OVARIAN ECTOPIC PREGNANCY

By Carrmen Gurganious
Cape Fear Community College

Ovarian Ectopic Pregnancies are extremely rare and account for only 1 to 3% of all ectopic pregnancies. The classic triad of clinical symptoms include: pelvic pain (usually more severe on the side containing the ectopic pregnancy), vaginal bleeding, and a palpable adnexal mass, however these classic symptoms only occur in about 45% of women who are diagnosed with an ectopic pregnancy. Serial measurements of β-hCG levels are typically used in correlation with ultrasound to diagnose an ectopic pregnancy. The case below presents a right ovarian ectopic pregnancy with an embryo visible and cardiac activity present. Surgical intervention was most likely needed.

An ectopic pregnancy is defined as implantation of a fertilized ovum in any area outside of the endometrial cavity. Ectopic pregnancies account for two percent of all pregnancies in the United States. Ectopic pregnancy is the leading cause of maternal death in first trimester pregnancy, with a mortality rate of nine to fourteen percent. Risk factors for ectopic pregnancy include: prior tubal surgical procedures, PID, as well as previous ectopic pregnancies among many. A history of smoking, multiple sexual partners, and IUD use have also been linked to ectopic pregnancies. The most common site for an ectopic pregnancy to implant is in the fallopian tube (95%), however on rare occasions accounting for only 1% to 3% of all ectopic pregnancies the fertilized ovum implants in the ovary. It is most likely associated with IUD use because the device prevents implantation within the uterus and fallopian tube, but not the ovaries. The Sonographic image requirements that aid in the diagnosis of an ovarian pregnancy include: the fallopian tubes are entirely normal, the gestational sac must be located within the ovary, and the gestational sac and ovary must be connected to the uterine ovarian ligament. Other Sonographic characteristics to be aware of in order to help diagnose an ovarian pregnancy are the decidual reaction, which occurs in preparation for implantation of the blastocyst, as well as the ring of fire effect, which occurs due to hypervascularity caused by the developing pregnancy. The classic triad of clinical symptoms include: pelvic pain (usually more severe on the side containing the ectopic pregnancy), vaginal bleeding, and a palpable adnexal mass, however these classic symptoms only occur in about 45% of women who are diagnosed with an ectopic pregnancy. Some patients may be asymptomatic, have a history of amenorrhea, or even present to the ER suffering from hypovolemic shock. Serial measurements of β-hCG levels are typically used in correlation with ultrasound to diagnose an ectopic pregnancy. Women presenting with an ectopic pregnancy tend to have lower than normal β-hCG levels. A β-hCG concentration of 1,500 mIU/mL and above is the level at which a normal IUP should be observed using endovaginal sonography. If a normal IUP is not visualized at this level, this most likely indicates an abnormal gestation (Stephenson, 2012) . The patient used in this case study was a twenty-seven year old female G1P0 who presented to the hospital with severe pelvic pain (predominantly on the right side,) and vaginal bleeding; her β-hCG level was 1,919 mIU/mL upon testing and review. The

uterus of the patient appeared normal and there was no IUP (intrauterine pregnancy) visualized; as seen in Figure 1 and 2 below.

