# FIRST TRIMESTER BLEEDING & EARLY PREGNANCY LOSS

Kira Paisley, MD

with thanks to Nicole Yonke and Jennifer Phillips

RHEDI Lecture January 2021

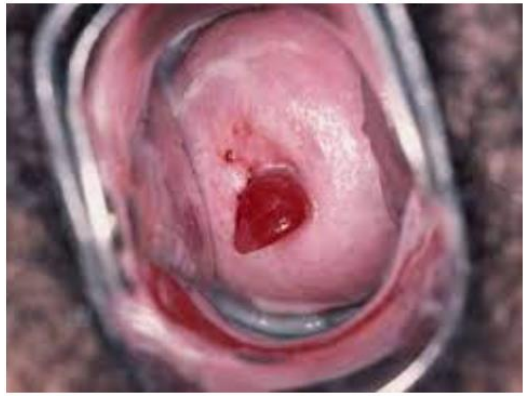
# OBJECTIVES

- Be able to evaluate causes of 1st trimester bleeding
- Define and manage Pregnancy of Unknown Location
- Be familiar with Ultrasound diagnosis of Early Pregnancy Loss
- Offer options for Early Pregnancy Loss management
- Be able to diagnose ectopic pregnancy
- Familiarize yourself with your resources!
  - AFP 1st trimester bleeding
  - RHAP website

- Approximately 25% of pregnant people will experience 1st trimester bleeding

# DIFFERENTIAL DIAGNOSIS 1ST TRIMESTER BLEEDING

- Is it vaginal?
  - Hemorrhoids, UTI, etc
- Structural
  - Cervical polyp
  - Vaginal trauma



- Infections
  - Candidiasis, STDs
- Subchorionic hemorrhage
- Normal pregnancy
- Ectopic Pregnancy
- Completed AB
- Threatened AB
- Missed AB
- Incomplete Abortion
- Anembryonic Pregnancy
- Pregnancy of Unknown Location (PUL)

AMERICAN FAMILY PHYSICIAN

<< Previous article Feb 1, 2019 Issue Next article >>

# First Trimester Bleeding: Evaluation and Management

PDF PRINT COMMENTS

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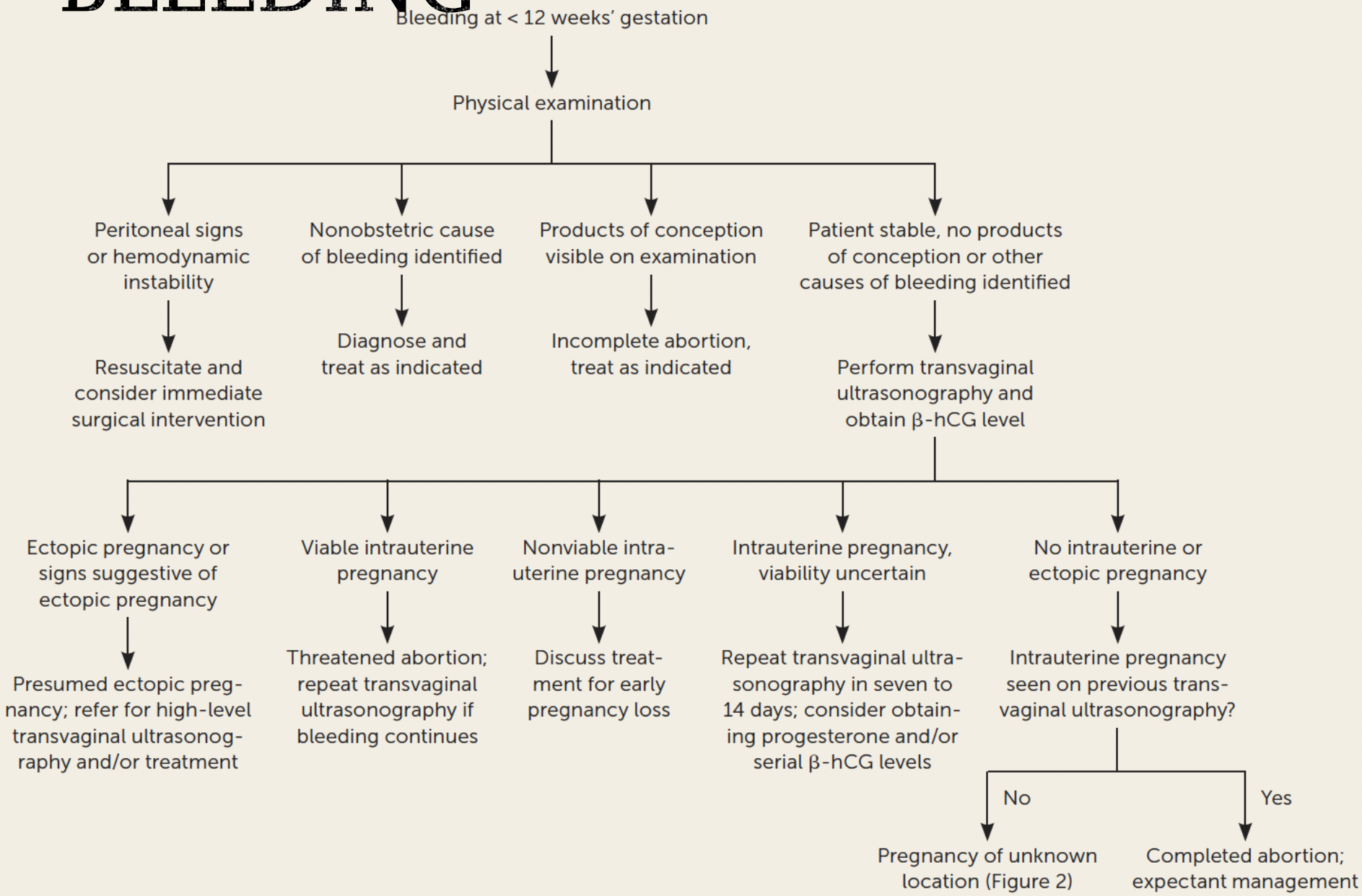
# EVALUATION OF 1ST TRIMESTER BLEEDING



# CASE 1

TigerText from OB Triage:

“You have a patient in triage, 26 yo G2P0 at ~10 wks with vaginal bleeding”

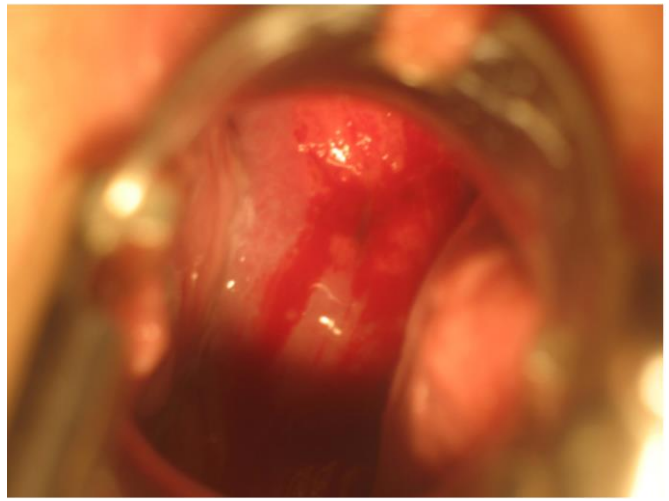
What do you want to know?

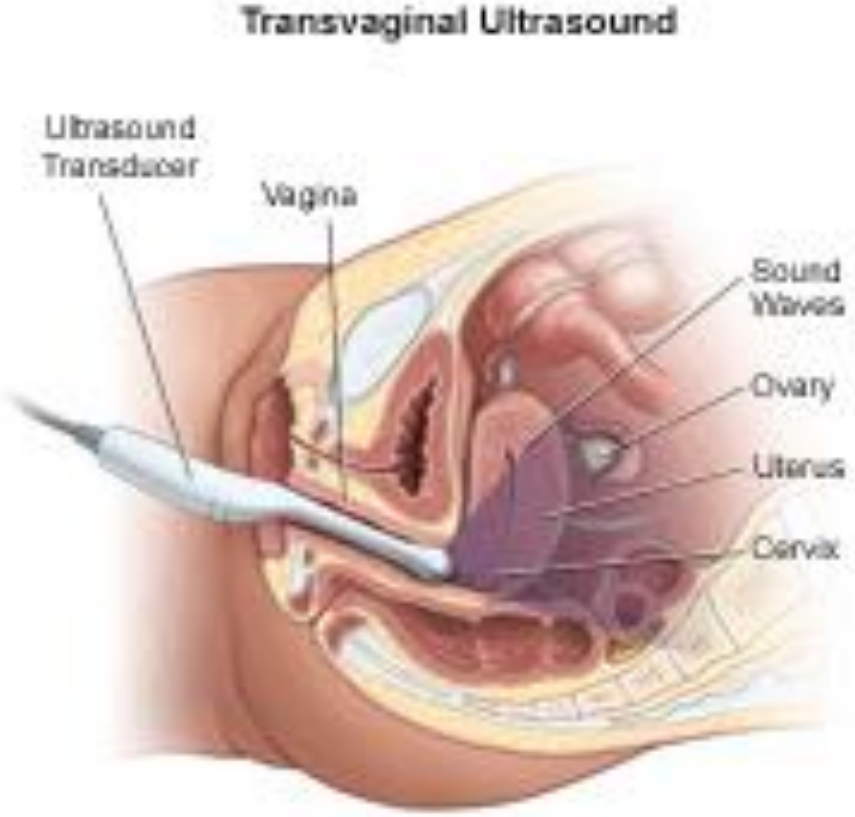
# CASE 1 – WHAT DO YOU WANT TO KNOW?

- LMP – puts her at 10w2d but is unsure, has had irregular periods
- Is desired
- Bright red blood x 2 days, enough to fill 1 pad over a few hours today
- No pelvic pain
- BP 110/80, HR 90, Temp 36.5
- Scant blood at os on speculum exam

**What next?**

# WHAT NEXT




Transvaginal Ultrasound
Ultrasound Transducer
Vagina
Sound Waves
Ovary
Uterus
Cervix

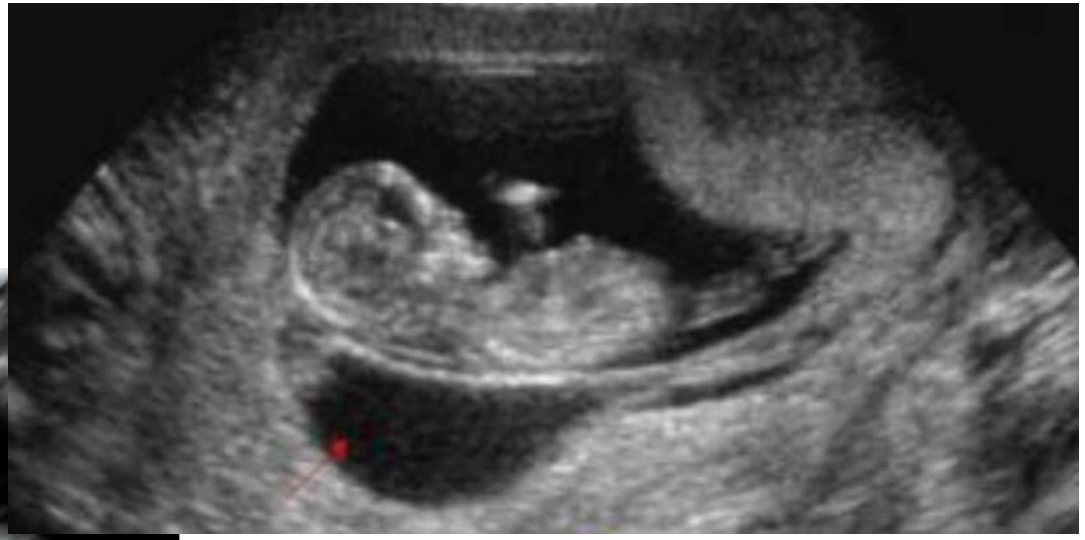
# ULTRASOUND!

