



IMMUNOPATHOGENETIC ASPECTS OF ECTOPIC FETAL ORIGIN AND IMPROVEMENT OF ITS PREVENTION

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Article history:	Abstract:
Received: August 6 th 2023 Accepted: September 4 th 2023 Published: October 6 th 2023	In this article, thoughts are expressed about ectopic pregnancy, its causes, consequences, prevention and effectiveness of treatment.

Keywords: Ectopic, pregnancy, ectopic fetus, diagnosis, hormonal function.

Every woman who dreams of a child will feel great joy when seeing the test results. However, a woman should also know if the fetus is likely to attach outside the uterus. According to statistics, ectopic pregnancy in Russia is 1.13% of cases or 3.6 cases per 100 births. To eliminate possible complications, it is necessary to have at least a general understanding of this pathology, in particular, about developmental factors and characteristic symptoms. Ectopic pregnancy (EP) develops when the fertilized egg is located outside the uterine cavity. In more than 95% of such cases, the egg settles in the fallopian tube, less often - in the cervix, abdomen. To date, ectopic - accounts for 1.4% of cases of pregnancy.¹ With ectopic pregnancy, mothers have a relative risk of death about 10 times higher than with childbirth.

Interestingly, this pathology was recorded in medical care by the 11th century. Until the 20th century, the mortality rate from ectopic pregnancy was one hundred percent. About 1.5 percent of fetal development occurs outside the uterus. Blocking the fallopian tube or disruption of the ciliated epithelial lining inside it is the main reason why the fertilized egg does not fall into the uterus. Therefore, it settles where it stops - it can be the walls of the fallopian tubes, ovaries, cervix or abdominal cavity. In these organs, the fetus does not have a developmental function, their walls do not stretch, so there is not enough space for the embryo. In order to better understand how an ectopic pregnancy arose and what triggers it, it is necessary to understand the traditional concept of fertilization and how its implantation is formed. Fertilization is the process of combining male and female sex cells - sperm and eggs. This usually occurs after sexual intercourse, with sperm passing through the vaginal cavity through the uterus and into the fallopian tubes into the egg cell released by the

ovaries. Follicles are synthesized in the ovaries - with female genital organs with hormonal function. In the first half of the menstrual cycle, the gradual development of the egg in the ovaries changes and prepares it for fertilization. At the same time, the inner mucous membrane of the uterus undergoes a number of systemic changes (endometrium), it thickens and implantation of the implanted egg begins. Fertilization occurs only after ovulation occurs. This happens in the middle of the menstrual cycle. Fertilization (meeting with sperm) occurs in the largest ampular part of the tube. After that, with the help of the action of the ciliated epithelium, as well as due to the fluid directed to the uterus, which is caused by the secretion of epithelial cells, and the fertilized egg moves to the place where it is implanted into the uterus. It is worth noting that there are several mechanisms in a woman's body that lead to a delay in the development of an egg fertilized in the uterine cavity. It is necessary to prepare for implantation before the egg goes through several stages of division and enters the uterine cavity. Otherwise, the egg cell may not penetrate into the endometrium and may be transferred to the external environment.

Most often, the attachment of a fertilized egg occurs in the fallopian tubes. In rare cases, it attaches to the ovaries, rudimentary uterine horn and cervical canal. Even in very rare cases, it occurs in the intraligament (between the ligaments) and in the abdomen. The growth of an embryo located in which of these organs can lead to its rupture, a condition that threatens reproductive health and even a woman's life. Currently, ectopic pregnancy occupies one of the first places among diseases that cause abdominal bleeding,² the mortality rate from this

¹ 1. U.S. Dept. of Health and Human Services. Ectopic pregnancy: United States, 1986. M.M.W.R.-1989.-V.38.-P.1.

