



Philadelphia College of  
Osteopathic Medicine

## AMSER Rad Path Case of the Month:

Case: 22 year old female with vaginal bleeding  
and 5 weeks after LMP

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# Patient Presentation

Clinical history: Patient is a 22 female presenting to the ED with bloating, nausea, and vaginal bleeding with a LMP 5 weeks prior

Pertinent social history: SVD 2 years ago, h/o chlamydia

Pertinent physical exam findings: patient in no acute distress, abdomen soft and non-tender

# Pertinent Labs

- All labs and vitals WNL
- With exception of beta hCG at 52,000 mIU/ml

WHAT IMAGING SHOULD WE ORDER?

# ACR Appropriateness Criteria

## Variant 4: Premenopausal vaginal bleeding. First study.

| Radiologic Procedure  | Rating | Comments  | RRL*                      |
|---|--------|---|---------------------------|
| US pelvis transvaginal  | 9      | 3-D imaging may be a useful adjunct to 2-D imaging to better characterize an intracavitary abnormality. | 0                         |
| US pelvis transabdominal  | 8      |   | 0                         |
| US duplex Doppler pelvis  | 5      | This procedure may be useful to better characterize a focal or diffuse endometrial abnormality.         | 0                         |
| US saline infusion sonohysterography  | 4      | 3-D imaging may be a useful adjunct to standard 2-D imaging if intracavitary abnormality is suspected.  | 0                         |
| CT pelvis with IV contrast  | 2      |   | ☻☻☻                       |
| MRI pelvis without and with IV contrast   | 2      |   | 0                         |
| CT pelvis without IV contrast   | 1      |   | ☻☻☻                       |
| CT pelvis without and with IV contrast  | 1      |   | ☻☻☻☻                      |
| MRI pelvis without IV contrast  | 1      |   | 0                         |
| <b>Rating Scale:</b> 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate |        |   | *Relative Radiation Level |

Transvaginal US of Pelvis (unlabeled)