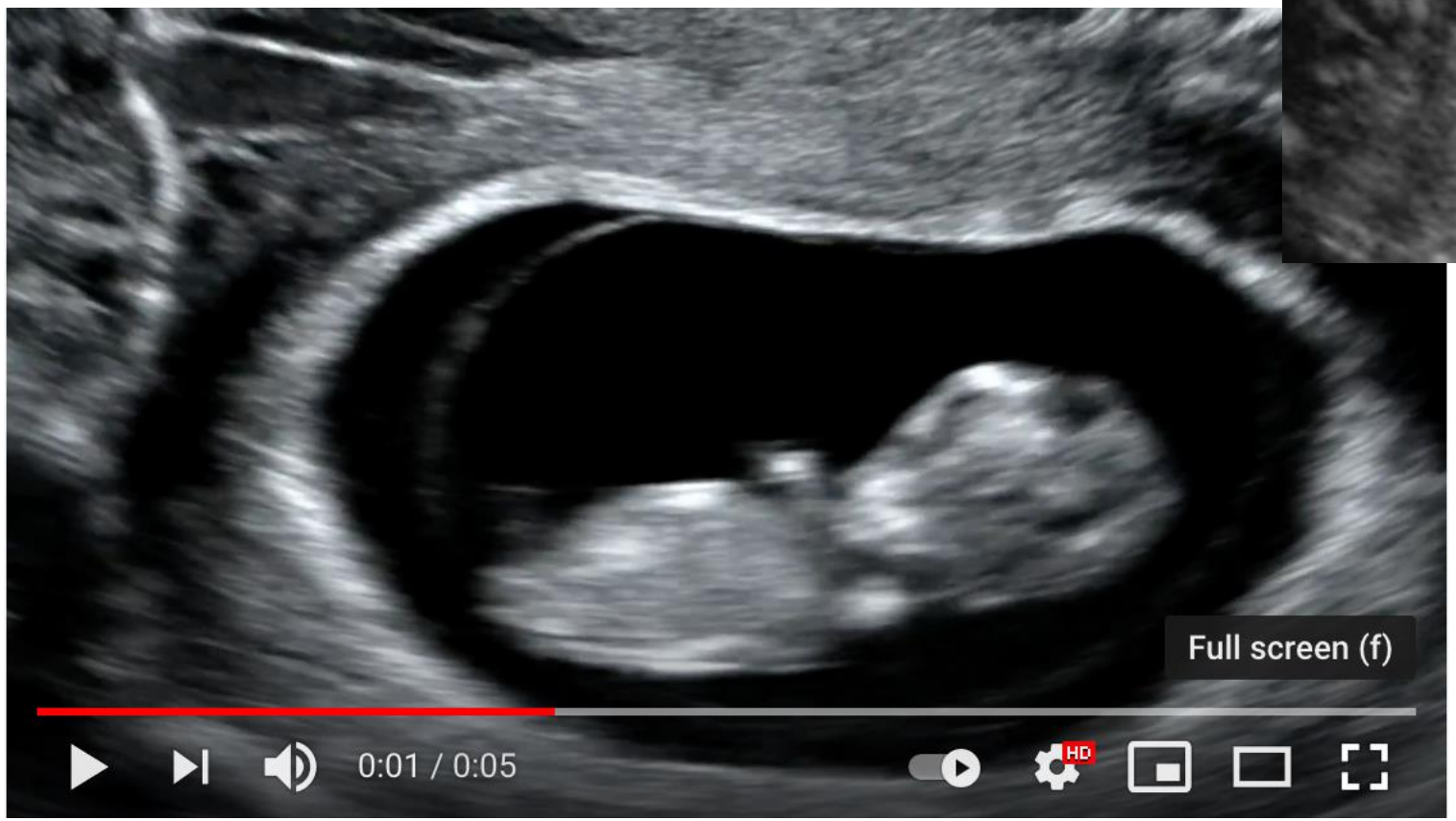
- Do not need to wait for Beta HCG
- Often only diagnostic approach needed

What if MCH Attending not credentialed?

- MCH Back up/Fellow if available
- DI US
- OB team can supervise you

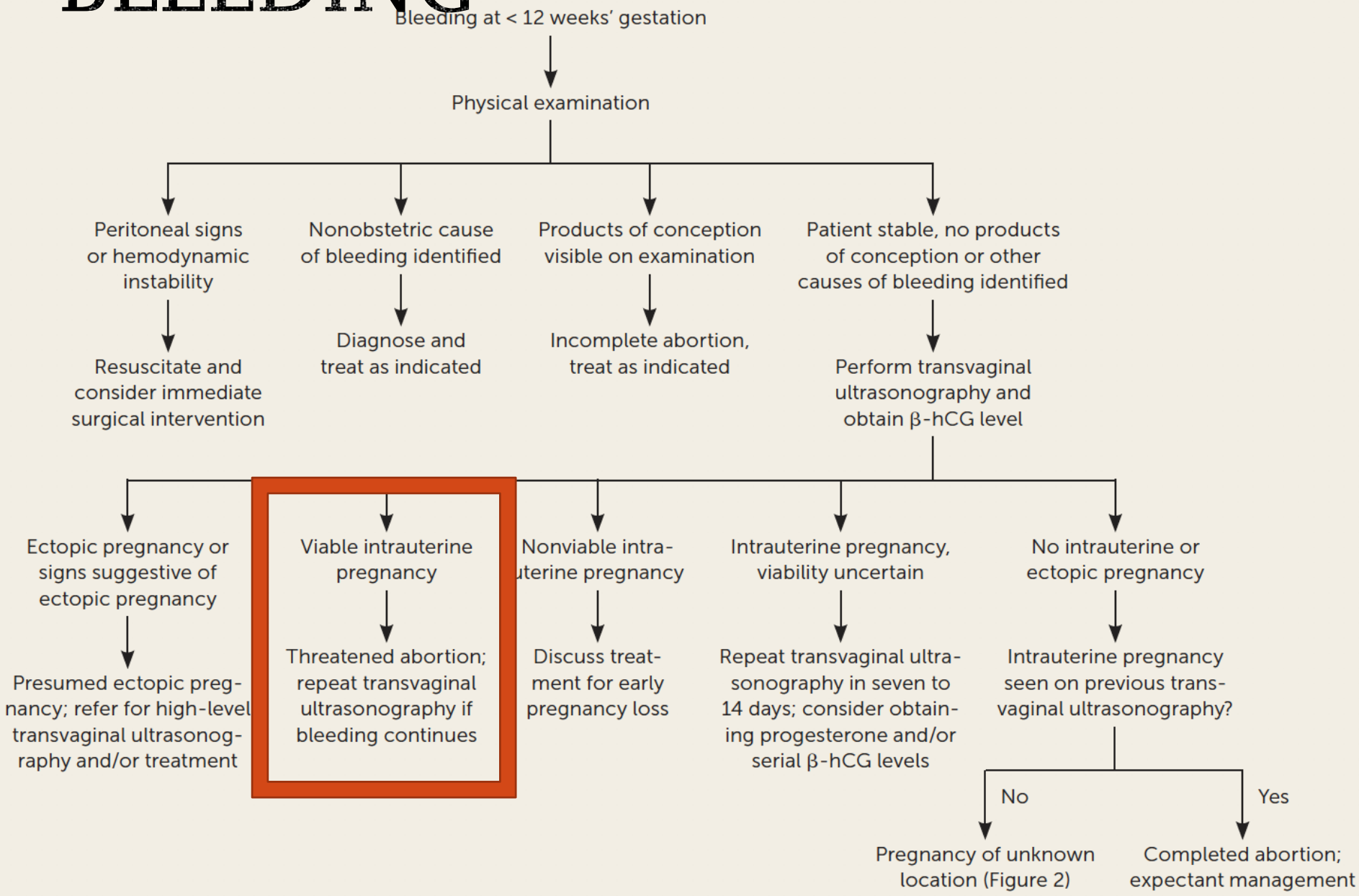
# ULTRASOUND






What's your diagnosis?

# EVALUATION OF 1ST TRIMESTER BLEEDING



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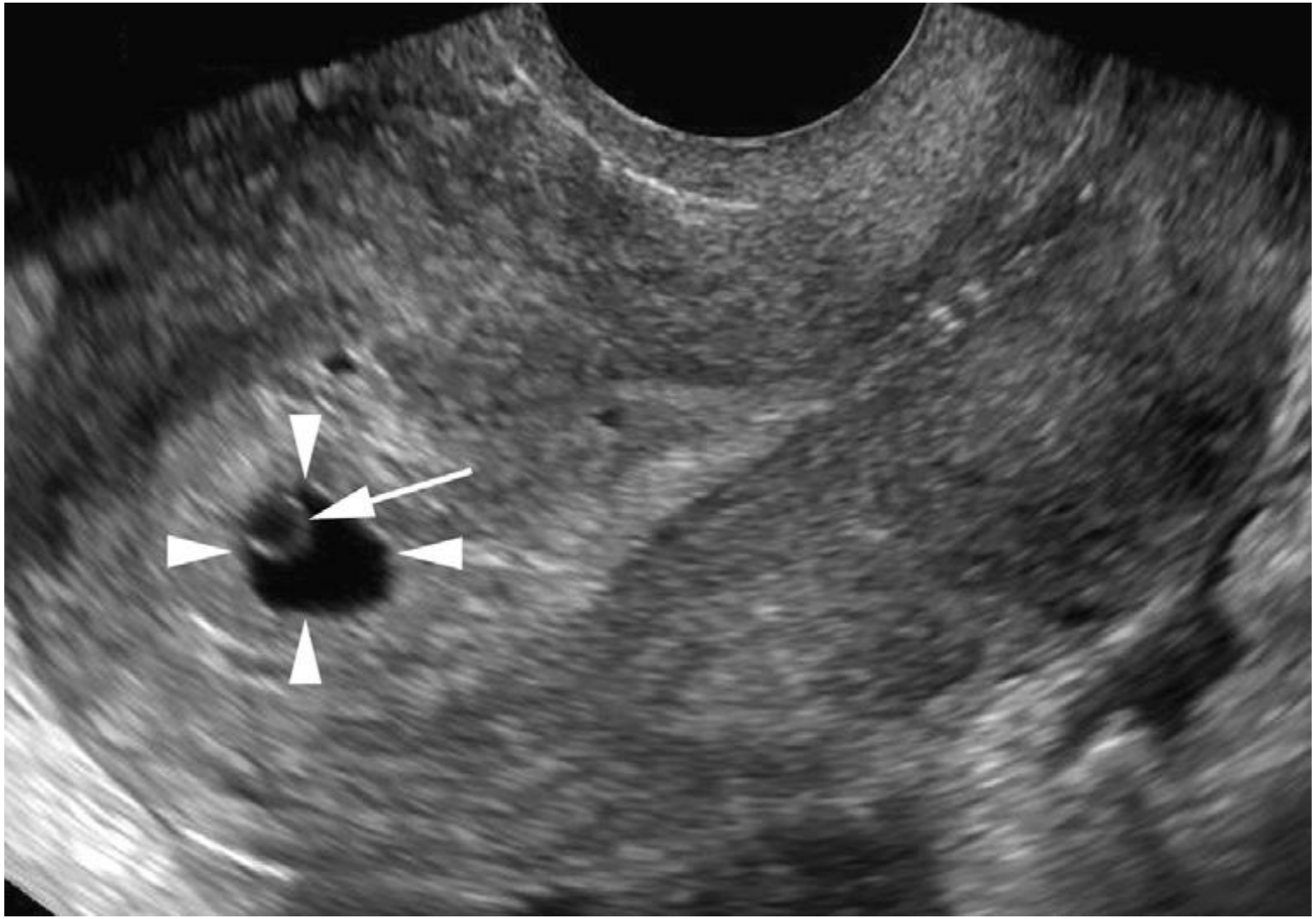

