**Ectopic pregnancy**

Ectopic pregnancy, also known as tubal pregnancy, is a complication of pregnancy in which the embryo attaches outside the uterus. The word "ectopic" means "out of place". Signs and symptoms classically include abdominal pain and vaginal bleeding. The pain may be described as sharp, dull, or crampy. Pain may also spread to the shoulder if bleeding into the abdomen has occurred. Severe bleeding may result in a fast heart rate, fainting, or shock. With very rare exceptions the fetus is unable to survive.

Risk factors for ectopic pregnancy include: pelvic inflammatory disease, often due to Chlamydia infection, tobacco smoking, prior tubal surgery, a history of infertility, and the use of assisted reproductive technology. Those who have previously had an ectopic pregnancy are at much higher risk of having another one. Most ectopic pregnancies (90%) occur in the Fallopian tube which are known as tubal pregnancies. Implantation can also occur on the cervix, ovaries, or within the abdomen. Detection of ectopic pregnancy is typically by blood tests for human chorionic gonadotropin (hCG) and ultrasound. This may require testing on more than one occasion. Ultrasound works best when performed from within the vagina. Other causes of similar symptoms include: miscarriage, ovarian torsion, and acute appendicitis.

Prevention is by decreasing risk factors such as chlamydia infections through screening and treatment. While some ectopic pregnancies will resolve without treatment. Surgery is still typically recommended if the tube has ruptured, there is a fetal heartbeat, or the person's vital signs are unstable. The surgery may be laparoscopic or through a larger incision, known as a laparotomy. Outcomes are generally good with treatment.

Signs and symptoms

Up to 10% of women with ectopic pregnancy have no symptoms, and one-third have no medical signs. In many cases the symptoms have low specificity, and can be similar to those of other genitourinary and gastrointestinal disorders, such as appendicitis, salpingitis, rupture of a corpus luteum cyst, miscarriage, ovarian torsion or urinary tract infection.

Signs and symptoms of ectopic pregnancy include increased hCG, vaginal bleeding (in varying amounts), sudden lower abdominal pain, pelvic pain, a tender cervix, an adnexal mass, or adnexal tenderness. In the absence of ultrasound or hCG assessment, heavy vaginal bleeding may lead to a misdiagnosis of miscarriage. Nausea, vomiting and diarrhea are more rare symptoms of ectopic pregnancy.

Rupture of an ectopic pregnancy can lead to symptoms such as abdominal distension, tenderness, peritonism and hypovolemic shock.

Causes

There are a number of risk factors for ectopic pregnancies. Risk factors include: pelvic inflammatory disease, infertility, use of an intrauterine device (IUD), previous exposure to DES, tubal surgery, intrauterine surgery (e.g. D&C), smoking, previous ectopic pregnancy, endometriosis, and tubal ligation. A previous induced abortion does not appear to increase the risk.

Location

Tubal pregnancy

Tubal pregnancy is when the egg is implanted in the Fallopian tubes. Intrauterine adhesions (IUA) present in Asherman's syndrome can cause ectopic cervical pregnancy or, if adhesions partially block access to the tubes via the ostia, ectopic tubal pregnancy. Tubal ligation can predispose to ectopic pregnancy. Reversal of tubal sterilization (Tubal reversal) carries a risk for ectopic pregnancy. The best method for diagnosing this is to do an early ultrasound.

Nontubal ectopic pregnancy

Two percent of ectopic pregnancies occur in the ovary, cervix, or are intraabdominal. Transvaginal ultrasound examination is usually able to detect a cervical pregnancy. An ovarian pregnancy is differentiated from a tubal pregnancy by the Spiegelberg criteria.

Diagnosis

An ectopic pregnancy should be considered as the cause of abdominal pain or vaginal bleeding in every woman who has a positive pregnancy test. The primary goal of diagnostic procedures in possible ectopic pregnancy is to triage according to risk rather than establishing pregnancy location.

* Transvaginal ultrasonography
* Ultrasonography and β-hCG
* A laparoscopy or laparotomy
* Culdocentesis
* Progesterone levels
* Dilation and curettage

Classification

1. Tubal pregnancy
2. Nontubal ectopic pregnancy
3. Heterotopic pregnancy (In rare cases of ectopic pregnancy, there may be two fertilized eggs, one outside the uterus and the other inside)
4. Persistent ectopic pregnancy (It refers to the continuation of trophoblastic growth after a surgical intervention to remove an ectopic pregnancy)
5. Pregnancy of unknown location ((PUL) is the term used for a pregnancy where there is a positive pregnancy test but no pregnancy has been visualized using transvaginal ultrasonography)

Differential diagnosis

Other conditions that cause similar symptoms include: miscarriage, ovarian torsion, and acute appendicitis, ruptured ovarian cyst, kidney stone, and pelvic inflammatory disease, among others.

Treatment

**Expectant management**

Most women with a PUL are followed up with serum hCG measurements and repeat TVS examinations until a final diagnosis is confirmed.

**Medical**

Early treatment of an ectopic pregnancy with methotrexate is a viable alternative to surgical treatment which was developed in the 1980s.

**Surgical**

If bleeding has already occurred, surgical intervention may be necessary. However, whether to pursue surgical intervention is an often difficult decision in a stable patient with minimal evidence of blood clot on ultrasound.

Surgeons use laparoscopy or laparotomy to gain access to the pelvis and can either incise the affected Fallopian and remove only the pregnancy (salpingostomy) or remove the affected tube with the pregnancy (salpingectomy).

Complications

The most common complication is rupture with internal bleeding which may lead to hypovolemic shock. Death from rupture is still the leading cause of death in the first trimester of the pregnancy.

Prognosis

When ectopic pregnancies are treated, the prognosis for the mother is very good; maternal death is rare, but most fetuses die or are aborted.

Future fertility

Fertility following ectopic pregnancy depends upon several factors, the most important of which is a prior history of infertility.