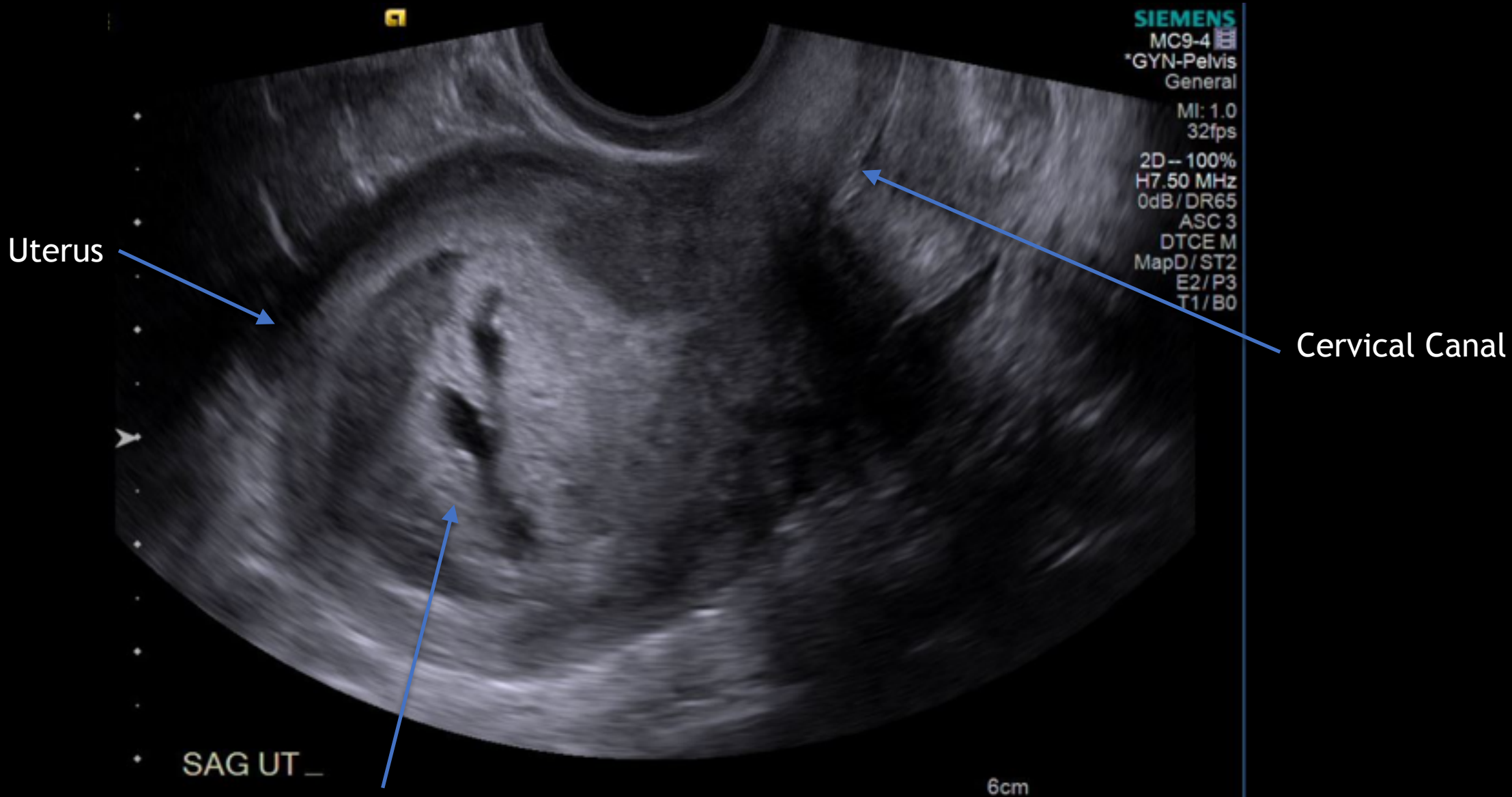


SIEMENS  
MC9-4  
\*GYN-Pelvis  
General  
MI: 1.0  
32fps  
2D -- 100%  
H7.50 MHz  
0dB/DR65  
ASC 3  
DTCE M  
MapD/ST2  
E2/P3  
T1/B0

SAG UT \_

6cm

# Transvaginal US of Pelvis (labeled)



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T1/B0

Uterus

Cervical Canal

SAG UT \_

6cm

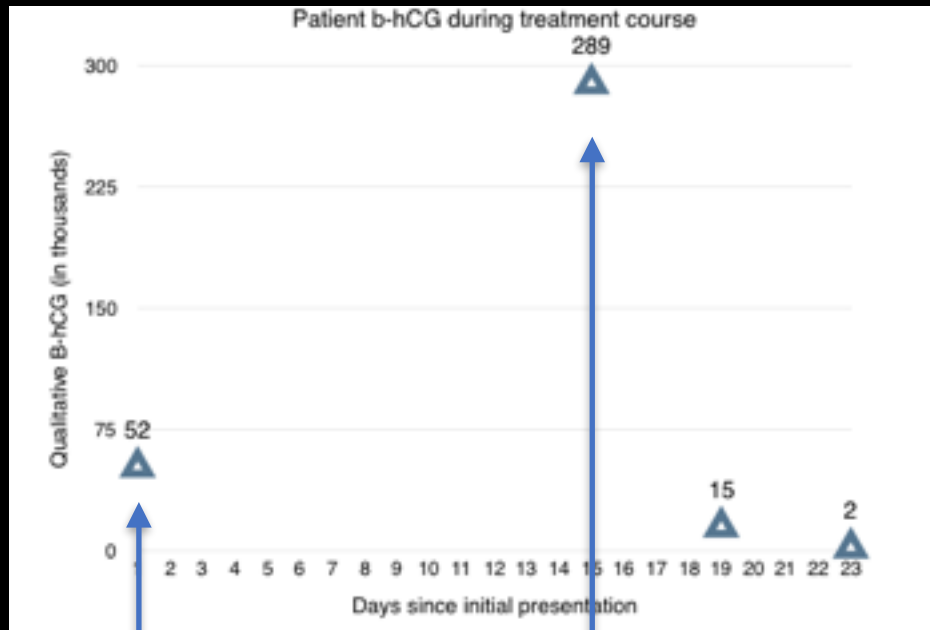
Mixed cystic components in EMC

# DDX

- Retained products of conception
- Non-visualized ectopic pregnancy
- Early pregnancy
- Gestational trophoblastic neoplasm
  - invasive hydatidiform mole - complete or partial
  - choriocarcinoma
  - placental site trophoblastic tumor
  - epithelioid trophoblastic tumor

Patient discharged from ED and instructed to see GYN the following day for evaluation of presumed molar pregnancy