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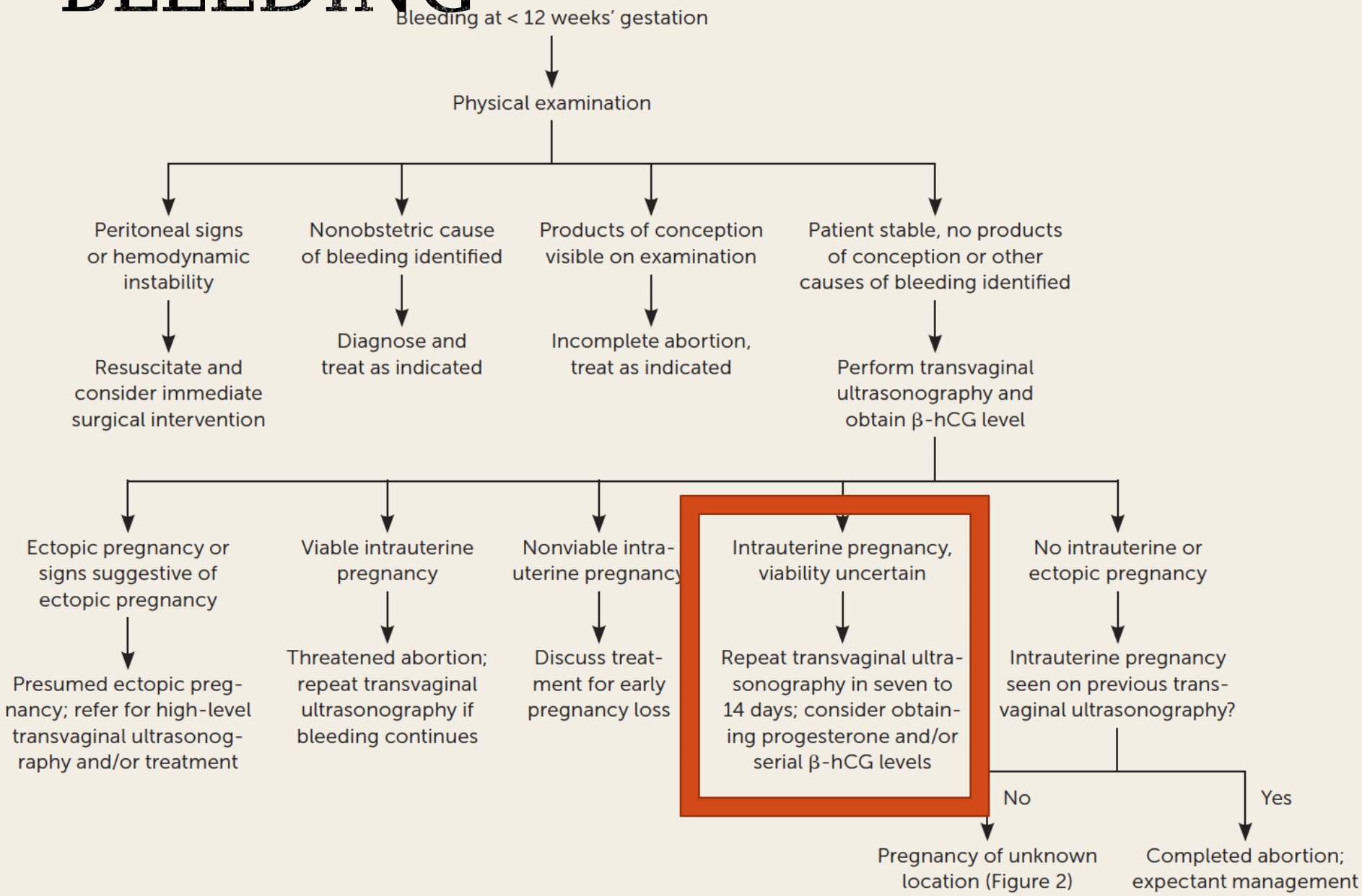


# FOLLOW UP

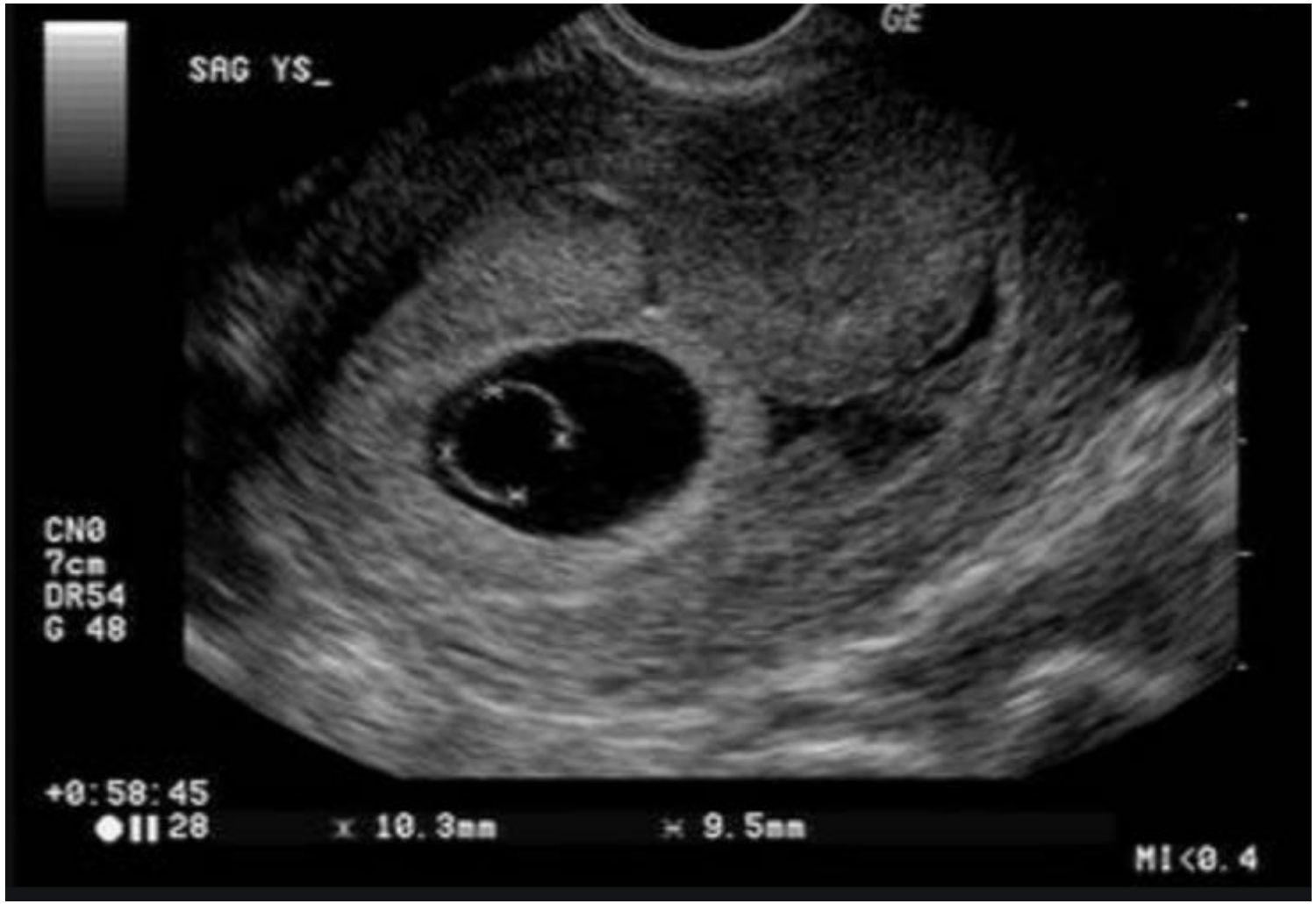
- Beta HCG in triage 11,432
- 2 days later Beta HCG 16,334

- Patient seen in FP US Clinic 13 days later
- Has had ongoing spotting, no cramping

**What now?**

# DIAGNOSIS?

- No embryo
- YS 10.3mm in diameter



The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

**CURRENT CONCEPTS**

Edward W. Campion, M.D., *Editor*

# Diagnostic Criteria for Nonviable Pregnancy Early in the First Trimester

Peter M. Doubilet, M.D., Ph.D., Carol B. Benson, M.D., Tom Bourne, M.B., B.S., Ph.D., and Michael Blaivas, M.D., for the Society of Radiologists in Ultrasound Multispecialty Panel on Early First Trimester Diagnosis of Miscarriage and Exclusion of a Viable Intrauterine Pregnancy*

# DIAGNOSIS OF EARLY PREGNANCY LOSS BY TRANSVAGINAL ULTRASOUND

**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.

# WHAT NEXT?

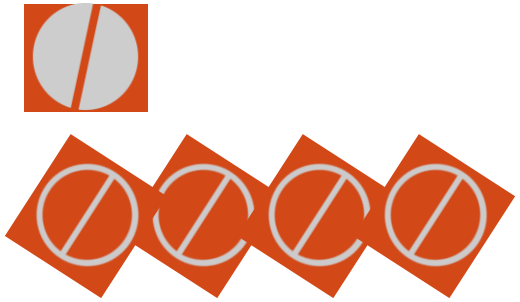
# WORDS TO CONSIDER

- This is not your fault/nothing you did to cause this
- Miscarriage is the way our bodies naturally deal with pregnancies that won't progress normally (ie: chromosomal abnormalities)
- Validate ANY feelings (loss, grief, guilt, relief, joy)
- No timeline for recovery – give permission to grieve
- No need to delay trying to get pregnant again
- Work up for early pregnancy loss usually not indicated until >3 losses

# EARLY PREGNANCY LOSS MANAGEMENT

**Expectant**

Watchful Waiting



**Medication**

Mifepristone*

+

Misoprostol

**Procedure**

Manual vacuum aspiration (MVA)

** Mifepristone is not always available. With mifepristone, the success rate is 84% overall. With only misoprostol, the success rate is 67% overall.*

# EXPECTANT

| Group | N | Complete Day 7 | Complete Day 14 | Success Day 49 |
|---|---|---|---|---|
| Incomplete | 221 | 117 (53%) | 185 (84%) | 201 (91%) |
| Fetal demise | 138 | 41 (30%) | 81 (59%) | 105 (76%) |
| Anembryonic | 92 | 23 (25%) | 48 (52%) | 61 (66%) |
| TOTAL | 451 | 181 (40%) | 314 (70%) | 367 (81%) |