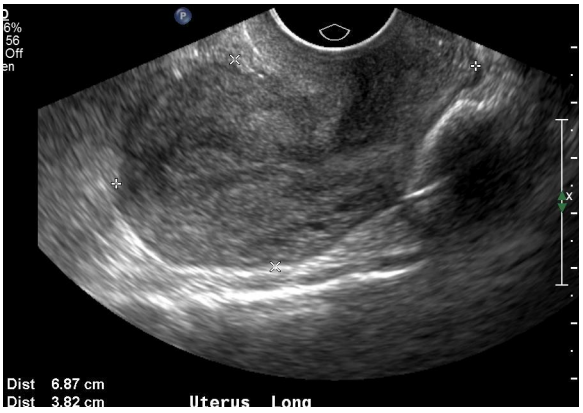

Figure 1 Uterus Sagittal Midline

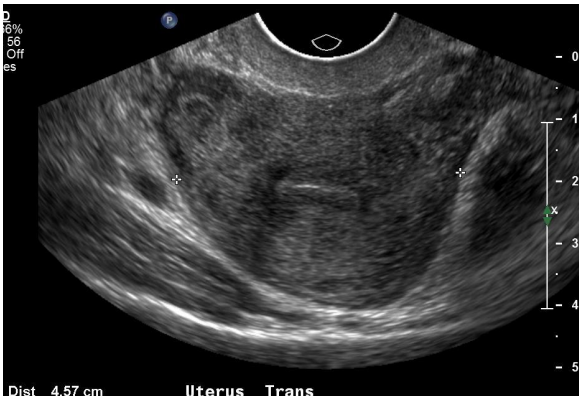

Figure 2 Uterus Transverse Midline

Scanning to the left ovary a cystic area was noted, but otherwise appeared normal. Also, no adnexal mass was visualized on the patients left side, as seen in Figure 3.

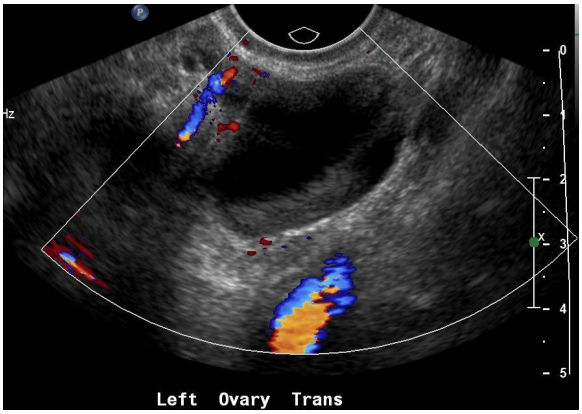

Figure 3 Left Ovary Transverse

Scanning to the right ovary a probable Corpus Luteum was identified first (Figure 4). Scanning further to the right a gestational sac and fetus with cardiac activity was identified (Figure 6). The fetus had a CRL which correlated with a gestational age of six weeks and one day (Figure 5). Positive blood flow to the right ovary was identified as well as no right adnexal masses or free fluid (Figure 7).

