&C can be performed as well once viable IUP has been ruled out. Once a diagnosis of ectopic or abnormal intrauterine pregnancy is confirmed, appropriate treatments can be implemented.

6. For a patient with any type of abortion, what blood test is essential to do?
   - Blood typing for Rh factor is essential followed by RHoGAM injection if patient is Rh negative. This is vital to prevent Rh sensitization in a subsequent pregnancy.
7. What are the causes of spontaneous abortion?

• Possible causes include infection, fetal chromosomal abnormality, uterine malformation, immunologic dysfunction, diabetes, thyroid disease, subclinical infection, trauma, as well as teratogenic or environmental exposures.

8. What are treatment options for spontaneous abortion?

• For incomplete, inevitable and missed abortions, management may include expectant, medical or surgical management. Surgical management with dilation and curettage or manual vacuum aspiration is more definitive. Medical management with prostaglandins, or expectant management, may be associated with bleeding and still require surgical evacuation.

REFERENCES