*Luise C, et al. BMJ 2002; 324(7342):873-5.*

# MEDICATION

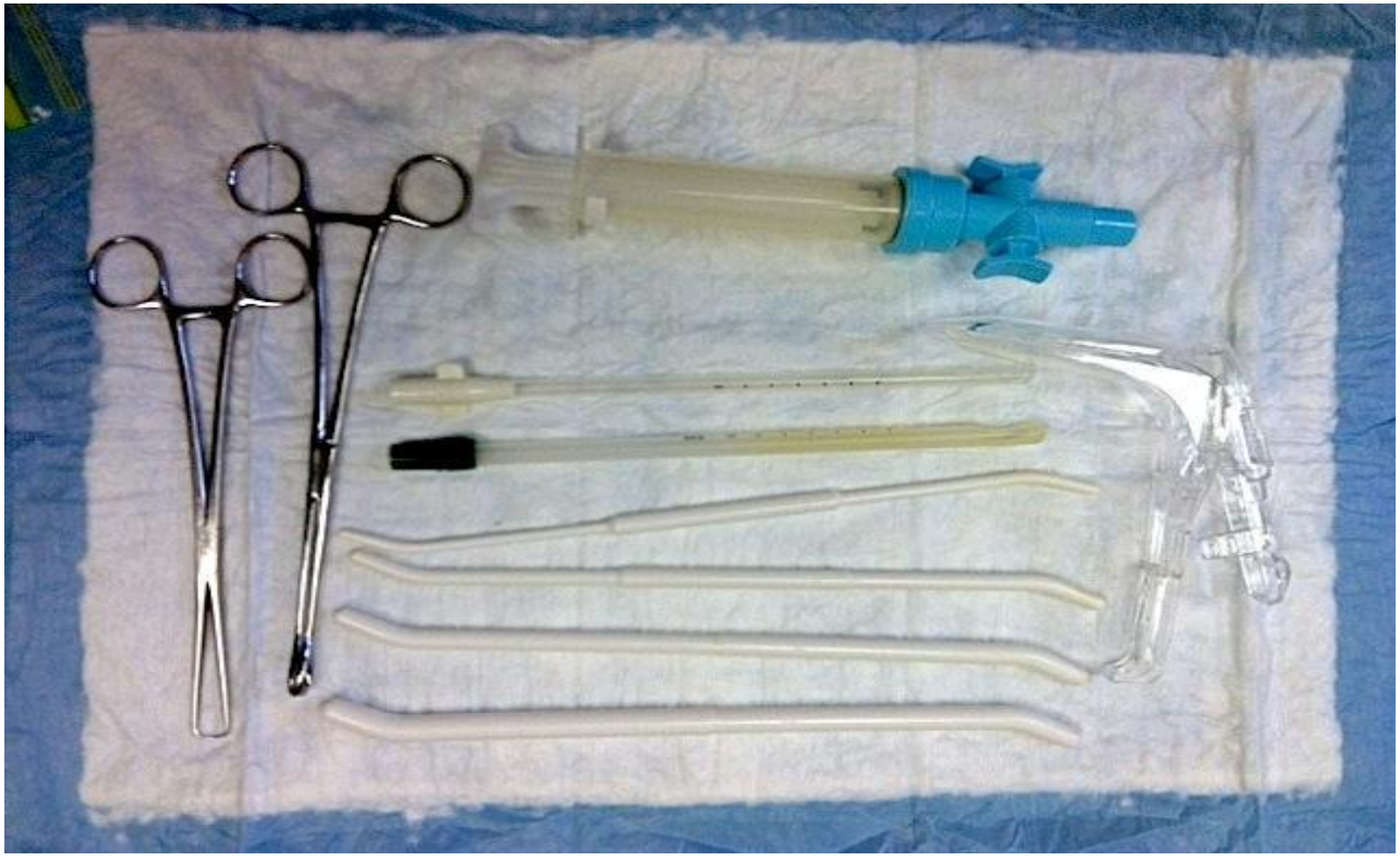
- Mifepristone 200mg oral **and**

  Misoprostol 800mg buccal 24hrs later

- UNM SOP for Early Pregnancy Loss

- 84% effective vs 67% without Mifepristone
- 9% vs 23% getting aspiration procedure without Mifepristone


# PROCEDURE – D&C



# PREGNANCY LOSS (MISCARRIAGE)

### WHAT IS PREGNANCY LOSS OR MISCARRIAGE?

Pregnancy loss, often called miscarriage, happens when a pregnancy stops growing. This is very common. About 1 in 4 pregnancies miscarry, mostly in the first 3 months.

### WHAT CAUSES PREGNANCY LOSS?

A pregnancy loss is almost never caused by something you did. Past abortions, sex, exercise, mild falls, spicy foods, and most medications do not cause miscarriage. There is a higher chance of a miscarriage with older age, some chronic illnesses, some infections, changes in the uterus, and severe injury.

When a pregnancy starts, cells divide fast to make an embryo, and sometimes errors occur. Your body notices this, and the pregnancy stops growing.

Most types of miscarriage don't affect your chances of having a normal pregnancy in the future. If you have more than 2 miscarriages in a row, you may be at a greater risk of future pregnancy loss. You can talk to your clinician about this.

### WHAT WILL I SEE AND FEEL WHEN I HAVE A PREGNANCY LOSS?

- Bleeding or spotting from the vagina
- Passing small or large clots
- Cramps or abdominal pain
- Back pressure or pain

These symptoms may be minor or severe. They may last a few days or weeks.

Contact your clinician for a visit as soon as you notice bleeding, cramping, and/or pain.

These symptoms can be part of a normal pregnancy, but it is a good idea to have more tests done. If you have very heavy bleeding or a fever above 101F, go to the emergency room.

### WHAT HAPPENS DURING A PREGNANCY LOSS?

During a miscarriage, the pregnancy leaves the uterus through the cervix and the vagina.

A clinician can do an ultrasound image of the uterus to find out what is going on. If a miscarriage has started, it is not possible to stop your body from continuing to pass the pregnancy tissue.

If the pregnancy tissue does not pass on its own, or if you would prefer to help your body pass the pregnancy more quickly, you have options. Your clinician can give you a medication that you can take at home to help pass the tissue. You can also have a procedure in the health center to remove the pregnancy tissue with gentle suction.

### AFTER A PREGNANCY LOSS:

Pregnancy loss can be hard. It is okay to give yourself time to heal and check in with your emotions. There is no right or wrong way to feel, and there is no "normal" amount of time that you will need to recover. Your period will return in 4-8 weeks.

Speak with your clinician to learn how to prevent another pregnancy until you are ready, or about becoming pregnant again. If you have a hard time going back to your normal activities, speak with your clinician so that you can get the support you need. You can also call the All-Options Support Talkline toll-free at 1-888-493-0092 for peer-based counseling and support.

August 2017 / www.reproductiveaccess.org

reproductive health access project

| | Watch and Wait | Medication | Suction Procedure |
|---|---|---|---|
| How does it work? | You wait for the pregnancy tissue to pass, which happens with cramping and bleeding with clots. | Pills called misoprostol help to make the tissue pass. You use these pills at home. | A health care provider removes the pregnancy tissue using a simple office procedure. |
| What will happen? | You wait for the cramping and bleeding to happen. You won't know when it will start.<br>The bleeding and cramping is most likely heavier than a period and lasts 2-6 hours.<br>Lighter bleeding often lasts 1 to 2 weeks and it may stop and start a few times. | You will place the pills in your vagina at a time you choose after you take some pain pills.<br>The pills may cause nausea.<br>You will have heavy cramping and bleeding about 2-6 hours after taking the pills.<br>The bleeding may be much heavier than a period.<br>Lighter bleeding often lasts 1 to 2 weeks and it may stop and start a few times. | The procedure takes place in the office.<br>It takes 5–10 minutes.<br>Your health care provider puts instruments in your vagina and uterus to remove the tissue.<br>You will have light bleeding and cramping for 3-7 days. |
| How painful is it? | You will have intense cramping.<br>Pain pills and a heating pad can help relieve painful cramps. | You will have intense cramping.<br>Pain pills and a heating pad can help relieve painful cramps. | You may have mild to strong cramps during the procedure.<br>Medication given before the procedure helps. |
| How well does it work? | This works 66–90% of the time, depending upon the type of miscarriage you have. | This works 80–90% of the time, depending upon the type of miscarriage you have. | This works 98–100% of the time, depending upon the type of miscarriage you have. |
| What if it takes too long or doesn't work? | If it takes too long, you can return to your health care provider at any time for pills or a suction procedure. | If it didn't work or takes too long, you can return for a suction procedure or try another round of the pills. | In the rare case that it doesn't work, you can return for another suction procedure. |
| Is it safe? | **Yes.** All three treatment options are safe. | | |
| Can I still have children afterwards? | **Yes.** These treatments don't prevent you from getting pregnant or staying pregnant in the future.<br>Once the miscarriage is over you can start trying to get pregnant as soon as you feel ready. | | |
| What caused the miscarriage? | You did not make it happen. A miscarriage is nature's way of ending a pregnancy that would not be healthy. Miscarriage is **not** caused by stress, sports, foods or sex. | | |