15 days later patient returns for pre-op ultrasound and lab work

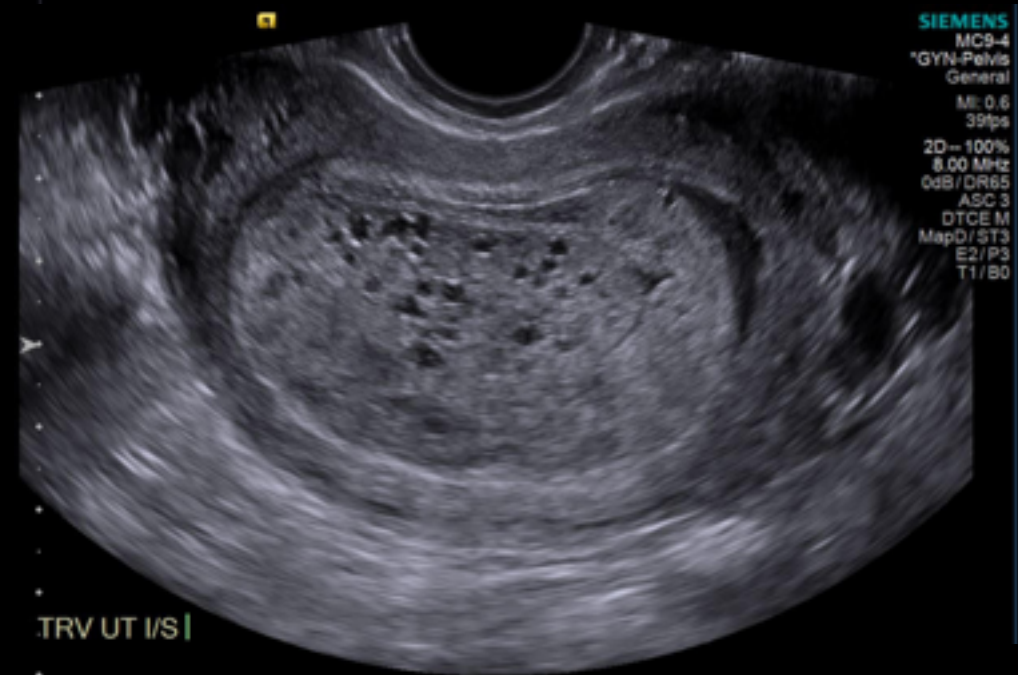
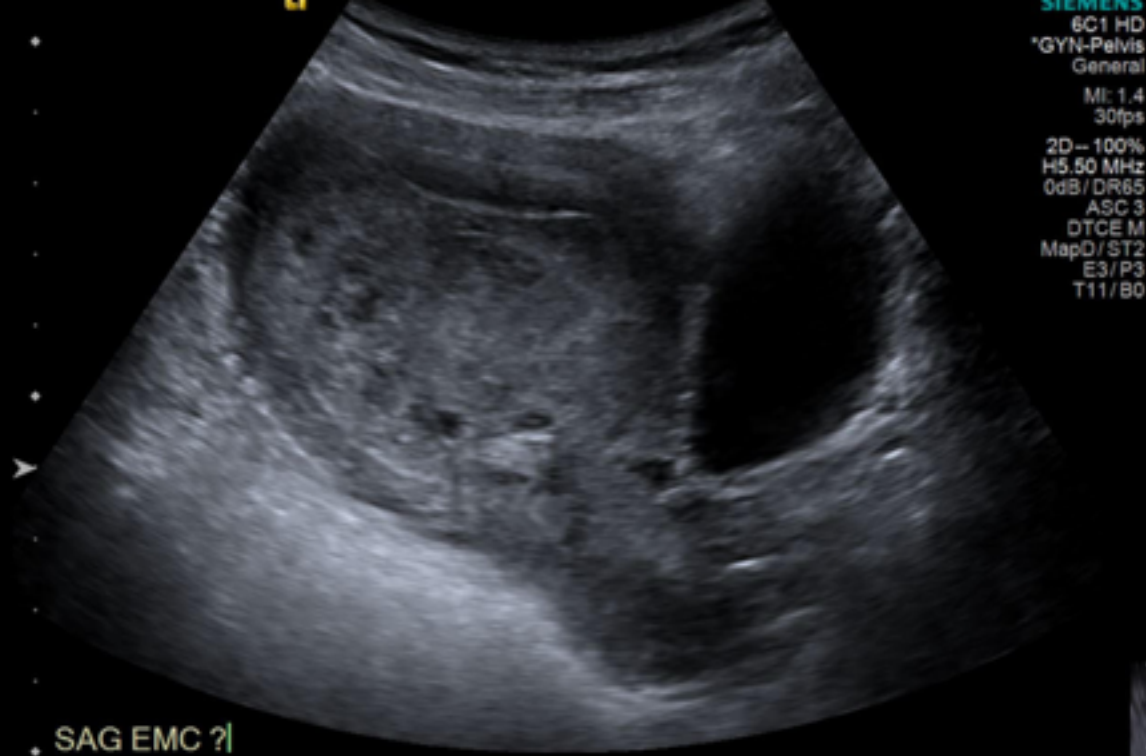