² Габидуллина Р.И., Сирматова Л.И., Кислицина Э.М., Савельев С.Е. Трудности диагностики внематочной беременности // Вестник современной клинической медицины. 2013. №5.



pathology reaches 7.4%. According to localization, ectopic pregnancy occurs:

1. tubal (98%) - characterized by attachment of the fertilized egg to the fallopian tube (ampular, isthmic, interstitial and fimbrial sections);
2. ovary (0.1-0.7%) - follicular (the egg merges with the sperm in the ovulated follicle) or epiofollicular (attachment and development of the fertilized egg on the surface of the ovary);
3. pregnancy in the rudimentary uterine Horn (0.1-0.9%) is possible in the presence of abnormalities in the development of the organ; in such a horn, the muscle wall is not well developed, which can lead to rupture and bleeding,³ but in the literature there are documented cases when the result of such pregnancy is favorable;
4. abdominal cavity (0.3-0.4%) - the fertilized egg is attached to the abdominal cavity, placed in the intestines, large pelvis, abdominal membrane and its organs;
5. cervix (0.1-0.4%) - attachment of the fertilized egg to the columnar epithelium of the cervix;
6. intraligamentar (0.1%) - fertilized egg is attached between layers of wide uterine ligaments;
7. pregnancy in the tail of the fallopian tube (0.08-0.1%);⁴
8. heterotopic-one fertilized egg enters the uterus, and the other is outside its cavity;⁵

³ Долгих В.Т., Проноза А.В., Степанова Г.В., Калинина О.Б., Алексеюк И.П., Садовникова Т.Ю., Коржук О.В., Ларионова О.М. Современные аспекты патогенеза диагностики и лечения внематочной беременности // ОНВ. 2002. №21.

⁴ Галин А.П. Атипичные формы внематочной беременности // Вестник РУДН. Серия: Медицина. 2011. №6.

⁵ Опрева Г. А. Редкий случай внематочной беременности // Медицина и экология. 2010. №4 (57). Мальцева Л.И., Фаттахова Ф.А., Замалева Р.С., Куртасанова Е.С., Хрулева Г.Х. Рубцовая беременность - новый вид внематочной беременности // ПМ. 2017. №7 (108).

a rare pathology,⁶ but due To the development of auxiliary methods of reproduction, its frequency is significantly increasing.

Ectopic pregnancy occurs outside the uterus, that is, in tissues that are not intended for implantation, the first stages of the formation and formation of fetal and embryonic organs (placenta, amniotic Shell, etc.) are usually formed. But the next stage of pregnancy will inevitably break down. This is because the placenta formed in the cavity of the fallopian tubes (more than all) or loses blood vessels in other organs, and the hematosalpinx (accumulation of blood in the fallopian tube) can bleed in the abdominal cavity or bleed in both at the same time. Usually this process accompanies miscarriage. In addition, growing fetuses cause nays to purify or cause serious damage to other internal organs.

The main risk factors for the development of an ectopic pregnancy in general are chronic salpingitis, uterine developmental abnormalities (diverticula, additional holes, underdeveloped), adhesions in the pelvis, as well as infectious complications after childbirth or abortion, intrauterine interventions (operations for an ectopic pregnancy that stores organs, operations on infertility), the use of intrauterine contraceptives, taking mini injections and contraception, infertility, It is also associated with cases of age older than 35-44 years.⁷ The constant growth of sexually transmitted infections leads to an increase in the incidence of this disease.⁸

⁶ Зверко В.Л., Бут-гусаим Л.С., Белуга М.В., Биркос В.А., Белуга В.Б., Ляхнович Н.А., Санько А.К. Редкий случай двойни с расположением одного плода в рудиментарном роге матки // Журнал ГрГМУ. 2010. №4 (32).

⁷ Westrom L., Bengtsson L.P., Mardh PA. Incidence, trends and risks of ectopic pregnancy in a population of women // B.M.J.-1981.-V.282.-P. 15. DeCherneyA.H., Maheaux R., Naftolin F. Salpingostomy for ectopic pregnancy in the sole patent oviduct: Reproductive outcome//Fertil. Steril.-1982. -V.37. -P. 619.

⁸ Акушерство / под редакцией Г.М. Савельевой. – Москва: Медицина, 2000. – С. 303-320. Кулаков В.И., Голубев В.И., Пигонев Н.Е. Некоторые современные



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