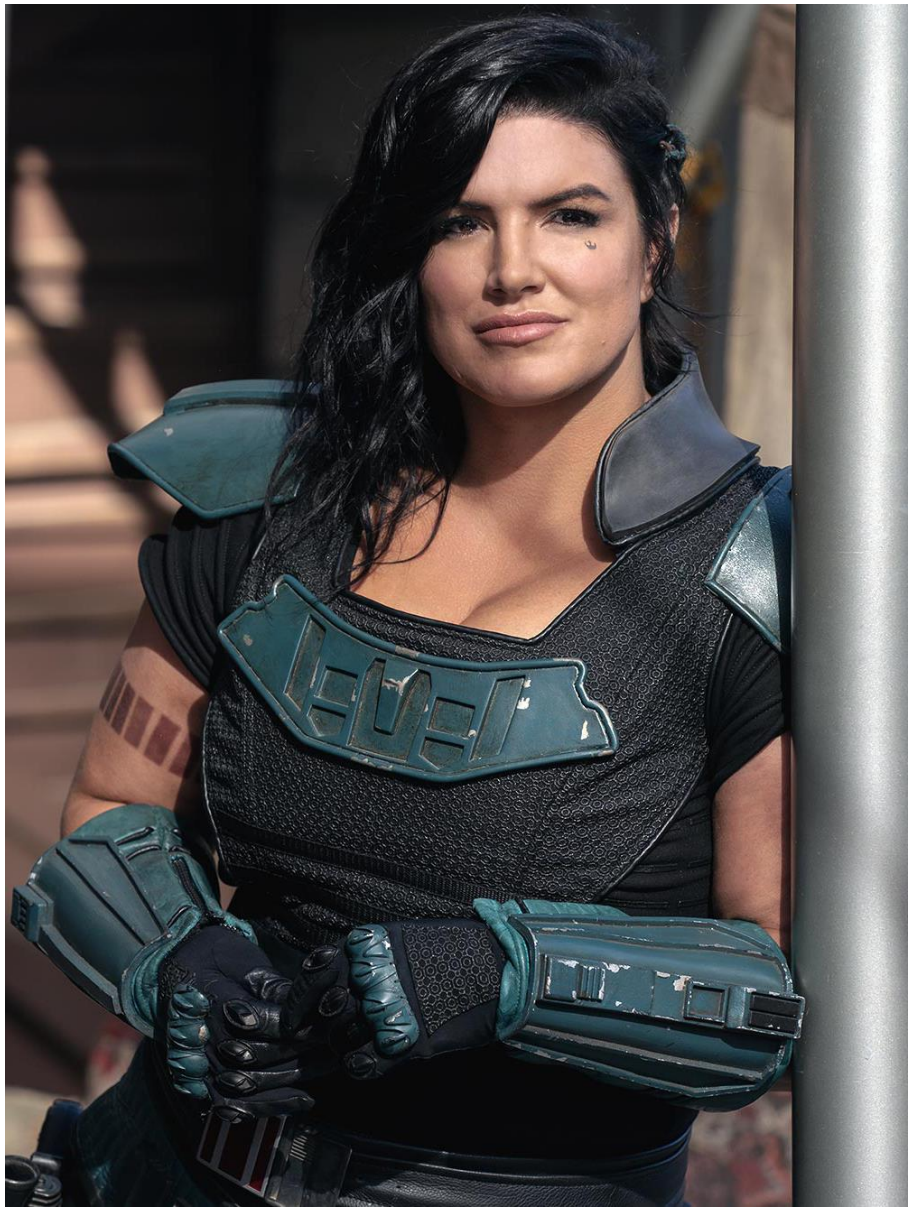
# CASE 2

OB Triage pages the next day…

30 yo G3P1011 at 8 wks by LMP, spotting and pelvic pain

You confirm she's stable and catch a baby before going over to triage

The RN's have been able to draw labs and results are back



# LABS

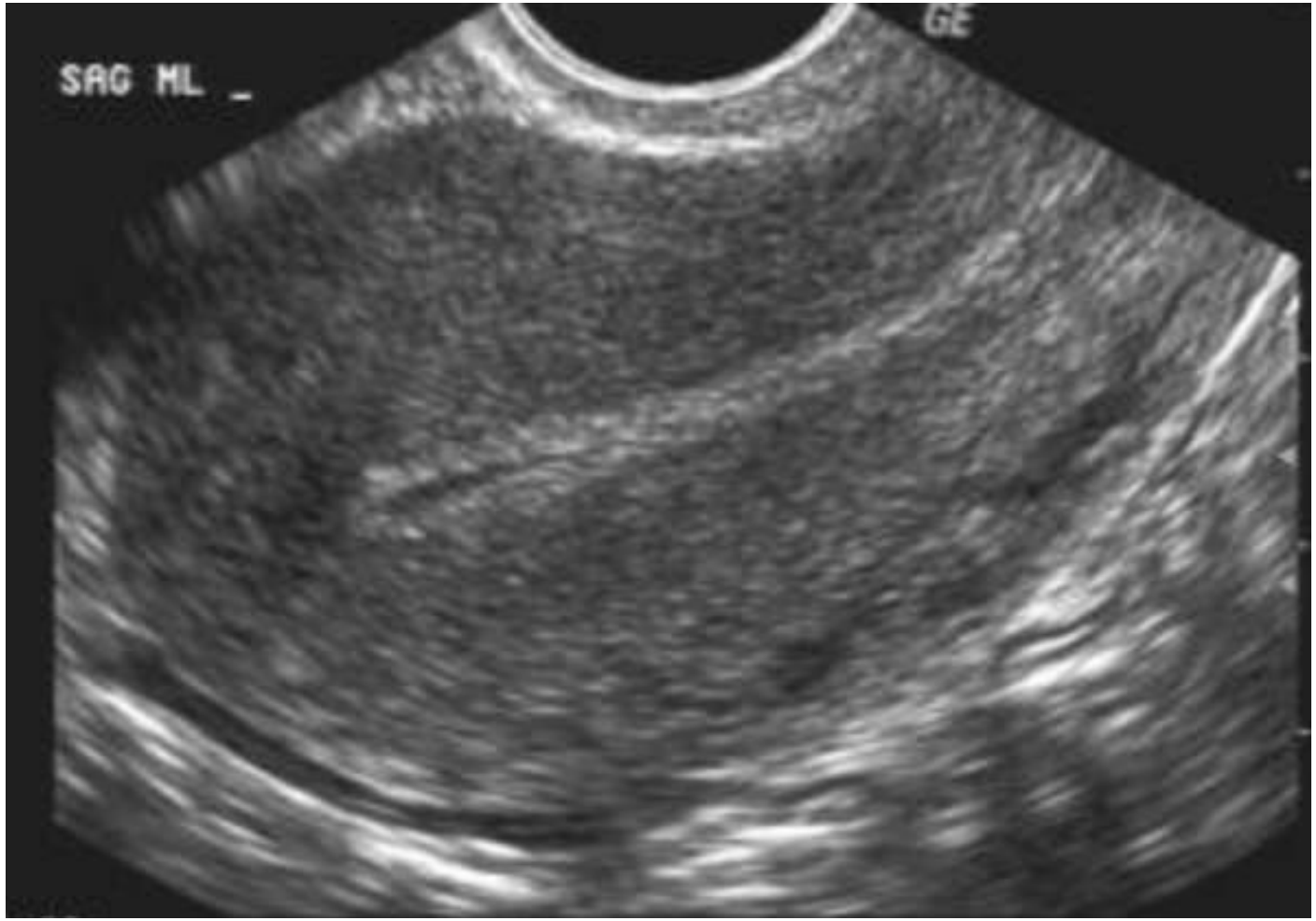
- Rh +
- Beta HCG 1800
- Hct 30

Next steps?

# ULTRASOUND

What is your diagnosis?

Could this be a viable pregnancy?



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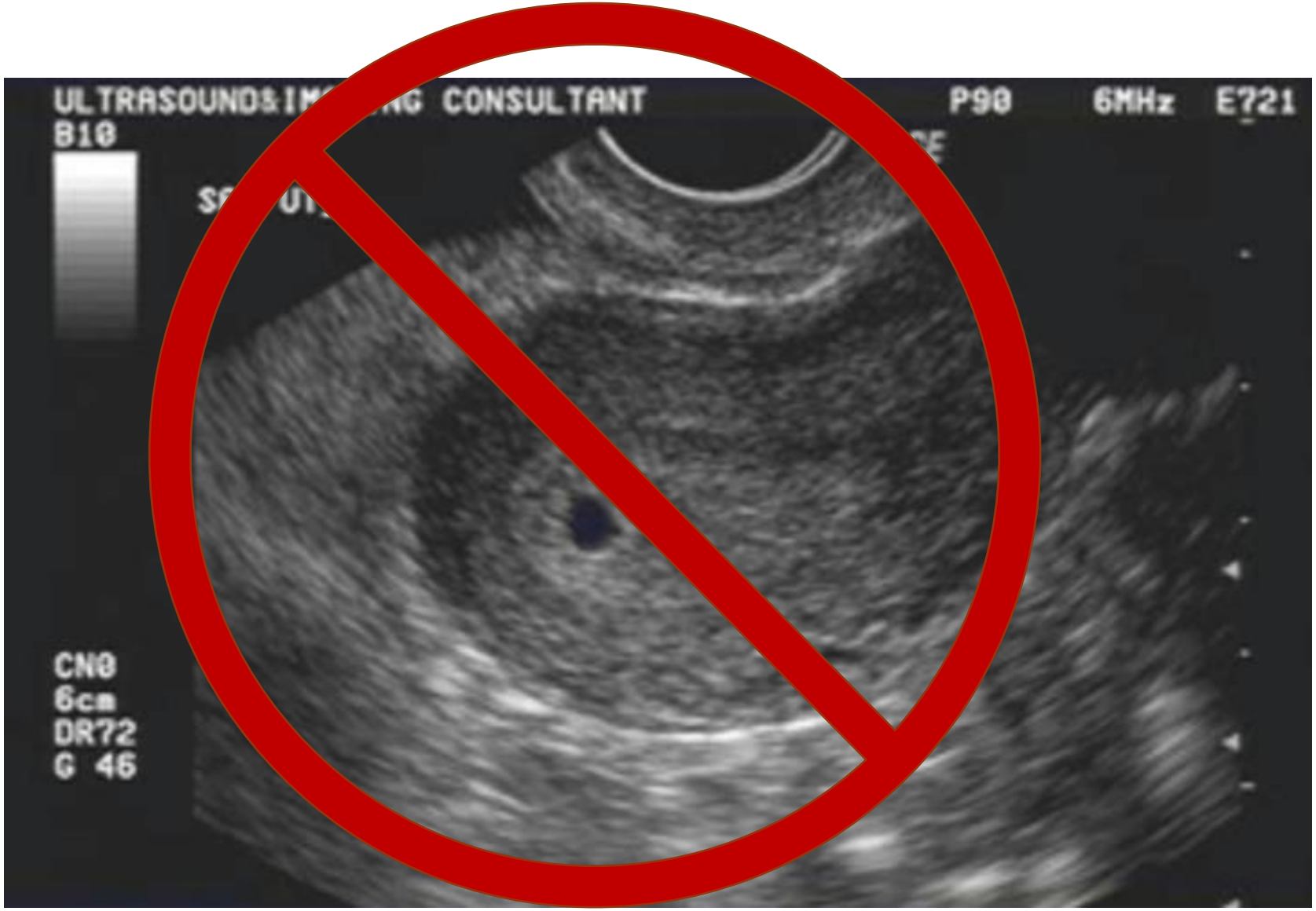
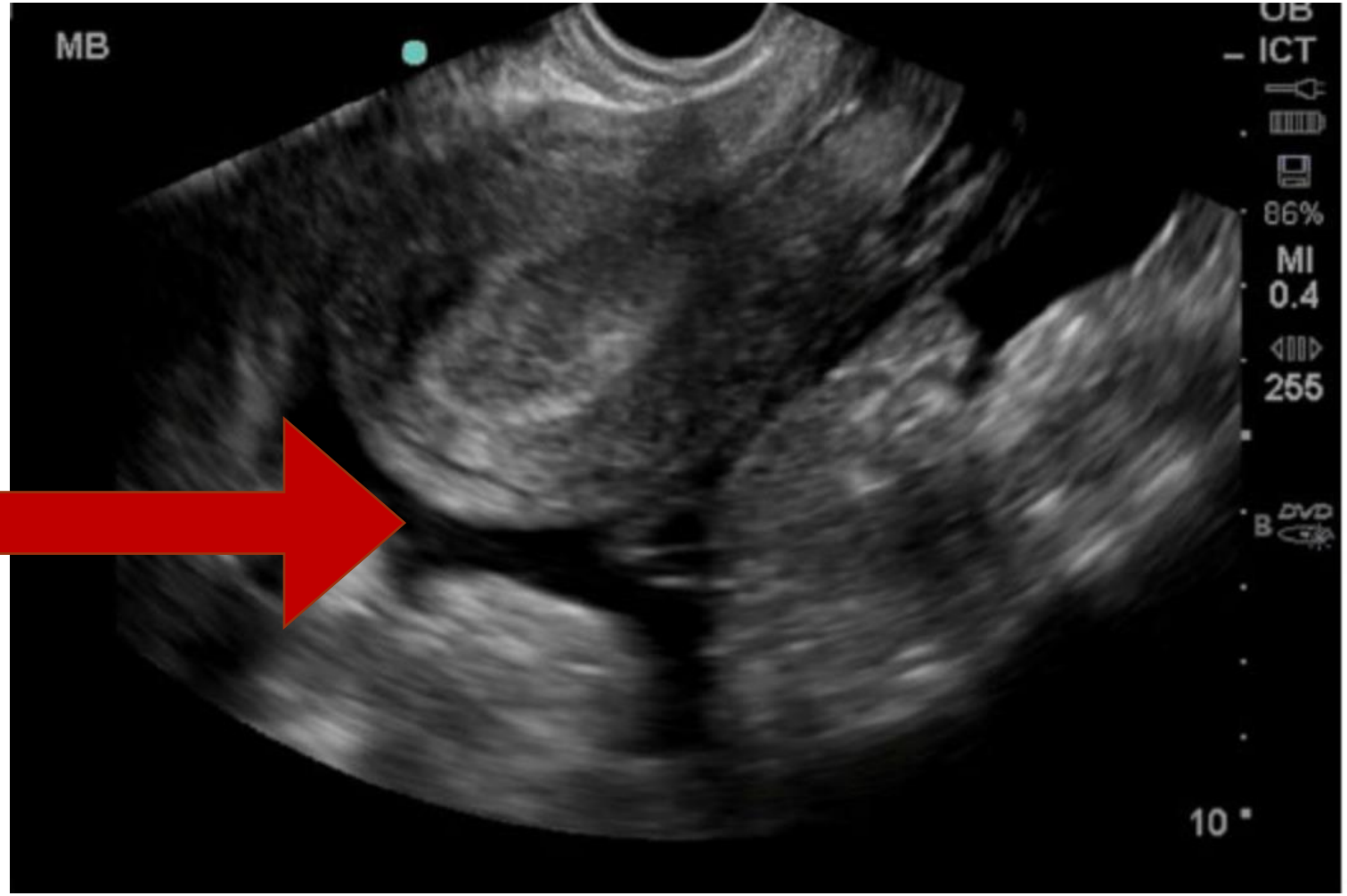