Day of first US  
52,000 mIU/ml

Day of pre-op US  
289,000 mIU/ml

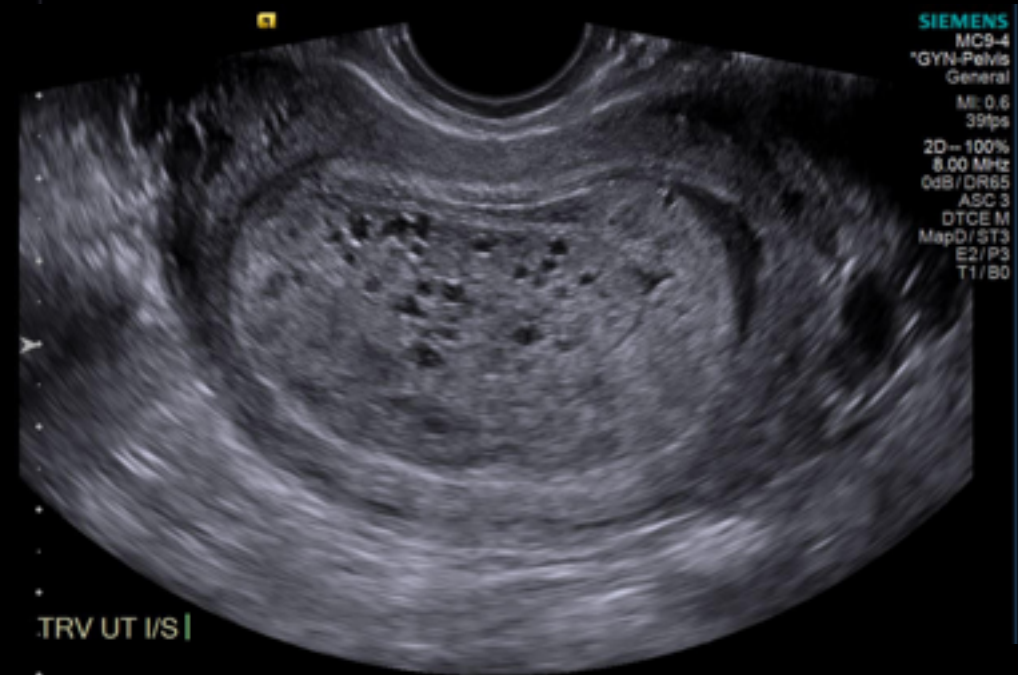
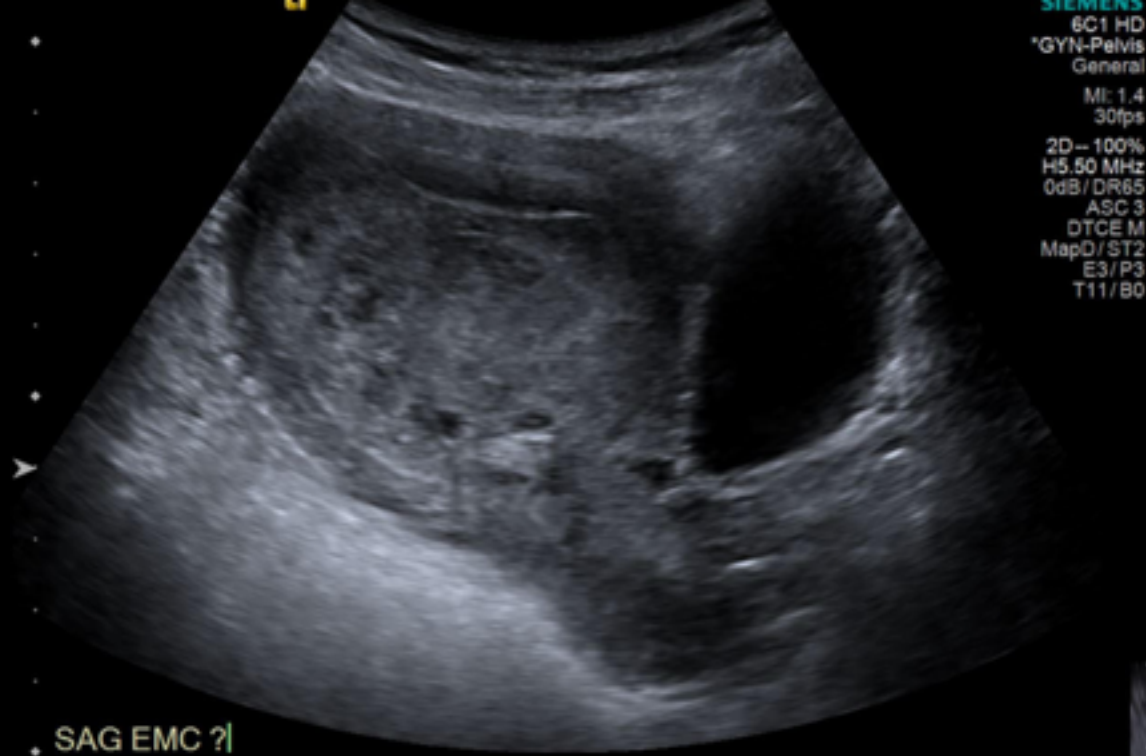


