Spontaneous Miscarriage

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Disclosures

- None

Learning objectives

- Understand the differential for 1st trimester bleeding and how to work through it
- Discern the the different types of spontaneous abortion and when intervention is appropriate/inappropriate
- Discuss management and treatment options for spontaneous abortion and determine when appropriate
- Recognize complications of spontaneous abortion and its treatments

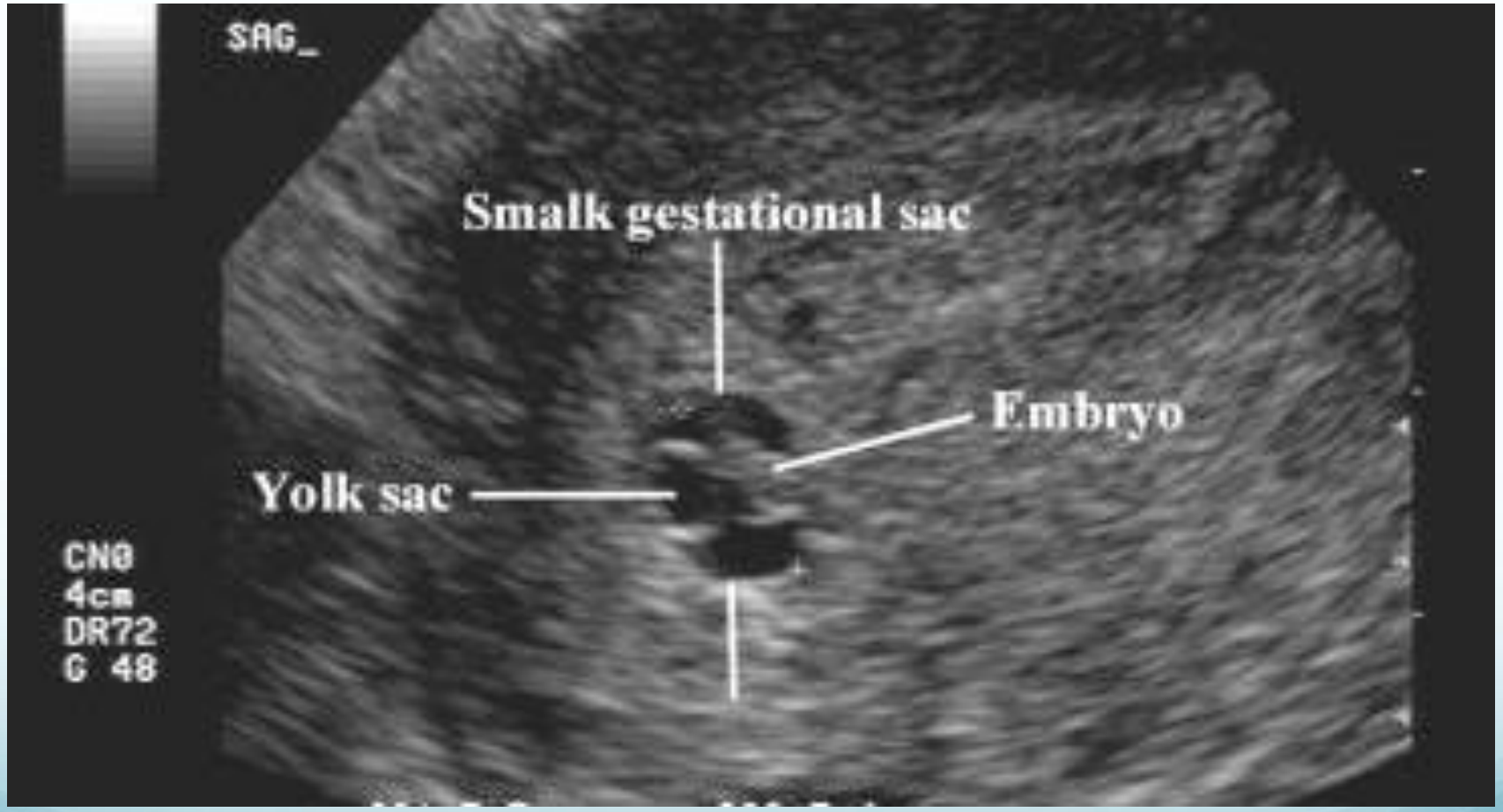
What is Spontaneous Miscarriage (EPL)?

- Pregnancy loss before 20 weeks
- Not the same as IUFD or FDIU despite wording on ultrasound report
- WHO says loss of pregnancy 500g or less

Typical Presentation

- 27 y/o G3P1011 LMP 8 weeks ago presents to ER with spotting and cramping for one day. No other symptoms. Negative PMH, PSH, FamHx.
- Imaging – gestational sac is noted, fetal pole is noted with measurement c/w 6 weeks gestation and without fetal heartbeat.
- Labs - her bHCG is 1402 and her blood type is A negative

Early IUP



How early can you see a viable pregnancy?