**Gestational sac alone DOES NOT rule out Ectopic pregnancy!!**

# WHAT IF YOU SAW THIS?

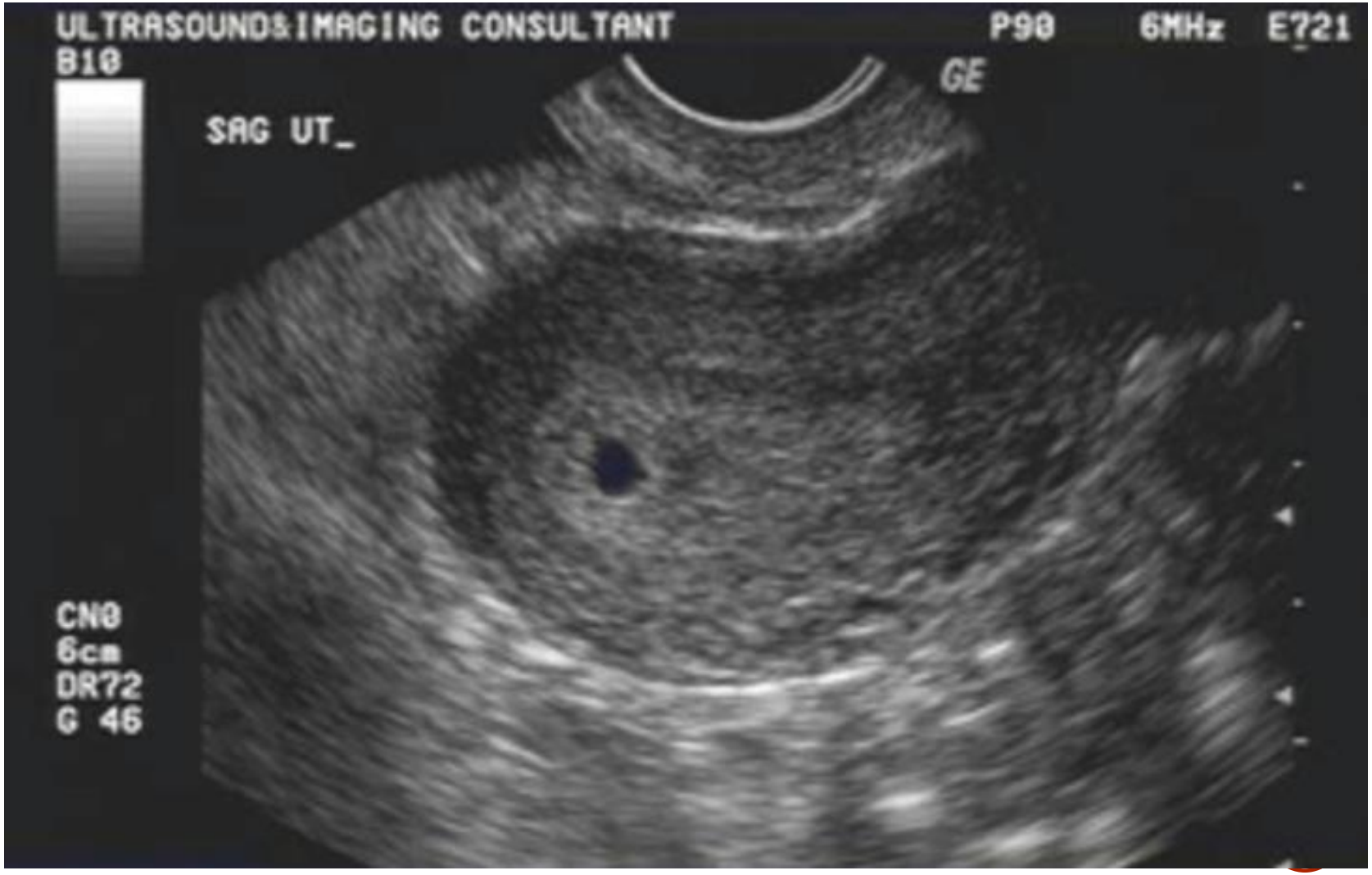
Free fluid = not good

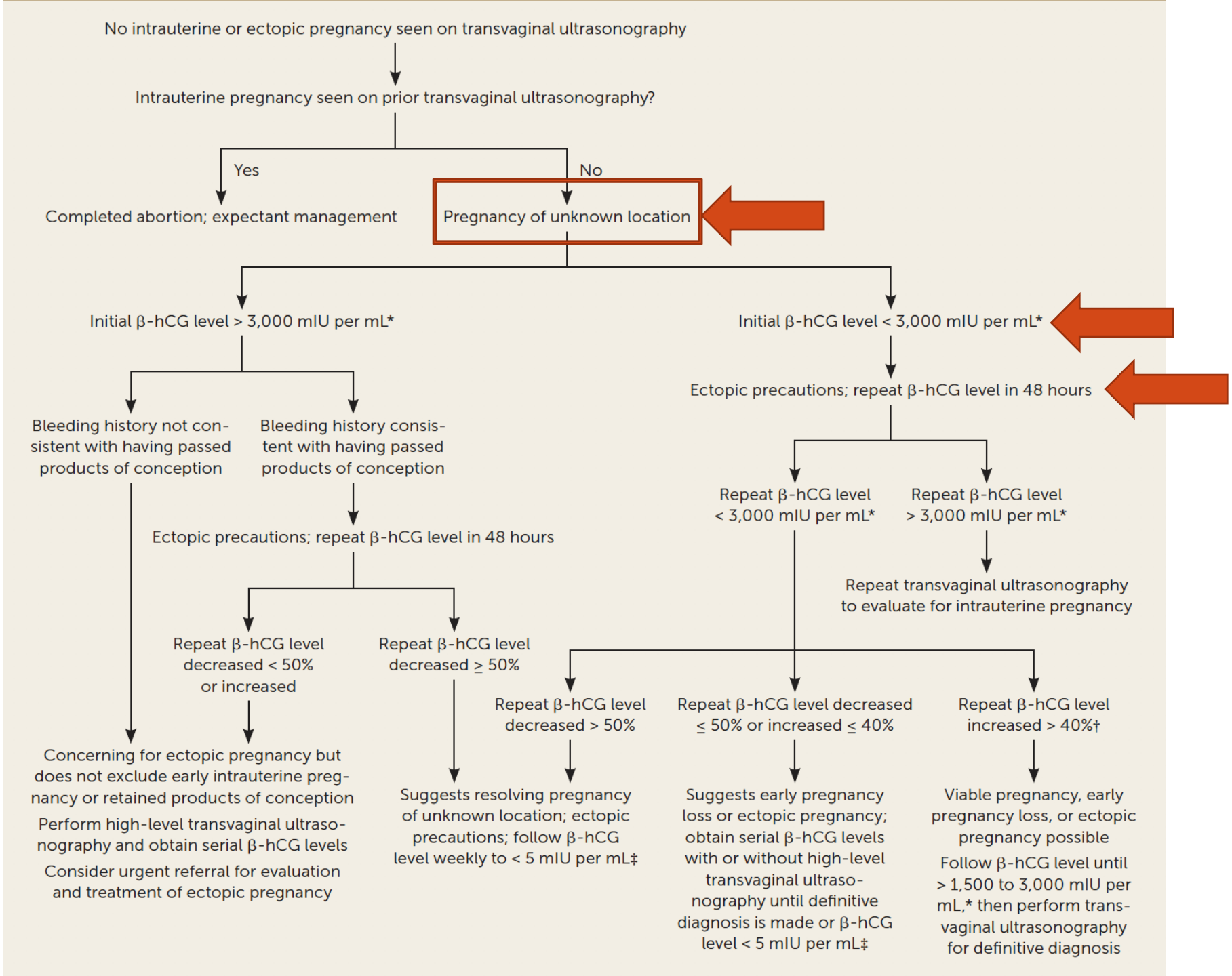


# BACK TO THIS

Beta HCG 1800

What is your diagnosis?




No intrauterine or ectopic pregnancy seen on transvaginal ultrasonography
Intrauterine pregnancy seen on prior transvaginal ultrasonography?
Yes
No
Completed abortion; expectant management
Pregnancy of unknown location
Initial β-hCG level > 3,000 mIU per mL*
Initial β-hCG level < 3,000 mIU per mL*
Ectopic precautions; repeat β-hCG level in 48 hours
Bleeding history not consistent with having passed products of conception
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Repeat β-hCG level < 3,000 mIU per mL*
Repeat β-hCG level > 3,000 mIU per mL*
Repeat transvaginal ultrasonography to evaluate for intrauterine pregnancy
Repeat β-hCG level decreased < 50% or increased
Repeat β-hCG level decreased ≥ 50%
Repeat β-hCG level decreased > 50%
Repeat β-hCG level decreased ≤ 50% or increased ≤ 40%
Repeat β-hCG level increased > 40%†
Concerning for ectopic pregnancy but does not exclude early intrauterine pregnancy or retained products of conception
Perform high-level transvaginal ultrasonography and obtain serial β-hCG levels
Consider urgent referral for evaluation and treatment of ectopic pregnancy
Suggests resolving pregnancy of unknown location; ectopic precautions; follow β-hCG level weekly to < 5 mIU per mL‡
Suggests early pregnancy loss or ectopic pregnancy; obtain serial β-hCG levels with or without high-level transvaginal ultrasonography until definitive diagnosis is made or β-hCG level < 5 mIU per mL‡
Viable pregnancy, early pregnancy loss, or ectopic pregnancy possible
Follow β-hCG level until > 1,500 to 3,000 mIU per mL,* then perform transvaginal ultrasonography for definitive diagnosis

