Abortions and RH Management:

Micarriages:

Definitions

Miscarriage: spontaneous termination of pregnancy before 20 weeks of gestation

Premature birth: fetal demise after 20 weeks of gestation or fetus greater than 500 g

Stats:

- 20 percent of pregnant women will have some bleeding before 20 weeks' gestation, and roughly one half of these pregnancies will end in spontaneous abortion.

- 10-30 percent of recognized pregnancies will end in miscarriage.

- suspect ectopic of miscarriage if empty uterus and hCG >1800 (TVUS) or >3500 (TAUS)

- once there are FHT, risk drops to about 3%

- 80% of all miscarriages are 1st trimester

Risk factors associated with miscarriage: increasing maternal age, increasing paternal age, alcohol use, cocaine use, increased parity, prior history of miscarriage, diabetes, thyroid disease, low BMI, maternal stress

Other maternal factors: congenital anatomic defects, uterine scarring, leiomyomas, cervical incompetence,

Pathophysiology: uterine malformations or chromosomal abnormalities, ovum never develops (anembryonic gestation)

Categories of Miscarriage:

1. Threatened miscarriage- vaginal bleeding, closed internal cervical os. Risk is 35-50%
    a. Inevitable miscarriage- vaginal bleeding, internal cervical os is open
2. Incomplete miscarriage- vaginal bleeding, products of conception are present at cervical os or in the vaginal canal
3. Completed miscarriage- vagainal bleeding, uterus has expelled all fetal and placental material, cervix is closed, uterus is contracted. Difficult to diagnose in ED, a gestational sac should be visualized for diagnosis.

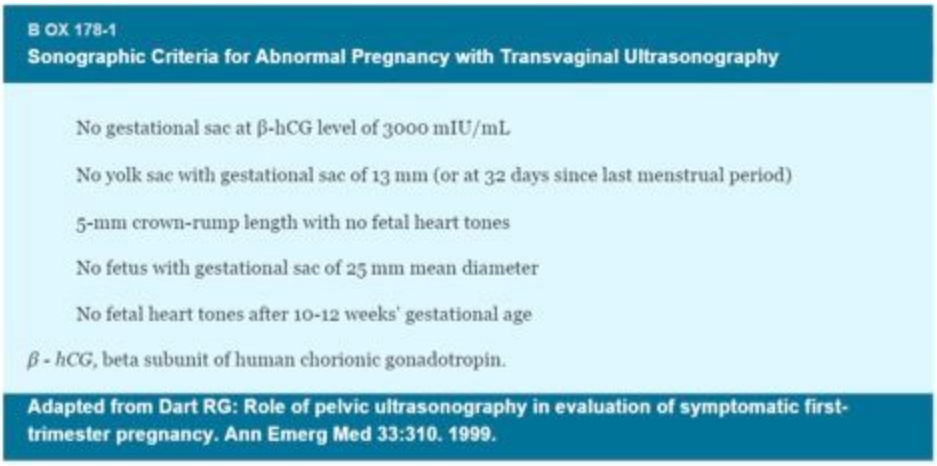
Other terms:

Missed abortion- clinical failure of uterine growth over time, now an obsolete term

Anembryonic gestation- when no fetus is seen on ultrasound

First or second trimester fetal death- failure to see fetal cardiac activity with at least a 5mm CRL

Diagnosis: CBC, Rh, type and cross, hcg, UA. Ultrasound to assess for IUP, fetal heart rate.



Management: Remember return precautions and counseling!

Stable patient with threatened miscarriage: expectant management, Rhogam

If sonographic findings = indeterminate; gestational age < 6 weeks → serial hcg levels, follow up sonographic evaluation

Can use medical management with misoprostol, or D&C

Unstable patient or further along patients → ABCs with fluid and blood resuscitation, Rhogam, D&C

<u>Outcomes for expectant mgmt options in SAB:</u>

- Incomplete AB: Expectant management successful, with no need for surgical intervention in 82 to 96%. No additional benefit with misoprostol (Cytotec) or mifepristone (2013 cochrane review supports this). The average time to completion of the miscarriage was nine days.20
- Missed Ab: expectant management has a variable but generally lower success rate than medical therapy, ranging from 16 to 76 percent. Success is 80 percent with 800 mcg of misoprostol intravaginally and repeated no sooner than four hours later if necessary (but less than 7d). Intravaginal administration of misoprostol causes less diarrhea than oral administration.27
- candidates for expectant or medical management: without infection, hemorrhage, severe anemia, or bleeding disorders
- misoprostol has been studied extensively in early pregnancy loss (unclear if they're talking about missed AB here….) and it reliably reduces the need for uterine curettage by up to 60% and shortens the time to completion compared with placebo (from OB practice bulletin)
- no good evidence for adding mifepristone (progesterone antagonist)
- Counseling for expectant mgmt: >two maxi pads per hour for 2 consecutive hours warrants call to OB or ED visit. no evidence to support delaying repeat conception but sex should be avoided for 1-2 wks after passage of tissue to prevent infection.

RH (Anti-D) Immunization in Pregnancy:

When does RH immunization occur? When an Rh negative women is exposed to Rh positive fetal blood

What happens? In maternal circulation, a small amount of fetal cells can spontaneously enter throughout pregnancy, but the maternal immune system is only triggered by a large load of fetal cells, which happens during third trimester and at delivery.

Does sensitization really occur? It can occur in 15% of Rh-negative women carrying Rh-positive fetuses

Why does it matter? Rh positive fetus at risk of developing hemolytic disease of newborn, hydrops fetalis

Who gets RhoGAM? If mother is Rh negative and father is Rh positive (or unknown status), RhoGAM is routinely given at 28th week gestation to protect the mother from spontaneous sensitization in the 3rd trimester

In what instances should I give RhoGAM? Transplacental hemorrhage (uterine manipulation, threatened miscarriage, spontaneous miscarriage, surgery for ectopic, amniocentesis, etc). 3rd trimester bleeding are not at increased risk of sensitization unless patients did not received prophylactic dose at 28 weeks.

What's the dosage?

< 12 weeks: 50 microgram

>12 weeks: 300 micrograms

Resources:

Houry DE, Salhi BA. Acute Complications of Pregnancy. In: Rosen's Emergency Medicine: Concepts and Clinical Practice. Vol 2. 8th ed. Philadelphia, PA: Elseview Saunders; 2014: 2282-2299

Simpson, Joe Leigh; Jauniaux, Eric R.M.. Published January 1, 2012. Pages 592-608.

Helman A. Vaginal Bleeding In Early Pregnancy | Emergency Medicine Cases. Emergency Medicine Cases. https://emergencymedicinecases.com/episode-23-vaginal-bleeding-in-early-pregnancy/. Published May 16, 2012. Accessed June 14, 2017.