Interprofessional Obstetric Ultrasound Seminar: Case Study Workshop Spring 2015

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Schedule

3:30-5:30 Review cases, answer questions

5:30-6:15 Dinner on your own

6:15-8:30 Hands-on scanning session (6G)

8:30-9:00 Clean-up and course evaluations

Hands-on Scanning Session

- 3-5 interprofessional groups of ~5 trainees
  - Distribute most experienced trainees among the groups
- Each group will see several women
  - You will not scan each one individually
- Begin by preparing the room + orienting yourself to the machine
- If no instructor is present, take photos to review later
- Balance your learning with patient comfort + explanation
- Don't forget to complete your evaluation before you leave

Case 1

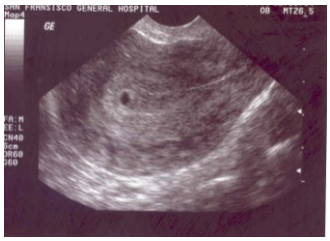
- 32 yo gravida 0, hx of infertility x 2.5 years, at 6 weeks and 4 days by SNLMP, presents to GYN outpatient clinic with vaginal spotting. No pain. This is a desired pregnancy.
- Her UPT is positive

Questions 1, 2

- 1. can she be schedule for a routine PNC appointment?

  No. Given hx of infertility and vaginal spotting, ectopic pregnancy must be ruled out.
- 2. What are the key tests that are needed for management?
  - Pelvic ultrasound. Depending on findings, B-hcg might be needed. Students could discuss in which setting this is necessary.
  - Blood type and Rh. Patients that are Rh negative must receive Rhogam within 72 hrs after bleeding episode

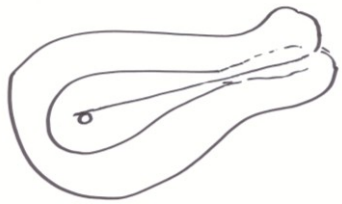
Findings: TVUS



Questions

- What is the diagnosis?
  - IUP
- what is the clinical significance of this finding (predictive value of IUP)?
  - Intradecidual sign (Does not displace or deform the central cavity complex AND Echogenic rim should be at last 2 mm thick)
  - The positive predictive value is >98-99%
- How do you date the pregnancy at this early gestational age?
  - MGSD
- Is there any value in following serial B-HCG levels?
  - NO

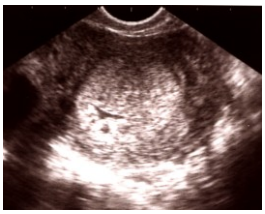
Intradecidual sign

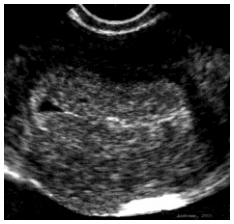


How do you differentiate a intradecidual sign from a pseudo gestational sac?

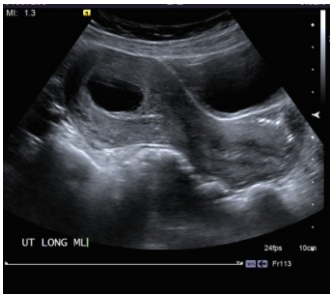
Pseudo sac: intrauterine fluid collection shows a small “beak” or tear drop appearance that connects with or points toward the uterine cavity line. It is thin; no thick chorionic tissue or rim

Examples of pseudo gestational sacs





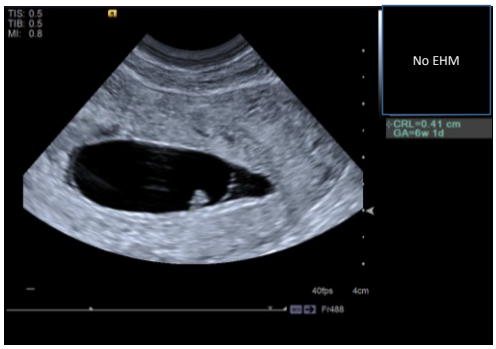
Case continued: You ask the patient to return for follow up in 2 weeks. Below are the images:



What would be the appropriate next step in management?

- Answer: Transvaginal US. No embryonic structures are visualized.

