

EM CASE OF THE WEEK.

BROWARD HEALTH MEDICAL CENTER
DEPARTMENT OF EMERGENCY MEDICINE



Care Warriors

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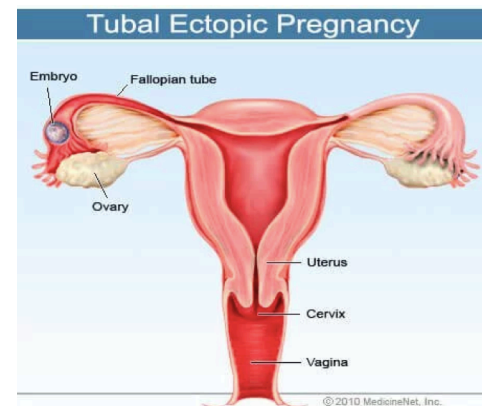
Ruptured Ectopic Pregnancy

A 24-year-old G3P0020 Caucasian female at 8 wks EGA by LMP with no significant past medical history presents with right sided abdominal pain that is rapidly worsening over the past 2 hours. Onset was sudden and she has never experienced these symptoms prior to this episode. She denies nausea, vomiting, or recent illness. Patient is afebrile with vitals remarkable with tachycardia, hypotension, and tachypnea. On physical exam, patient has guarding, rigidity, and rebound tenderness. Which of the following will ultimately be the appropriate management of this patient's condition?

- A. Urgent dilation and curettage
- B. Administer methotrexate
- C. Laparoscopic appendectomy
- D. Exploratory laparotomy



Ectopic Pregnancy US – 8 wks EGA



EM Case of the Week is a weekly "pop quiz" for ED staff.

The goal is to educate all ED personnel by sharing common pearls and pitfalls involving the care of ED patients. We intend on providing better patient care through better education for our nurses and staff.

BROWARD HEALTH MEDICAL CENTER

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The correct answer is D.

This patient has an acute abdomen. The H&P suggest a ruptured ectopic pregnancy which requires immediate surgical intervention, typically an exploratory laparotomy, to identify and stop intraperitoneal bleeding.

An ectopic pregnancy is the occurrence of pregnancy outside of the uterus. Most often ectopic pregnancies occur in the fallopian tubes, however, less commonly implantation can occur in the ovaries, cervix, or abdomen. In the general population, ectopic pregnancies make up only about 2% of all pregnancies. However, the prevalence increases to 6-18% for pregnant women presenting to the emergency department with abdominal pain or vaginal bleeding.

Ectopic pregnancies can very rapidly turn into a life-threatening emergency. The uterus is the only organ/potential space that is equipped to accommodate a growing fetus. Normally, the pregnancy is contained within the uterus so that the baby and its environment grow simultaneously. In the case of an ectopic pregnancy, the fetus tries grow in an anatomic location (typically the fallopian tube) that cannot support it. Subsequent life-threatening hemorrhage can occur. This is why patients presenting with ruptured ectopic pregnancy frequently have signs/symptoms correlating with an acute abdomen as well as hemorrhagic shock. Abdominal pain and vaginal bleeding can help clue health care providers into possible ectopic pregnancy, however, over 50% of women are asymptomatic prior to tubal rupture.

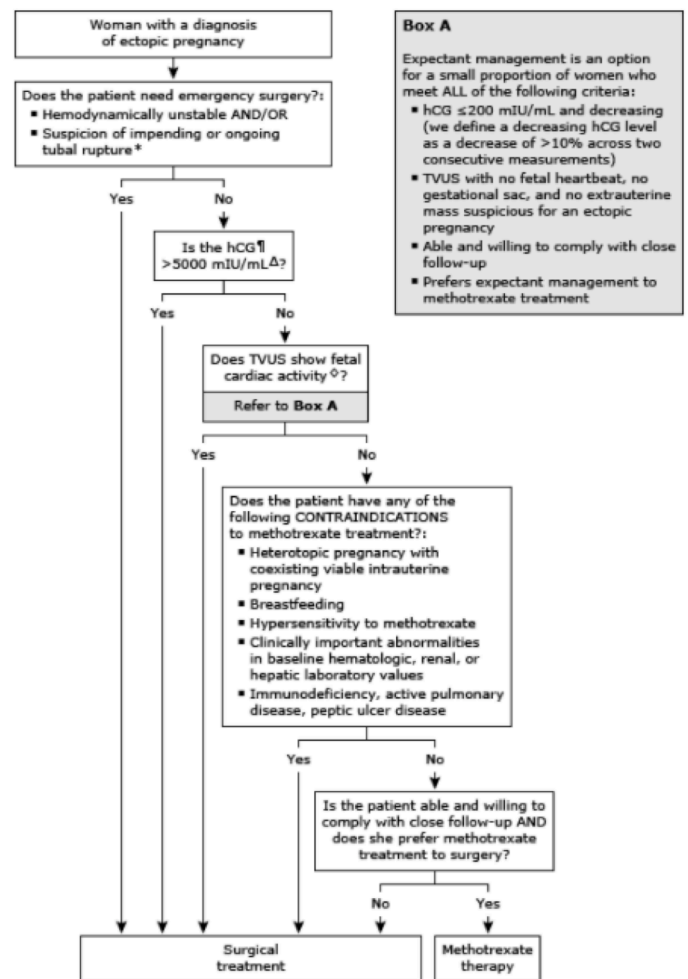
Discussion

A ruptured ectopic is one of the life-threatening complications of an ectopic pregnancy. Appropriate detection, diagnosis, and management can help to drastically decrease maternal morbidity and mortality.