- By LMP?
- By bHCG level?
  - 1500-2000 mIU/mL on transvaginal ultrasound
  - Typically increases by 66% over 48 hours … or does it?
- By ultrasound?
  - 2% ectopic [2]
  - Gestational sac is usually seen by 5 ½ wks, yolk sac usually by 1 after this and FHB by about 6 ½ weeks

Table 2. **Guidelines for Transvaginal Ultrasonographic Diagnosis of Pregnancy Failure in a Woman with an Intrauterine Pregnancy of Uncertain Viability.***

Findings Diagnostic of Pregnancy Failure	Findings Suspicious for, but Not Diagnostic of, Pregnancy Failure†
Crown–rump length of ≥7 mm and no heartbeat	Crown–rump length of <7 mm and no heartbeat
Mean sac diameter of ≥25 mm and no embryo	Mean sac diameter of 16–24 mm and no embryo
Absence of embryo with heartbeat ≥2 wk after a scan that showed a gestational sac without a yolk sac	Absence of embryo with heartbeat 7–13 days after a scan that showed a gestational sac without a yolk sac
Absence of embryo with heartbeat ≥11 days after a scan that showed a gestational sac with a yolk sac	Absence of embryo with heartbeat 7–10 days after a scan that showed a gestational sac with a yolk sac
	Absence of embryo ≥6 wk after last menstrual period
	Empty amnion (amnion seen adjacent to yolk sac, with no visible embryo)
	Enlarged yolk sac (>7 mm)
	Small gestational sac in relation to the size of the embryo (<5 mm difference between mean sac diameter and crown–rump length)

* Criteria are from the Society of Radiologists in Ultrasound Multispecialty Consensus Conference on Early First Trimester Diagnosis of Miscarriage and Exclusion of a Viable Intrauterine Pregnancy, October 2012.
† When there are findings suspicious for pregnancy failure, follow-up ultrasonography at 7 to 10 days to assess the pregnancy for viability is generally appropriate.

Types of spontaneous abortion

- Threatened abortion
- Incomplete abortion
- Inevitable abortion
- Complete abortion
- Missed abortion or blighted ovum
- Septic abortion
- Recurrent abortion

Incomplete Abortion

- Cervical os is open
- +bleeding
- Often with cramping

Threatened Abortion

- Cervix closed or slightly open
- +bleeding
- Usually the wait and see approach
- Use of progestin
- Bedrest is not recommended

Inevitable abortion

- Cervix open (+/- tissue)
- +bleeding and often pain

Complete Ab

- Closed cervical os
- Minimal if any bleeding
- Negative ultrasound findings
- Very low bHCG
- Don’t usually need treatment, but many clinicians do f/u bHCG

Missed Abortion

- Patient is without symptoms
- No bleeding cervix is closed
- Often discovered at routine/first obstetrical visit

Medical management

- Benefit of avoiding anesthesia and other risks of surgery
- Not appropriate for gestation greater than 14 completed weeks or sepsis
- Could ultimately result in hospital/ER admission
- Expectant management
- Misoprostol – different regimens available
- Mifepristone and methotrexate

How long would you wait?

- Most women will complete within 2 – 4 weeks
- What's wrong with waiting?

Misoprostol Regimens

Vaginal	Oral	Sublingual
800mcg	600 mcg x1 or 400 mcg x 1 repeated in 3-4 hours	600 mcg every 3 hours for max of 3 doses
Follow up 2-5 days	Follow up in 48 hours and give 800mcg orally if unsuccessful	
Follow up bHCG	Follow up bHCG	Follow up bHCG
71-84% effective	73-96% effective	About 88% effective

NEJM 2005:353;761, Human Reprod 2003; 18:176

Surgical management

- Benefit of shortened treatment time
- Disadvantage of surgical risks & anesthetic complications, possible development of Ashermans
- Required if patient has heavy bleeding or signs of infection
- Can be done with ultrasound guidance
- MVA – done at the bedside with oral analgesic/anxiolytic.
- Suction D&C – done in OR usually with conscious sedation

Patient counseling

- Why does it happen?
  - ½ due to chromosomal abnormalities
- Did I cause this?
  - Environmental exposure/Tobacco, alcohol, drug use
  - Family hx chromosomal defects
  - Maternal age
  - Reproductive/uterine abnormality
  - Other systemic illness, infection or autoimmune abnormality
  - Severely overweight or underweight

Special considerations and complications

- > 16 weeks is typically managed with labor induction using prostaglandins or dilation and evacuation
- Hemorrhage
- Uterine perforation
- Cervical lacerations
- Endometritis
- Septic Abortion
- Asherman’s

Septic abortion

- Symptoms: fever, tachycardia, hypotension
- Source of fever/infection is products of conception
- Quick assessment of hemodynamic state
- Treatment: broad spectrum antibiotics and evacuation of uterus as soon as possible to avoid septic shock
- Cultures should be done to optimize antibiotic treatment

Patient follow up

- Rhogam!!!
- bHCG should become negative by 2-4 weeks after completion of abortion
- Can follow with serum or urine HCG
  - Follow more frequently if there is concern for retained products of conception, malignancy/mole, or patient is symptomatic

Patient follow up

- Screen for depression
- Conceiving again – customary to wait 2-3 months, but no studies
- birth control
- Recurrence risk – 14, 26, 28[7]

Thanks!!!

references

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