EM CASE OF THE WEEK.

BROWARD HEALTH MEDICAL CENTER
DEPARTMENT OF EMERGENCY MEDICINE

BROWARD HEALTH
Care Warriors

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| Vol 5 | Issue 8

Ectopic Pregnancy

A 29 y/o female with a past medical history of PID who presents to the ED complaining of non- radiating RLQ pain which began 3 hours ago. Pt states that she was in bed sleeping when she suddenly woke up with 8/10 pain. She reports that nothing makes the pain better or worse. Other associated symptoms include vaginal bleeding and nausea. Her LMP was 1 month ago. Pt has h/o GC/Chlamydia which she was treated for in the past. Pt's initial vitals are stable. Physical Exam shows tenderness to the RLQ with rebound, no guarding with the rest of the exam benign. Minutes later after speaking with the patient, the nurse tells you that her vitals are suddenly unstable. What is the most appropriate next step in management?

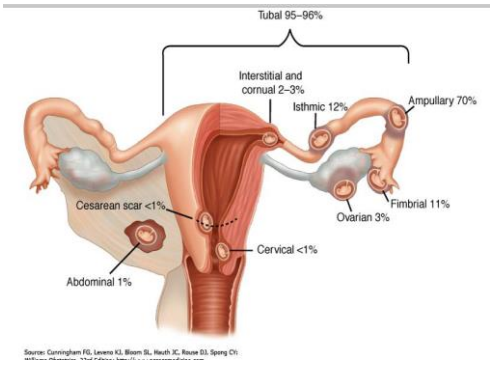
A. Give Methotrexate

B. Order a b-hCG

C. Order a FAST

D. Order a transvaginal US

E. **Order a CT abdomen**



Ectopic pregnancy is defined as a pregnancy in which the fetus develops outside the uterus

96% of Ectopic pregnancies occur within the tube with the majority (70%) occurring within the fallopian tube.

The image above displays the common locations of an ectopic pregnancy

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.

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The correct answer is C. Order a Focused Assessment with Sonography for Trauma (FAST) since patient is now displaying hemodynamic instability

Ectopic pregnancy is a term used to describe an extra uterine pregnancy. The two biggest risk factors for an ectopic pregnancy is prior ectopic pregnancy and PID. The annual incidence rate is fewer that 200,000 cases a year with a 6.8 times higher mortality ratio for African Americans versus Caucasians. Management and treatment of these cases initially depend on the stability of patient.

Discussion

Ectopic pregnancy most commonly presents with first trimester bleeding, which is usually accompanied by abdominal pain. In a case control study, 2026 women presented to the ED with vaginal bleeding and abdominal pain, of those 376 (18%) we diagnosed with an ectopic. Of those 376, 76% had vaginal bleeding and 66% has abdominal pain. However, it is important to note that not all patients with an ectopic pregnancy have abdominal pain or any symptoms (approximately 50%). Patient presentation of an ectopic pregnancy can also vary depending on whether the ectopic is ruptured versus unruptured. A ruptured ectopic pregnancy, as in the case described above, is a life- threatening hemorrhage and presents with severe abdominal pain with signs of blood loss, such as feeling faint or loss of consciousness as well as unstable vitals. The diagnosis of ectopic pregnancy also depends on the hemodynamic stability of the patient. If the patient is unstable, a FAST should be ordered to make the diagnosis. In certain cases, if there is a high index of suspicion for an ectopic, patients can also be taken immediately for laparoscopic surgery. However, if the patient is hemodynamically stable, first confirm pregnancy with a b-hCG and order a Transvaginal Ultrasound (TVUS). The TVUS with a b-hCG of 1500miU/ml will likely confirm the diagnosis and identify the gestational sac, embryo, and its location.

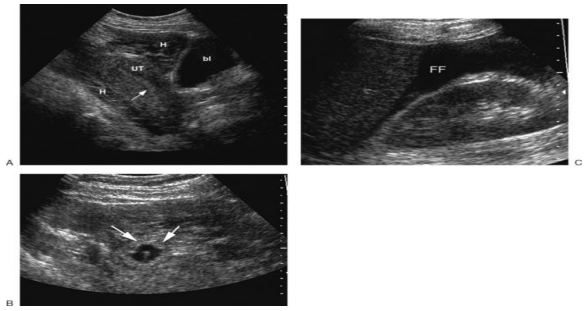

Image from Delani, D Levine: Ectopic pregnancy: A review Ultrasound Q: 20: 105, 2004

Treatment

Patients diagnosed with an ectopic pregnancy are treated based on their hemodynamic stability. If the patient is hemodynamically unstable, and the FAST has confirmed an ectopic pregnancy, treatment involves surgical intervention. Typically, these patients receive a laparoscopic salpingostomy, which preserves the fallopian tube and fertility.