Steps to Ectopic Pregnancy Management:

- Confirm pregnancy
- Evaluate patient for hemodynamic instability
- Quantitative hCG with reference to DZ
- TVUS – identify site of ectopic and possibility of rupture
- Treatment: Expectant vs. Medical vs. Surgical

Algorithm: Choosing a treatment for ectopic pregnancy



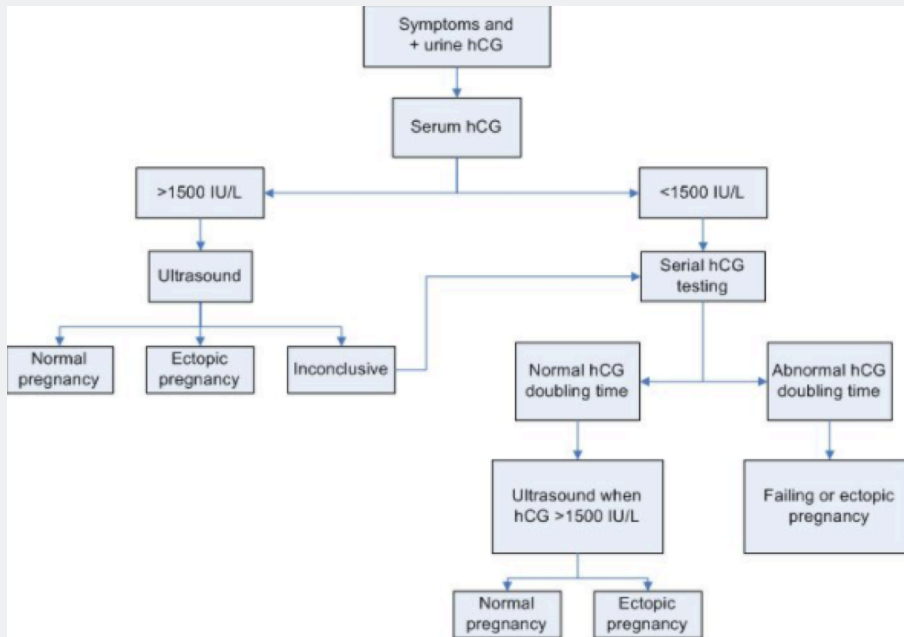
For a list of educational lectures, grand rounds, workshops, and didactics please visit BrowardER.com and click on the "Conference" link.

All are welcome to attend!



ABOUT THE AUTHOR

This month's case was written by Colby Wolk. Colby is a 4th year medical student from NSU-COM. He did his emergency medicine rotation at BHMC in January 2018. Colby plans on pursuing a career in OB/GYN after graduation.



- The diagnostic criteria depend upon the relationship to the hCG discriminatory zone
- The hCG discriminatory zone is the serum hCG level *above which* a **gestational sac** should be visualized by TVUS if an intrauterine pregnancy is present. The hCG level of the discriminatory zone varies, but in most hospitals, it is 2000 international units/L.
- •If the hCG is below the discriminatory zone, diagnosis is made with serial hCG that is rising abnormally -- if it does not increase by at least **35 percent** in **48 hours** OR **doubling** in **72 hours**
- •If the hCG is above the discriminatory zone, the diagnosis is made based upon ultrasound findings that confirm either an intrauterine or extrauterine pregnancy

Take Home Points

- An ectopic pregnancy is an extrauterine pregnancy. About 98% of ectopic pregnancies occur in the fallopian tube, but other possible sites can occur
- Abdominal pain and vaginal bleeding are the most common symptoms of ectopic pregnancy. However, over 50 percent of women are asymptomatic before tubal rupture and do not have an identifiable risk factor for ectopic pregnancy.
- The key components of the evaluation of a woman with suspected ectopic gestation are a transvaginal ultrasound (TVUS) examination and quantitative human chorionic gonadotropin (hCG) level. The hCG is measured serially every two to three days.
- The diagnosis of ectopic pregnancy is a clinical diagnosis made based upon serial hCG testing and TVUS. A diagnosis of ectopic pregnancy cannot be made based upon a single hCG result.
- The diagnostic criteria depend upon the relationship to the hCG discriminatory zone The hCG level of the discriminatory zone varies, but in most hospitals it is 2000 international units/L
- Diagnosis of rupture is a clinical diagnosis made primarily based upon a finding of echogenic fluid (consistent with blood) in the pelvic cul-de-sac and/or abdomen combined with the presence of abdominal pain and/or tenderness

REFERENCES

Tubal ectopic pregnancy. ACOG Practice Bulletin No. 191. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2018; 131:e65 –77.

Medscape:Ectopic Pregnancy

UpToDate:Bells Ectopic pregnancy: Clinical manifestations and diagnosis