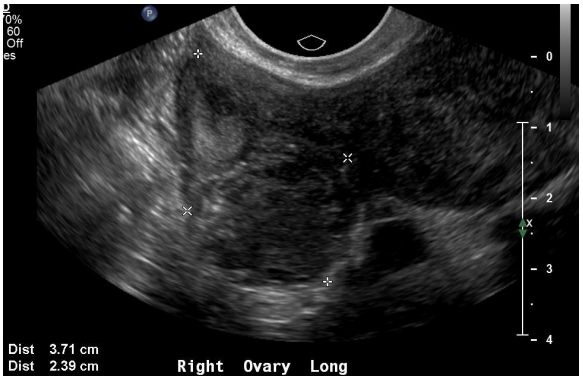

Figure 4 Right Ovary Sagittal

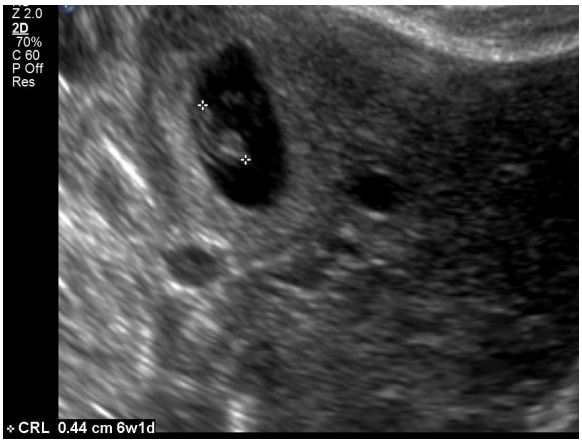

Figure 5 Right Ovary Sagittal

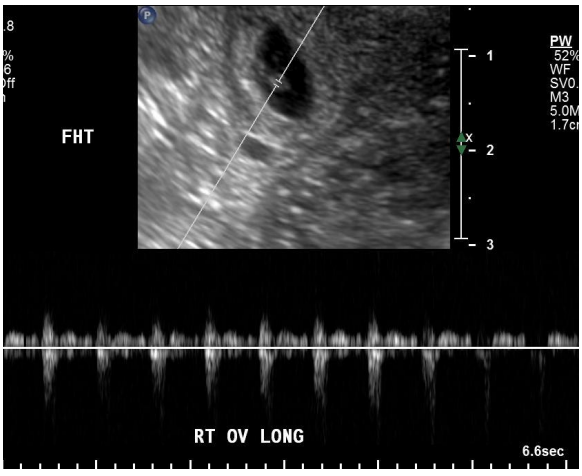

Figure 6 Right Ovary Sagittal

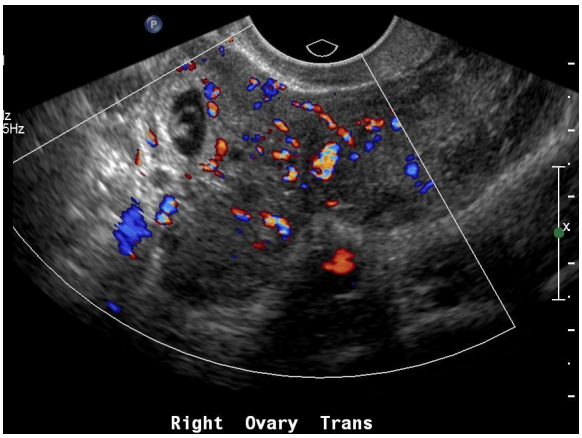

Figure 7 Right Ovary Trans

Ovarian ectopic pregnancies can possibly end with rupture and hemoperitoneum. Tachycardia, and hypertension are symptoms associated with a ruptured ectopic. If β-hCG levels are less than 6,000 mIU/mL the ectopic pregnancy can possibly be treated with Methotrexate, which is a drug that stops the growth of rapidly dividing cells; such as embryonic, fetal, and early placenta cells (Ectopic Pregnancy - Treatment , 2014). Methotrexate may cause abortion, or absorption of embryonic tissue; which may pass through the next menstrual cycle. If an ectopic pregnancy continues after 2 or 3 doses of Methotrexate, surgical treatment is needed to remove the ectopic pregnancy. If β-hCG levels are over 6,000 mIU/mL surgical intervention using laparoscopy is needed. Considering the advancement of the ectopic pregnancy discussed above surgery was most likely necessary. Doctors will remove the embryo, and may consider a oophorectomy/salpingectomy based on the amount of ovarian tissue involved. A **Wedge resection** is a surgical procedure to remove a triangle-shaped slice of tissue, in this case from the ovary. Conservative action is taken when surgically managing ectopic pregnancies. Fertility outcomes are dependent on the extent of damage to the tube and surrounding tissue. The patient also has an increased risk for a future ectopic. It is also dependant on other factors such as smoking, and the surgical outcome. To prevent ectopic pregnancies women should practice safe sex to reduce the risk of exposure to sexually transmitted diseases and PID, as well as not smoke. If and STD is contracted one should be responsible, and have it treated IMMEDIATELY to reduce the risk of harmful effects to reproductive organs, and ectopic pregnancies.

Works Cited

Ectopic Pregnancy - Treatment . (2014, September 4). Retrieved from NHS Choices: http://www.nhs.uk/Conditions/Ectopic-pregnancy/Pages/Treatment.aspx

Stephenson, S. (2012). *Diagnostic Medical Sonography Obstetrics and Gynecology.* Baltimore: Lippincott Williams & Wilkins.