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## Point-of-care Ultrasound for the Diagnosis of Ectopic Pregnancy

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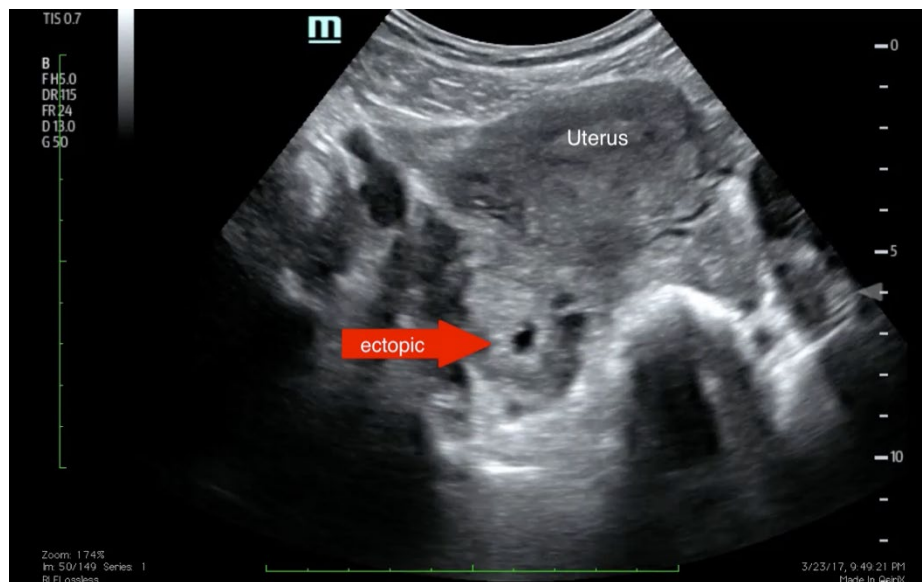
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Video Link: <https://youtu.be/Ap91yyy2soU>

<https://youtu.be/NKKBJt1KqDE>

**History of present illness:** A 31-year-old female presented to the Emergency Department by ambulance with severe abdominal pain and presyncope. On exam, the patient was hypotensive with suprapubic tenderness. Though the patient denied being pregnant, her labs showed a beta human chorionic gonadotropin (hCG) of 38,000 mIU/ml. A bedside transabdominal pelvic ultrasound revealed an ectopic pregnancy and the patient was taken to the operating room for an emergent right salpingectomy.

**Significant findings:** The transabdominal pelvic ultrasound shows an empty uterus (annotated) with free fluid and a right sided extrauterine gestational sac representing an ectopic pregnancy (red arrow).

**Discussion:** Ectopic pregnancy is the leading cause of mortality in the first trimester of pregnancy making

prompt diagnosis critical.<sup>1</sup> Risk factors including history of previous ectopic pregnancy,<sup>2</sup> pelvic inflammatory disease,<sup>2</sup> increased age,<sup>3</sup> and smoking<sup>4</sup> can raise suspicion of an ectopic pregnancy. However, the absence of risk factors does not exclude ectopic pregnancy from the differential. Any sexually active female with abdominal pain following a period of amenorrhea should be suspected of an ectopic until proven otherwise. One third of all pregnant women experience abdominal pain and/or vaginal bleeding and 9% of women with an ectopic are asymptomatic. Thus, history alone is insufficient to make the diagnosis.<sup>5</sup>

In early pregnancy, ectopic pregnancies share the same symptoms as normal pregnancies, including a missed menstrual period, fatigue, and nausea. The first classical signs of an ectopic pregnancy are vaginal bleeding, dizziness, and lower abdominal and/or pelvic pain usually six to eight weeks after a missed menstrual period.<sup>5</sup> A meta-analysis of studies on pelvic ultrasonography demonstrated a sensitivity of 99.3% and a negative predictive value of 99.6% for diagnosing ectopic pregnancy and therefore should be utilized as a first-line diagnostic tool for emergency physicians.<sup>6</sup> If diagnosed, treatment options available include surgery or methotrexate administration.<sup>5</sup> If diagnosed very early, an alternative, conservative treatment option is to monitor if the ectopic pregnancy resolves spontaneously without intervention.<sup>5</sup>

**Topics:** Ectopic pregnancy, ectopic, ultrasound, obstetrics, OB, OB/gyn.

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