# Follow up ultrasound 15 days later

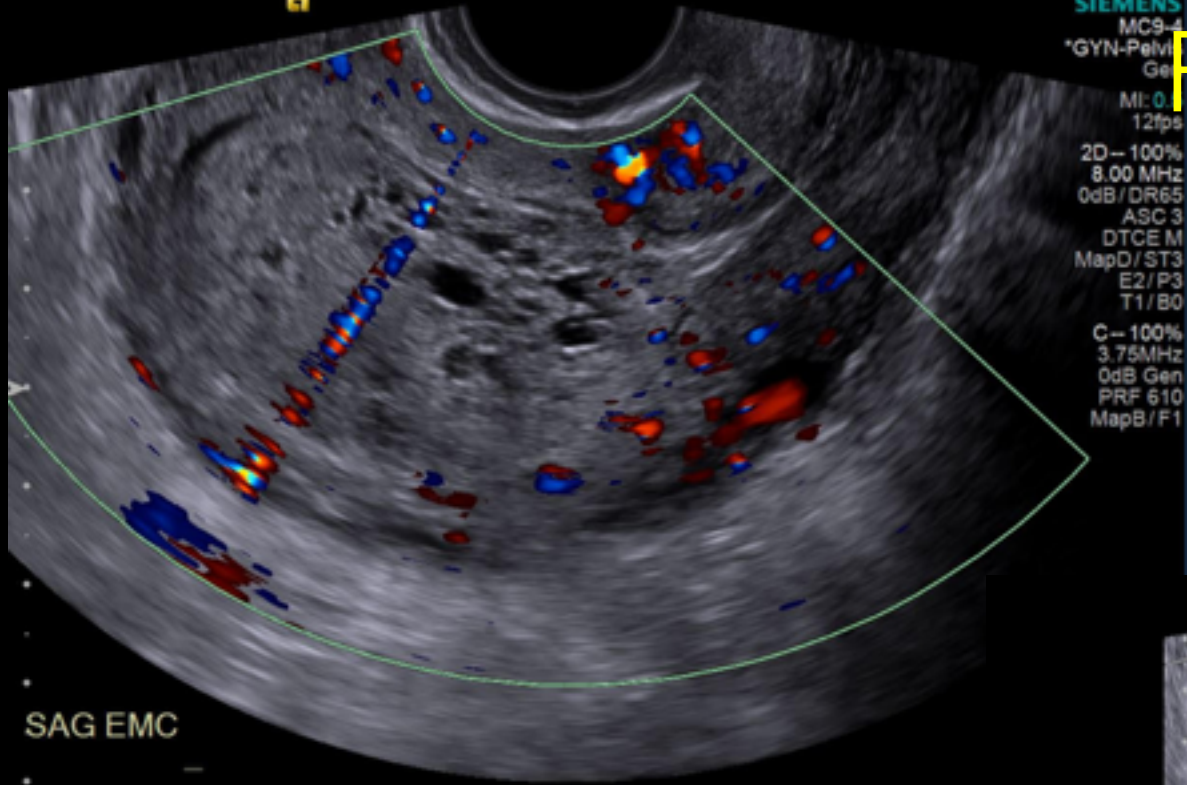


# Follow up ultrasound 15 days later

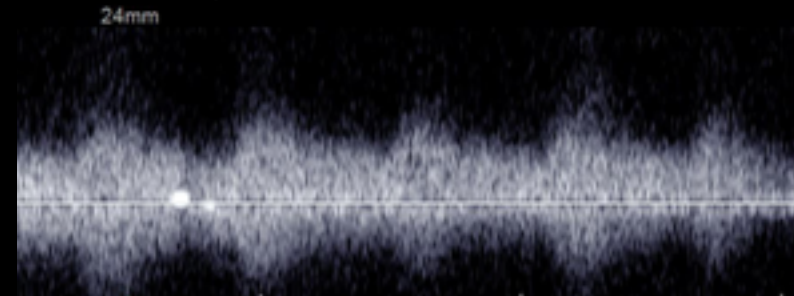
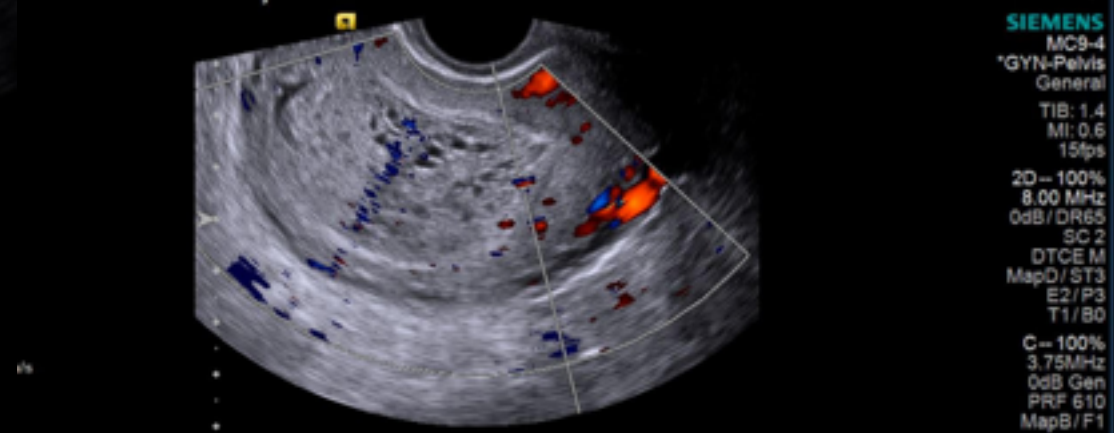
Heterogenous tissue distending endometrial canal with anechoic cystic spaces