# PREGNANCY OF UNKNOWN LOCATION

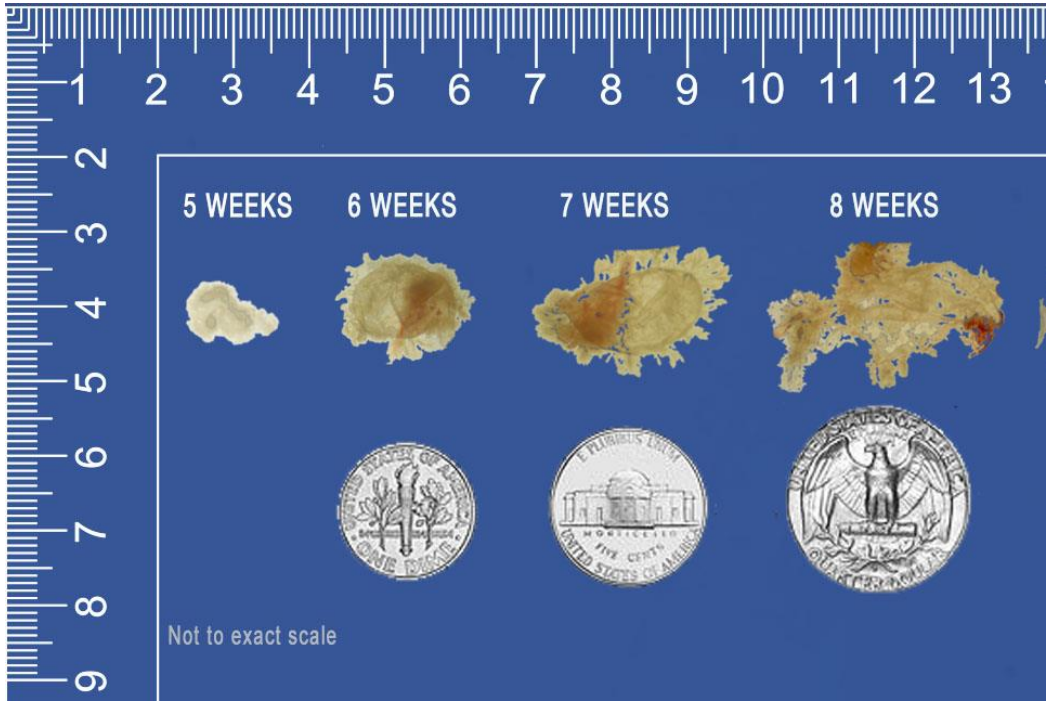
- +Beta HCG and no intrauterine pregnancy seen on Ultrasound
- Consider DI US to help r/o ectopic

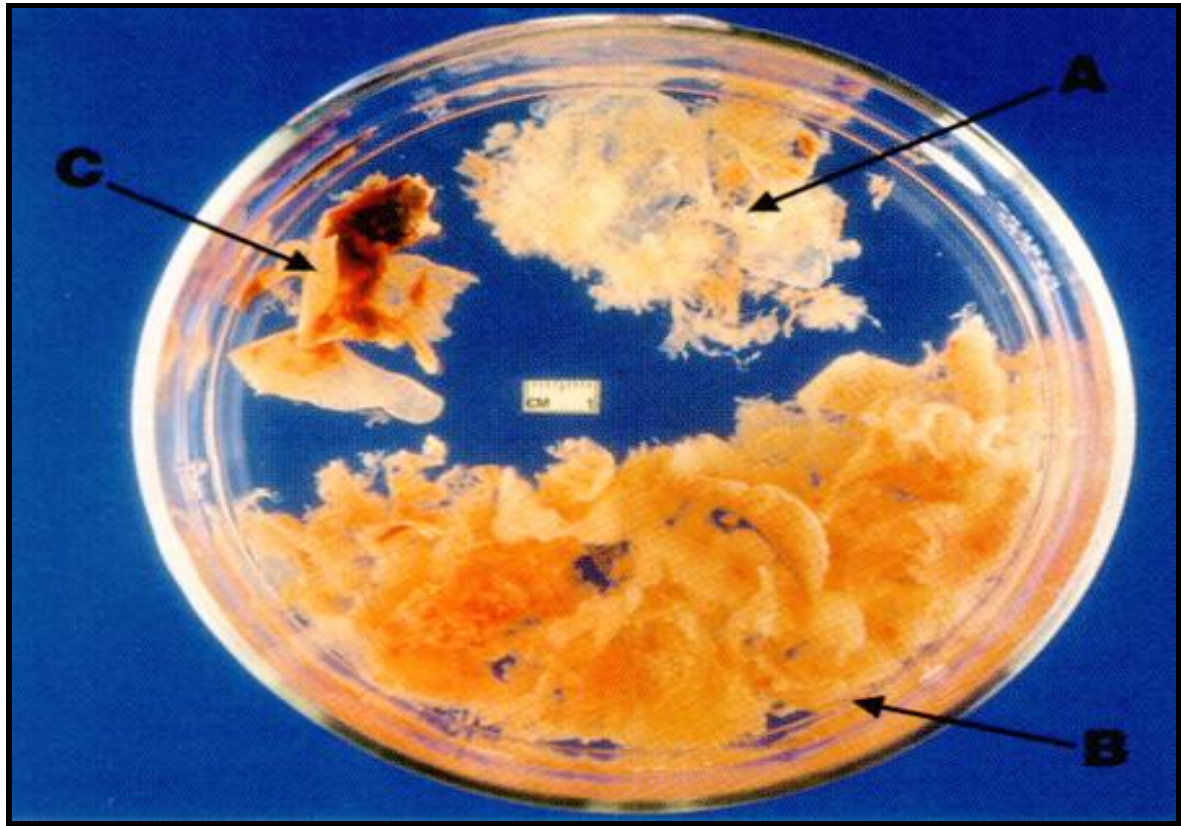
- Management depends on desired or undesired pregnancy

- UNM SOP for PUL

# PREGNANCY OF UNKNOWN LOCATION

- If undesired
  - MVA to r/o ectopic/confirm intrauterine is an option
  - An HCG should drop 50% in 24-48hrs
  - Tissue is sent to pathology



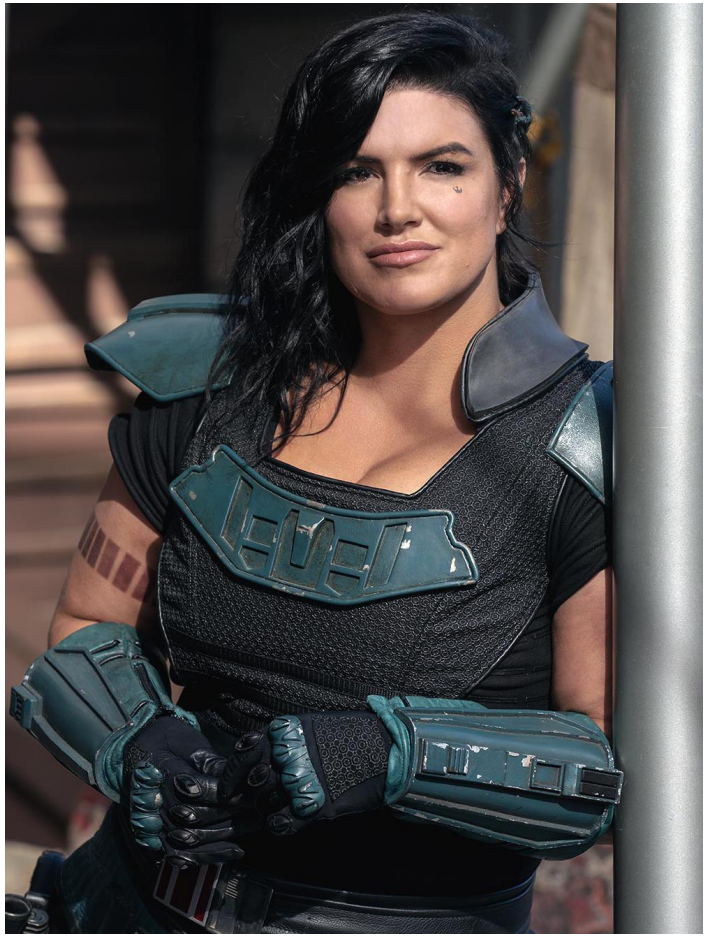



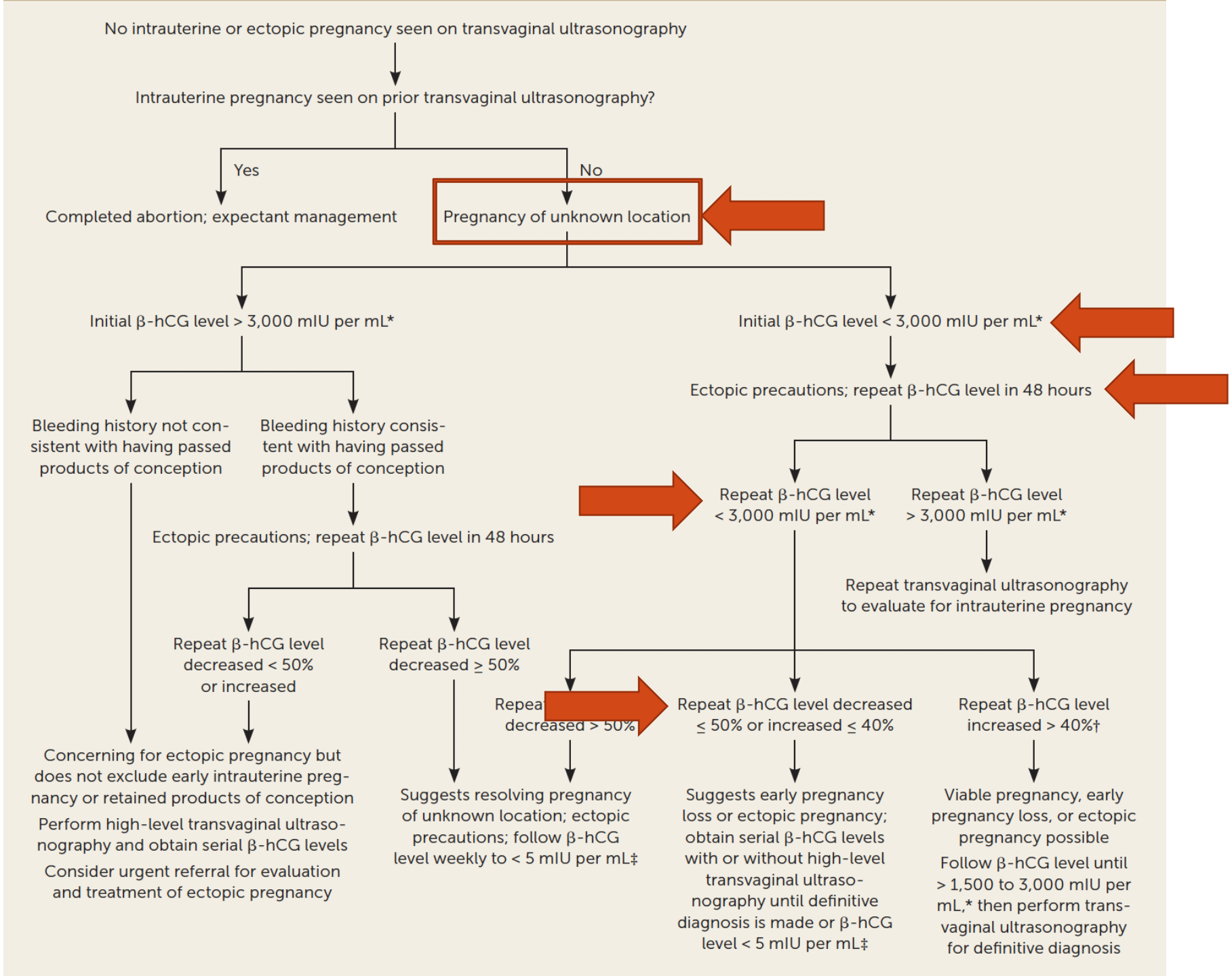
# CASE 2

- Desired pregnancy
- Beta HCG 1800
- DI US shows no obvious ectopic
- Add her the Beta Book
- Message the MCH Fellow