Transvaginal imaging



Case continued:

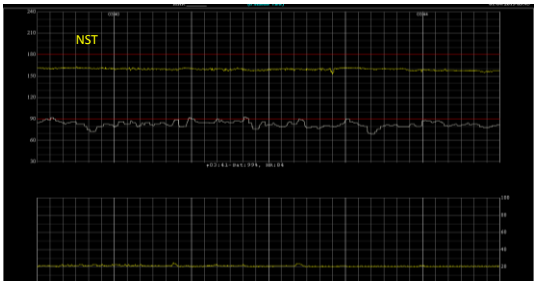
- What is the working diagnosis?
  - Presumptive early pregnancy failure (NOT diagnostic)
- What is the recommended follow up for this patient?
  - Follow up ultrasound in 7-12 days is recommended. The embryo grows at about 1 mm per day. If no change is seen within a week, this would be considered diagnostic of early pregnancy failure

Case # 2

- 21 yo G2 P1 pregnant woman visiting SF Bay area, BIBA to ED after head-on 50 mph MVA, patient restrained passenger.
- Patient is alert and oriented x 4, VSS. What is the best way to quickly evaluate GA?
- ANSWER: BPD. Knowing gestational age is critical in order to decide next steps and interventions. A BPD of 59 mm is consistent with GA of 24 weeks (initiation of viability)

Case continued: after initial assessment and stabilization, you determined the GA is 28 weeks based on BPD (c/w patient's reported EDC)

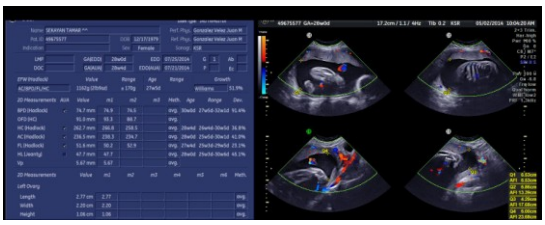
- She reports uterine tenderness, no vaginal bleeding



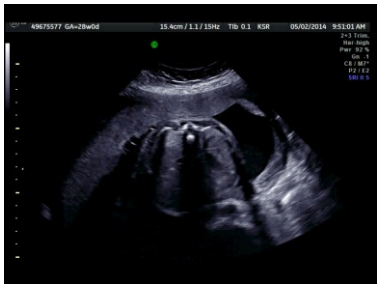
Base on her presentation and NST (shown in previous slide), the nest best step is to:

- Admit for prolonged OBS
- Give Steroids
- Perform BPP
- CBC, coags, Type and Cross
- Consider KHB test

You perform fetal biometry (left) and AFI (right)



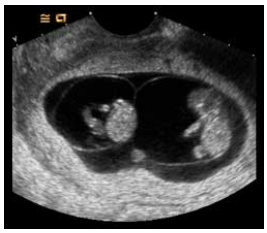
BPP



Based on the images shown, what would you expect the BPP to be? Why?

- 8/10
- AF is indicator of chronic changes in the fetal environment (generally takes days to weeks)
- NST and FBM are best indicator of acute hypoxemia. If FBM are present, it is expected that FM and tone would be present (normal). Tone is the last parameter to disappear in a compromise fetus due to placental insufficiency

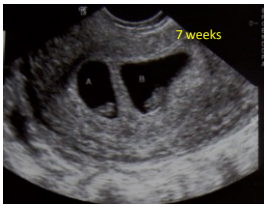
Case # 3: 31 yo G3 p1 at 8 weeks by LMP with severe nausea and vomiting

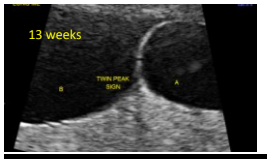


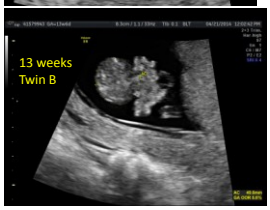
31 yo G3 p1 at 8 weeks by LMP with severe nausea and vomiting.

- What is the diagnosis?
- How do you differentiate monochronic-diamniotic from di-di twin pregnancies?
- Describe how this is done at various gestational ages?
- Why is it important to establish the type of placentation in twins?

Case #4: 18 yo G1 P0, unplanned, desired pregnancy



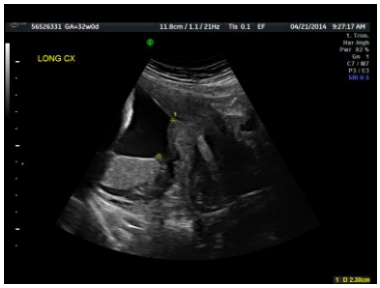




Case 4, Con't:

- What is the diagnosis?
- What would be the appropriate best step in management?
- What are the pregnancy options for this patient?

