Ectopic Pregnancy [1]

By: Zhu, Tian

Keywords: Human development[2] Medicine[3]

Many difficulties can arise with a pregnancy[4] even after the sperm[5] successfully fertilizes the oocyte[6], A major problem occurs if the fertilized egg[7] tries to implant before reaching its normal implantation[8] site, the uterus[9]. An ectopic pregnancy[10] occurs when a fertilized egg[7] implants anywhere other than in the uterus[8], most commonly in the fallopian tubes[11]. Such pregnancies cannot continue to term, so a physician must remove the developing embryo as early as possible. Although—at least where adequate health care is available—longer a significant risk to the mother’s life due to improved detection methods as well as treatment procedures following detection, ectopic pregnancies can still pose a major risk to the mother’s health if not detected early. If the fallopian tube ruptures as a result of an ectopic pregnancy[10], the physician can either try to repair the fallopian tube or remove the damaged portion.

Many risk factors predispose women to a higher chance of ectopic pregnancy[10]: endometriosis[12]; congenital defects of the fallopian tubes[11]; tubes that are inflamed, scarred (e.g., from pelvic surgery or tubal ligation[13] reversal), or damaged (e.g., by ectopic pregnancies); and complications of a ruptured appendix. Also, there is a slight chance of pregnancy[4] after tubal ligation[13], which would lead to an ectopic pregnancy[14]. A few assisted reproductive technologies (ART) such as gamete intrafallopian transfer (GIFT) and zygote intrafallopian transfer[14] (ZIFT) also increase the risk of ectopic pregnancies because these techniques place the fertilized egg[7] directly into the fallopian tube.

Current medical procedures can offer treatment for the damage ectopic pregnancy[10] causes the mother. For example, if a fallopian tube ruptures and sends the mother into shock, physicians give blood transfusions and treat her with a laparotomy[15] (abdominal incision). Laparotomy is a surgical technique used to stop any blood loss, remove the abnormal pregnancy[4], and repair any damaged tissue. If the fallopian tube is damaged beyond repair, the physician will remove it. Occasionally, ectopic pregnancies can also irreparably damage the ovary[16] on the side where the abnormal pregnancy[4] occurred, forcing the physician to remove that as well.

The most common early symptoms a woman may feel if she has an ectopic pregnancy[10] are sharp pains in the lower back and abdomen, and abnormal bleeding. Other symptoms include nausea and fainting. These symptoms are also common with miscarriages, which sometimes leads to confusion during the initial diagnosis until the physician does further testing.

One of the various tests that help distinguish an ectopic pregnancy[10] from a normal, healthy pregnancy[4] is culdocentesis[17], which checks for the presence of fluid in the abdominal cavity behind the uterus[9]. The presence of abnormal fluid indicates the possibility of an ectopic pregnancy[10]. Culdocentesis is currently not a commonly used procedure to detect ectopic pregnancies because advancements in ultrasound[18] technology and blood testing make those technologies much more accurate in detecting abnormalities, including ectopic pregnancies.

Two common types of ultrasound[18] physicians currently use are transvaginal ultrasound[19] and normal pregnancy[4] ultrasound[18], both of which can detect the health of a developing embryo or fetus[20] as well as its location. For a transvaginal ultrasound[19], a probe called a transducer is inserted into the vagina[21] to emit sound waves. This type of ultrasound[18] is used most commonly as a diagnostic tool in response to pelvic pain during pregnancy[4] and to detect infertility[22] and menstruation[23] problems. Pregnancy ultrasounds are regularly used at checkups to detect the health of a developing fetus[20] and also are a good tool for observing whether an ectopic pregnancy[10] is present. A blood test measuring the amount of human chorionic gonadotropin[24] (hCG) in the blood may also reveal problems; a lower than normal hCG test indicates the possibility of an ectopic pregnancy[10].

If not treated early, ectopic pregnancies are potentially devastating to the mother’s physical health. Due to advancements in prenatal care, ectopic pregnancies are now much easier to detect in time for a physician to preserve much of the mother’s health and, indeed, her life.

Sources

1. Hey, Valerie, Catherine Itzin, Lesley Saunders, and Mary Anne Speakman, eds. Hidden Loss: Miscarriage and Ectopic
Many difficulties can arise with a pregnancy even after the sperm successfully fertilizes the ovum. A major problem occurs if the fertilized egg tries to implant before reaching its normal implantation site, the uterus. An ectopic pregnancy occurs when a fertilized egg implants anywhere other than in the uterus, most commonly in the fallopian tubes. Ectopic pregnancies cannot continue to term, so a physician must remove the developing embryo as early as possible. Although no longer a significant risk to the mother's life due to improved detection methods as well as treatment procedures following detection, ectopic pregnancies can still pose a major risk to the mother's health if not detected early. If the fallopian tube ruptures as a result of an ectopic pregnancy, the physician can either try to repair the fallopian tube or remove the damaged portion. Various risk factors predisposing women to a higher chance of ectopic pregnancy include fallopian tube scarring, damaged fallopian tubes due to past ectopic pregnancies, or an inflamed fallopian tube.
[12] https://embryo.asu.edu/search?text=endometriosis
[16] https://embryo.asu.edu/search?text=ovary
[18] https://embryo.asu.edu/search?text=ultrasound
[22] https://embryo.asu.edu/search?text=in infertility
[23] https://embryo.asu.edu/search?text=menstruation
[26] https://embryo.asu.edu/medical-subject-headings/pregnancy-ectopic
[27] https://embryo.asu.edu/topics/disorders
[28] https://embryo.asu.edu/topics/processes
[29] https://embryo.asu.edu/topics/reproduction
[30] https://embryo.asu.edu/formats/articles