However, if the patient is hemodynamically stable and there is a confirmed ectopic, patients can be treated medically. Medical management of an ectopic pregnancy typically involves the use of Methotrexate (MTX). For MTX to be utilized, the patient must have a b-hCG less than 5000 and a TVUS that displays an ectopic pregnancy with no fetal heart tones. Patients must also be screened for any contraindications for the use of MTX such as heterotrophic pregnancy, breastfeeding, hepatic or renal baselines labs abnormal, immunodeficiency, active pulmonary disease, and peptic ulcer disease. Typically, a single dose of intramuscular MTX, 50mg per m^2 is sufficient for treatment. Once administered, patients must follow up on day 4 and 7 to for serial b-hCG levels. These levels should decrease by greater than 15% at each visit. After initial treatment response, patients should have their b-hCG measured weekly until it reaches zero.

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!

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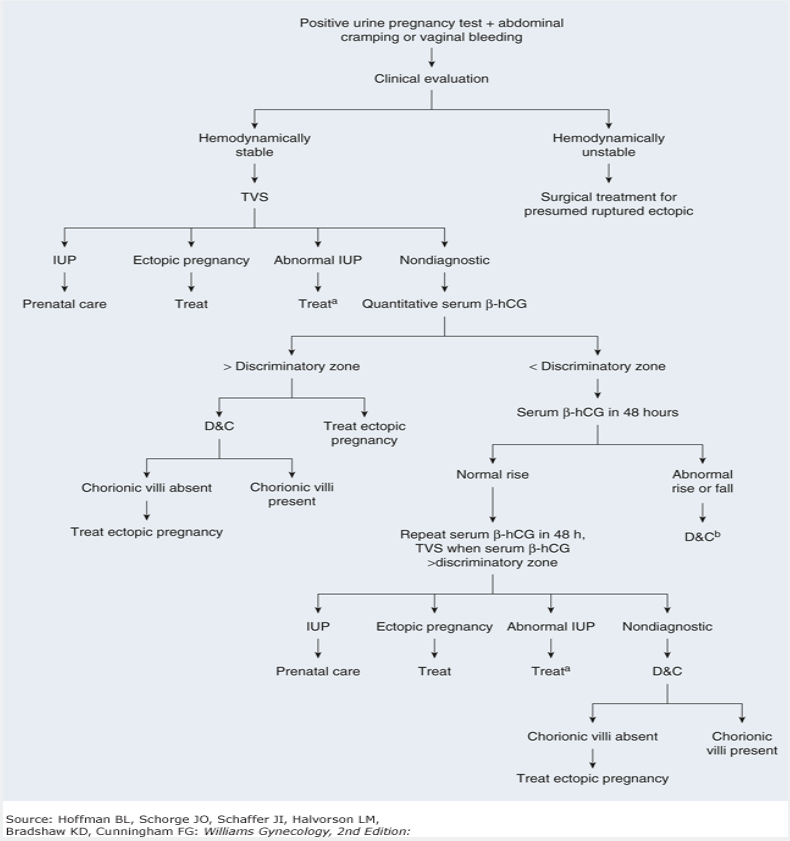

Source: Hoffman BL, Schorge JO, Schaffer JI, Halvorson LM, Bradshaw KD, Cunningham FG: *Williams Gynecology, 2nd Edition:*

On occasion, the TVUS may be nondiagnostic, because the pregnancy is too early to be detected, which would require the evaluation of the b-hCG discriminatory zone (2000miU/ml). If the b-hCG is below the discriminatory zone the patient should receive repeat b-hCG serially every two days and treat based of rise or decline of the b-hCG. However, if the patient has a b-hCG above the discriminatory zone then a repeat b-hCG and TVUS should be done every two days until the b-hCG is greater than 3510miU/ml and treat the ectopic pregnancy.

Take Home Points

- Ectopic pregnancy is a pregnancy that takes place anywhere outside of the uterus
- Risk factors for ectopic pregnancy include, prior ectopic, PID, current use of intrauterine devices, prior tubal ligation, in-vitro fertilization, smoking, and increase maternal age
- Patients typically present with first trimester bleeding and abdominal pain
- Diagnosis and treatment are based on the patient's hemodynamic stability
- If patient is unstable, order a FAST US and anticipate surgical intervention
- If patient is stable, medical management can be utilized for treatment

ABOUT THE AUTHOR

This month's case was written by Domonique Weathers who is a 4th year medical student at NSU-KPCOM. Domonique did her Emergency medicine rotation at BHMC in August 2018. She plans on pursuing a career in Obstetrics and Gynecology

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