# Follow up ultrasound 15 days later



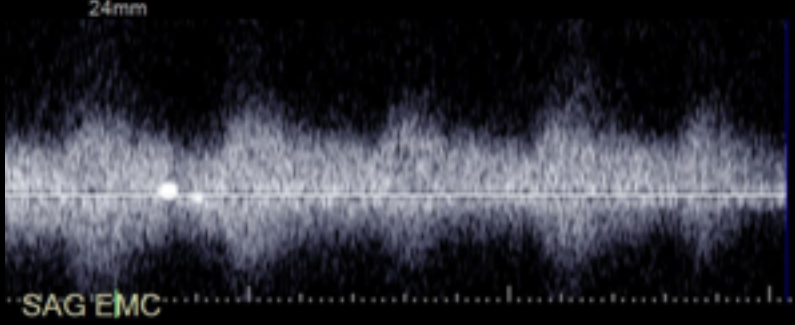
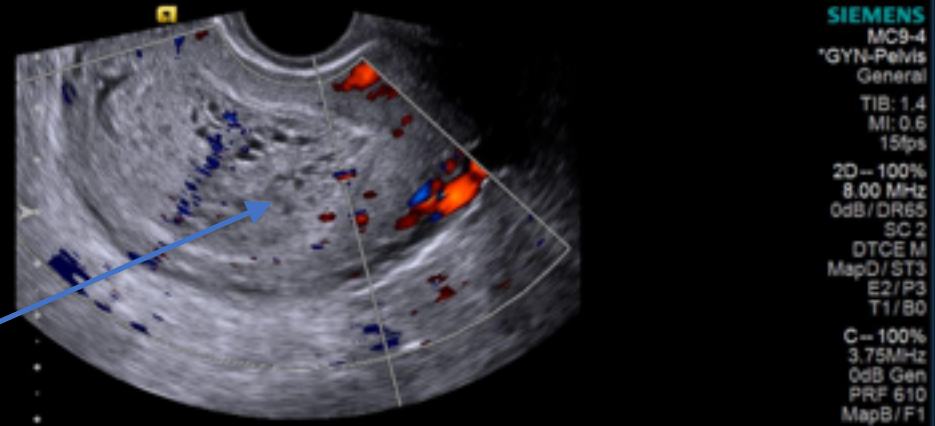
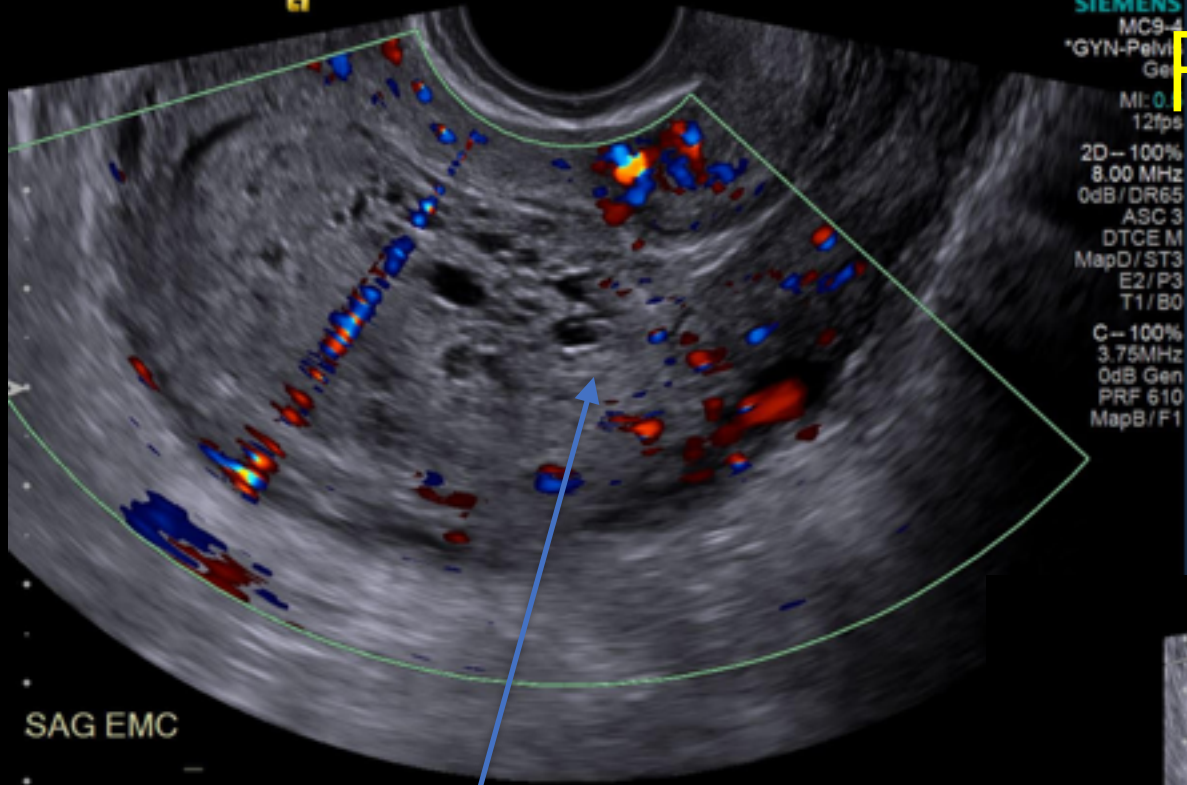
SAG EMC