40 yo G4 P5 with hx of 3 prior c/sections. 20 week sonogram showed low-lying placenta



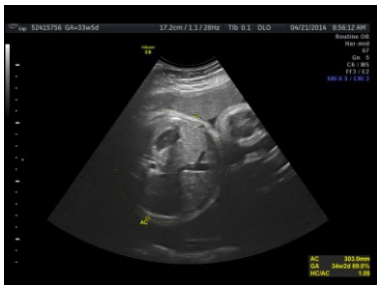
40 yo G4 P5 with hx of 3 prior c/sections. 20 week sonogram showed low-lying placenta

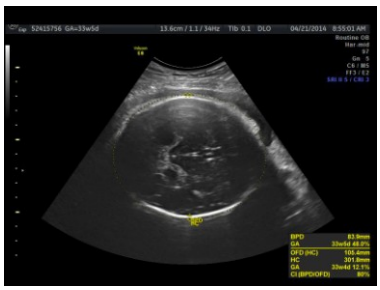
- What is the placental location?
- What is the likelihood of placenta accreta?
- Does she need another US for f/u?

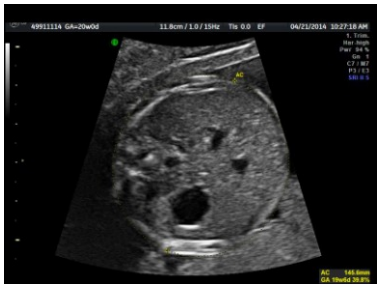
Fetal Biometry

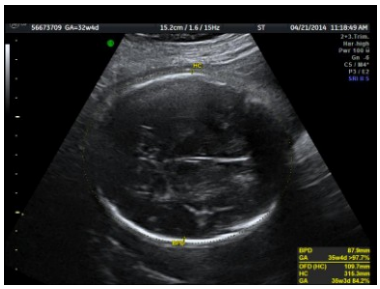
- Describe the and draw schematically the different parameters utilized to determine gestational age at the various stages of pregnancy

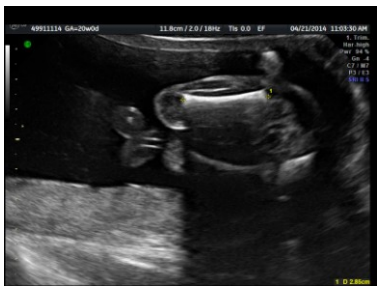
Below are several examples of fetal biometry. Select the ones that meet criteria for adequate biometry and those that do not

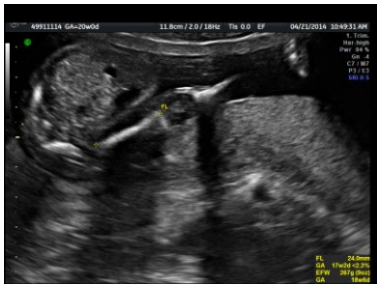


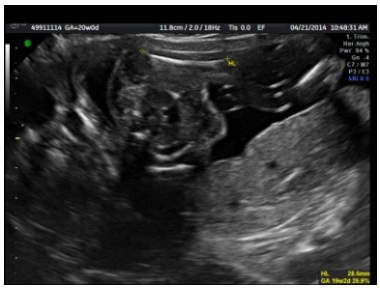


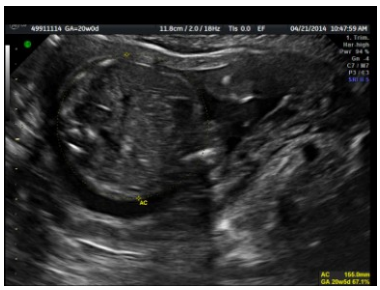


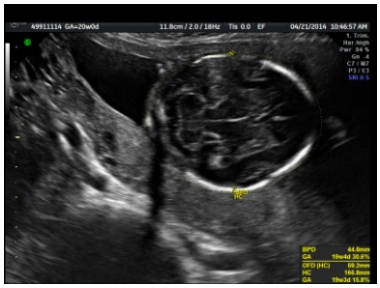


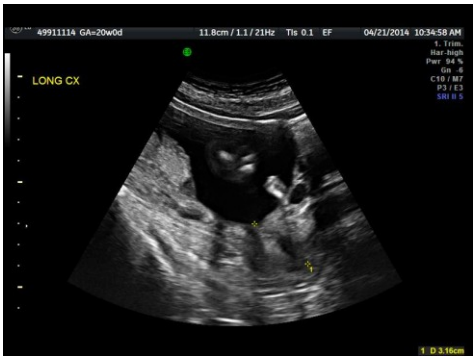








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