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Chief Complaint

Sent from family planning clinic to rule out ectopic pregnancy

Case Presentation

History of Present Illness:

A 29 year old female, G6P3023, initially presented to a family planning clinic after a positive home pregnancy test. From the clinic she was referred to the Emergency Department for further evaluation of a twin gestation. LMP was approximately 2 months ago. She has had 3 prior C-section deliveries. She endorsed some nausea and emesis. She denied vaginal bleeding, abdominal pain, dysuria, chest pain, shortness of breath.

Pertinent physical exam:

VS: BP 116/66, HR 74, T99.1F
Abd: soft, nontender, nondistended
GU: pelvic exam deferred

Pertinent laboratory data:

beta-hCG quantitative 134,043

Clinical Questions

Q: What are sonographic findings of a first trimester pregnancy with Cesarean section scar implantation?

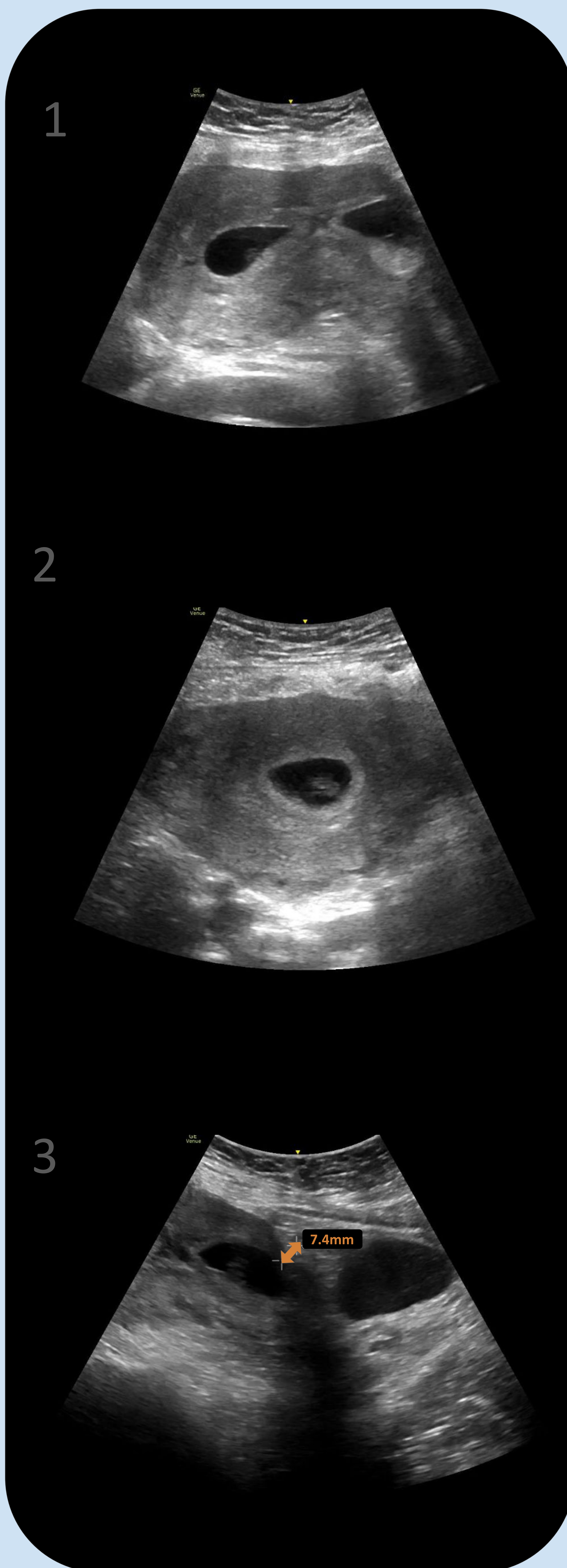
Q: How do you diagnose a heterotopic pregnancy by ultrasound in the Emergency Department?



Scan QR code for answers!

References

- Hoffman, Taryn, and Judy Lin. "Cesarean scar ectopic pregnancy: diagnosis with ultrasound." *Clinical practice and cases in emergency medicine* 4.1 (2020): 65.
- Osborn, Daniel A., Todd R. Williams, and Brian M. Craig. "Cesarean scar pregnancy: sonographic and magnetic resonance imaging findings, complications, and treatment." *Journal of Ultrasound in Medicine* 31.9 (2012): 1449-1456.
- Zanaboni, Allison, et al. "Point-of-care ultrasound diagnosis of cesarean scar ectopic pregnancy: a case series." *The Journal of Emergency Medicine* 60.2 (2021): 216-219.



Case Discussion

This is a heterotopic pregnancy, with one gestational sac implanted on the myometrial scar from a prior C-section.

Image 1 is a transabdominal POC US sagittal view of two gestational sacs with fetal poles. At first glance, you might say this is a simple twin gestation and send your patient home. You might even miss the twin gestation if you don't fan through the entire uterus (image 2). However, there is a lower anterior pregnancy implanted within the wall of the fundus (image 3).

Low implantation of a gestational sac should raise concern for cesarean scar ectopic pregnancy (CSP). Measure the myometrial mantle at its thinnest point to determine if there is an interstitial ectopic pregnancy, especially for patients with a history of C-sections. **The myometrial mantle should be >8mm.** While transabdominal US does not provide as good resolution as TVUS, it can escalate your concern for CSP.

Heterotopic pregnancy is rare but must be considered on the differential diagnosis. Rates of CSP are increasing as more pregnant people deliver via cesarean section.

Global Images



Clinical Pearls

- In patients with a prior history of C-section, transabdominal POC US showing a low lying anterior gestational sac should raise your concern for ectopic pregnancy. **Measure the myometrial mantle** to ensure intrauterine gestation.
- Obtain global images of the uterus, in both sagittal and transverse planes, so as not to miss a heterotopic gestation.