SAG EMC

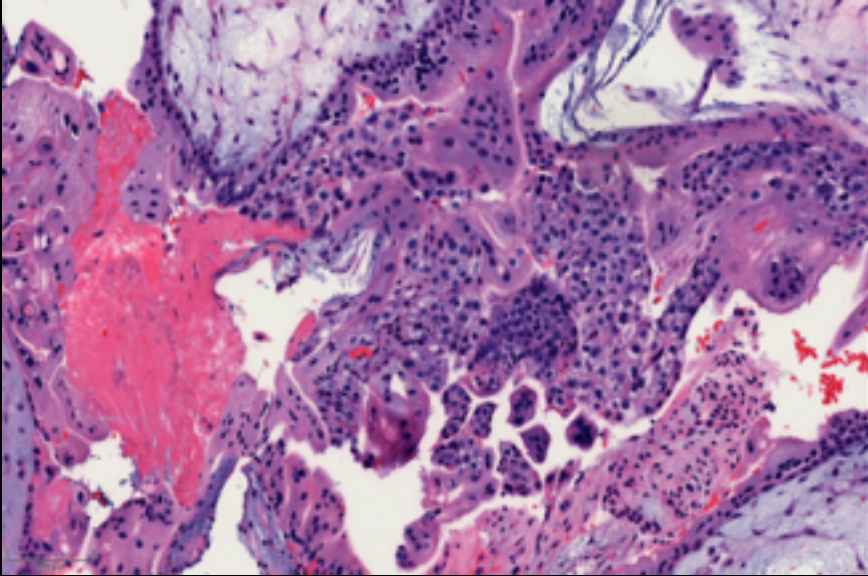


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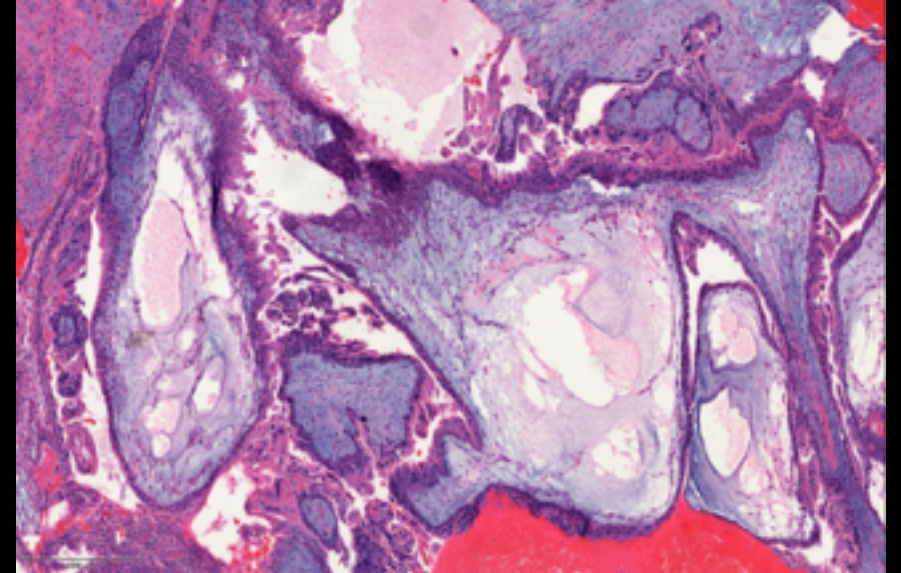


Arterial vascularity within tissue  
distending endometrial canal on color  
and spectral doppler

# Micro Path



Trophoblastic hyperplasia adjacent to villous cistern



Villous enlargement with circumferential trophoblastic hyperplasia and cistern formation

Final Dx:

Complete Hydatidiform Mole

# Case Discussion

- Mole is an error in normal fertilization
  - 80% of cases of complete moles are 46XX where maternal chromosomal material is lost with the duplication of the chromosome within the male sperm
  - Partial moles are triploid, 69XXX/XXY/XYY usually involving a single egg and two sperm
- Incidence: 66-121 per 100,000 pregnancies
- Risk factors:
  - prior molar pregnancy
  - extremes of maternal age (less than 15, greater than 35)
  - Possible dietary role - higher rates in areas with vit A def

# Case Discussion

- Presentation: signs of early pregnancy (positive pregnancy test, nausea and emesis, growing uterus)
  - Additionally pelvic pain, vaginal bleeding, and uterine size greater than expected
- Diagnosis based on lab tests and imaging, but may be made clinically if ultrasound inconclusive
  - hCG levels much higher than expected for LMP  $>100,000$  mIU/ml
  - **US findings: absent fetal parts and amniotic fluid, heterogeneous “snowstorm” appearance with anechoic cystic spaces**



# Case Discussion

- Treatment is dilatation and curettage
- Trend hCG until reached zero then for an additional 6 months to monitor possibility of neoplasm
- Neoplasm develops after complete mole in 15-20% of women
- Monitor for local invasion and neoplasm

# References:

- DiMuzio B, Radswiki. Complete hydratiform mole. Radiopaedia. <https://radiopaedia.org/articles/complete-hydatidiform-mole?lang=us>
- Berkowitz R, Goldstein D, Horowitz N. Hydatiform mole Epidemiology, clinical features, and diagnosis. UpToDate. [https://www.uptodate.com/contents/hydatidiform-mole-epidemiology-clinical-features-and-diagnosis?source=history\\_widget](https://www.uptodate.com/contents/hydatidiform-mole-epidemiology-clinical-features-and-diagnosis?source=history_widget)