48hrs later her beta HCG is …

2000

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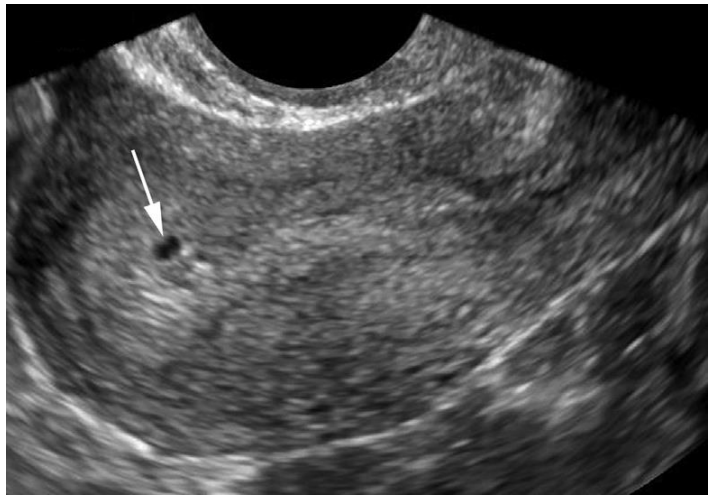
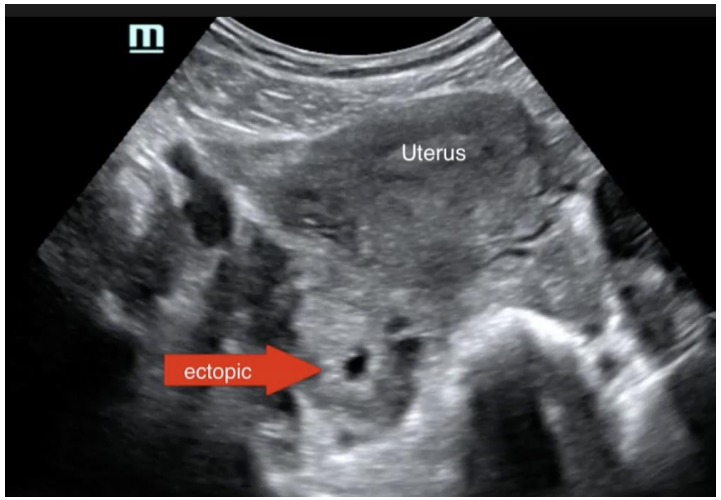
# ECTOPIC?

- Will often take more than 1 US to diagnosis ectopic





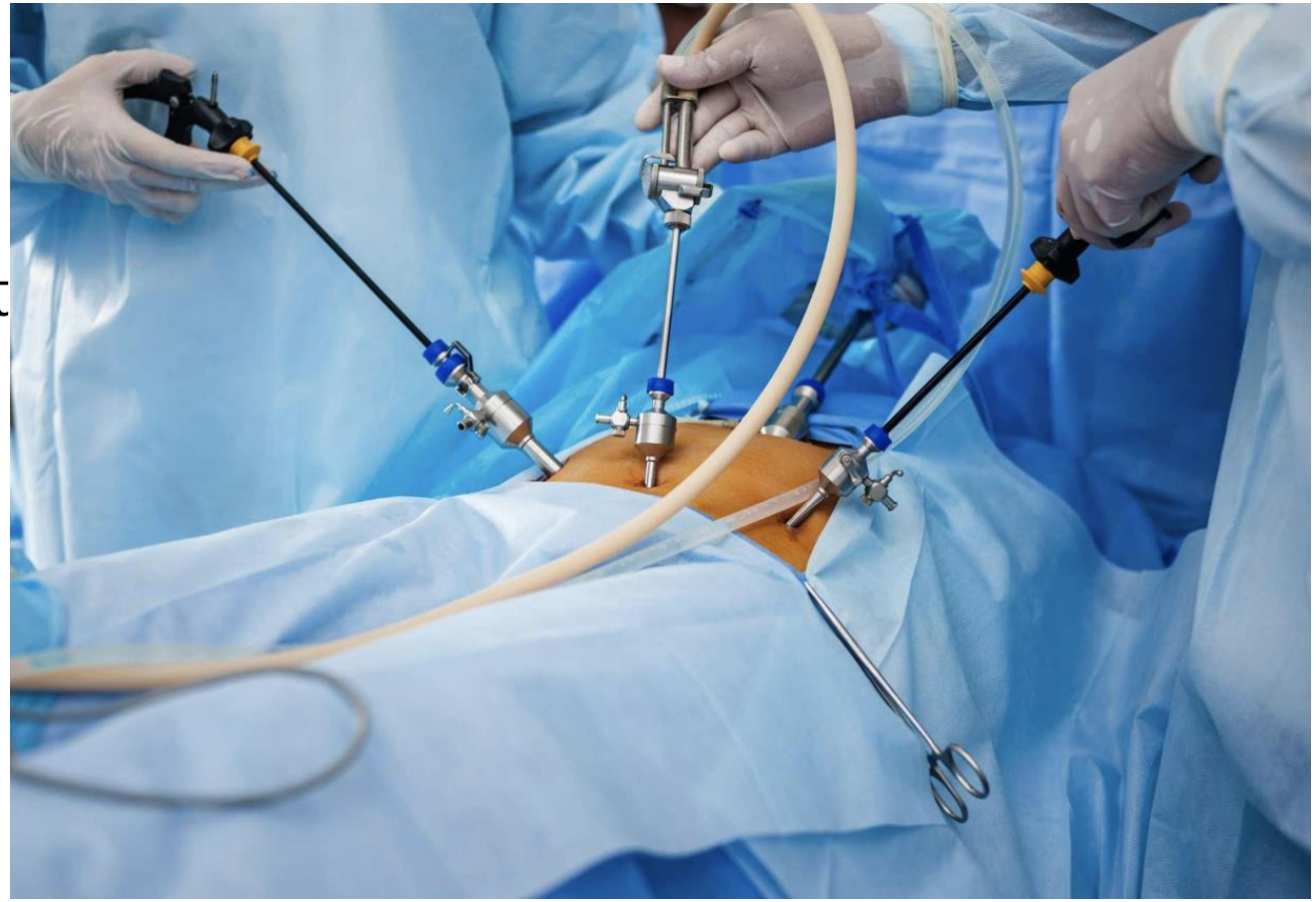

- Ectopics have been identified with βhCG at levels < 100 and > 50,000
- A single βhCG cannot confirm diagnosis
- No single pattern to diagnose women with EP – may have a normal rise.

Kirk Human Reproduction Update 2014;20:250-261
Lozeau AFP 205;72:1707-1714

# ECTOPIC MANAGEMENT

- Methotrexate
- Surgery
- Expectant management

Consult MCH Fellow (or OB if patient unstable)



# CASE 3

- Call from clinic patient

  Heavy vaginal bleeding (2 pads per hour) x 2 hours

  Positive pregnancy test last week, 7wk 3 days by sure LMP

  G1P0

  Smoker, history of pelvic inflammatory disease

What do you advise?

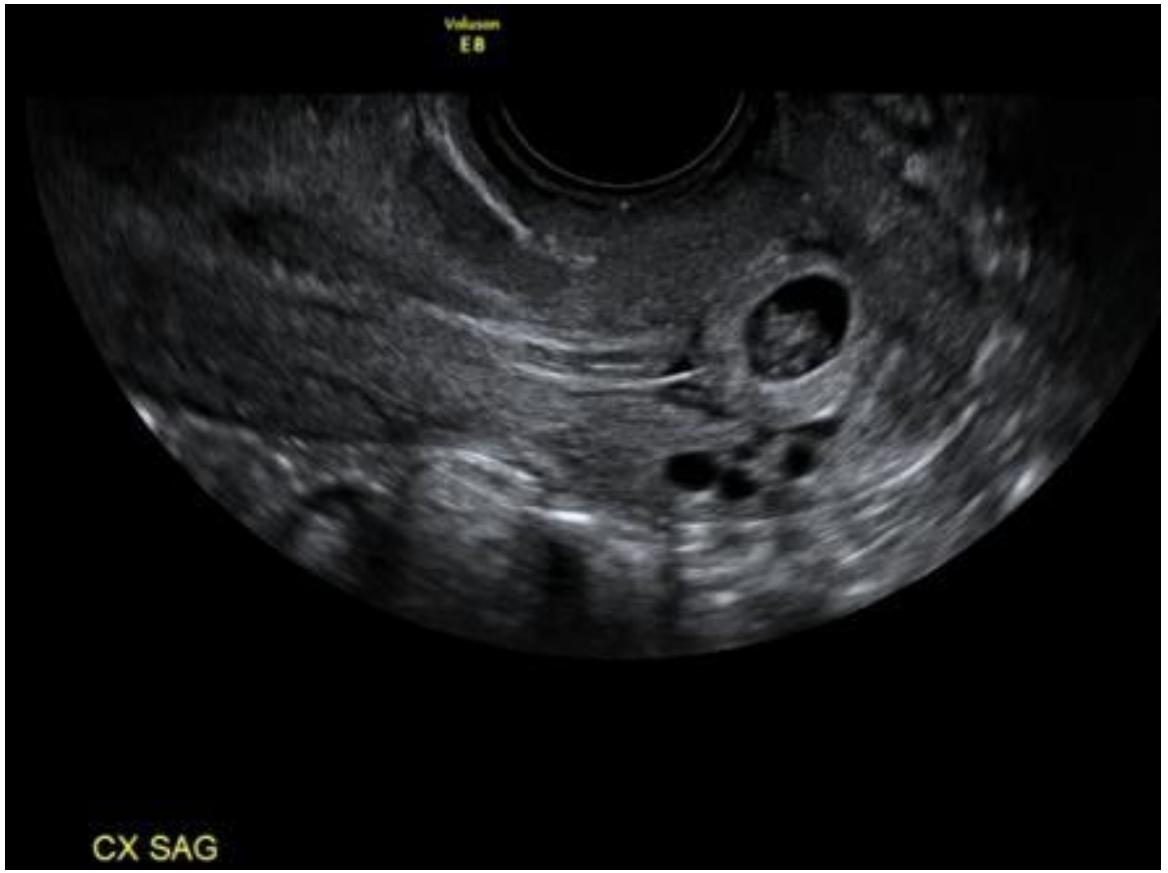
# SHE ARRIVES AT OB TRIAGE, NEXT STEPS?

Blood pressure 90/50, HR 120

Beta HCG 4000
HCT 28

Sterile speculum exam with POC at os

**Diagnosis?**
**Management?**



# FOLLOW UP

- 48hrs later beta HCG 1500
- Bleeding is lighter than a period

# PEARLS!

- Determining cause of 1st trimester bleeding almost always requires serial Beta HCG and Ultrasounds
- Hemodynamically stable women with PUL can be managed conservatively
- Early pregnancy loss can be managed expectantly, with medication or with a procedure
- You need at minimum a yolk sac to diagnosis an intrauterine pregnancy, cannot rule out ectopic with only a gestational sac