



How does Pregnancy Begin?

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A few days before pregnancy occurs, the egg must be fertilized by a sperm cell. In natural conditions, this occurs inside the abdominal cavity of the right or left side of a woman's abdomen, depending on which of the two ovaries (right or left) is maturing. The mature follicle, which is the size and shape of a grape, bursts. From the burst follicle into the abdominal cavity pours follicular fluid, and together with it pours into the abdominal cavity of the egg in it. In the abdominal cavity, this follicular fluid mixes with peritoneal fluid, and then their mixture is drawn into the fallopian tube cavity, which creates negative pressure for this purpose. Together with this fluid, the ovum also flows into the fallopian tube. At the same time, inside the fallopian tube, spermatozoa rush towards this flow of follicular fluid with peritoneal fluid, waiting for the beginning of this phenomenon inside the uterine cavity. As a result of passive movement of the ovum towards the uterine cavity and active movement of spermatozoa towards them, they meet each other. Usually this meeting happens inside the fallopian tube. If the sperm is able to fertilize the egg, the fertilized egg begins to "divide" [1].

Regardless of fertilization, the egg does not stay in one place and continues to move towards the uterine cavity. The process of moving the egg is provided by the movement of mix of follicular fluid with peritoneal fluid, which is pushed out by the fallopian tube towards the uterine cavity due to peristalsis of the fallopian tube and vibrations of the villi lining its inner surface. Usually, after 4 days, the liquid with the fertilized egg is pushed out of the fallopian tube into the uterine cavity [2,3].

By this time, the fertilized egg has been converted into an embryo through multiple "divisions". This is why it is usually the embryo, not the fertilized egg, that enters the uterine cavity. However, the presence of an embryo inside the uterine cavity does

not mean the beginning of pregnancy. The embryo must successfully attach to the inner wall of the uterine cavity for pregnancy to begin. The process of embryo insertion into the uterine wall lasts up to 40 hours and may be accompanied by minor uterine bleeding and/or a slight feeling of pain in the lower abdomen. This usually occurs 8 to 11 days after the egg has matured [4].

Thus, it is the successful "grafting" of the embryo to the wall of the uterine cavity that signifies the beginning of pregnancy. From this point on, it is possible to diagnose the presence of pregnancy with a home diagnostic test.

Bibliography

1. Bianchi E., *et al.* "Editorial: Fertilization in the spotlight: Dynamics and mechanisms of sperm egg interaction". *Frontiers in Cell and Developmental Biology* 10 (2022): 993865.
2. Lyons RA., *et al.* "The effect of ovarian follicular fluid and peritoneal fluid on Fallopian tube ciliary beat frequency". *Human Reproduction* 21.1 (2006): 52-56.
3. Seraj H., *et al.* "Review: Biomechanical aspects of the Fallopian tube relevant to its function in fertility". *Reproductive Science* 31.6 (2024): 1456-1485.
4. Zhang S., *et al.* "Physiological and molecular determinants of embryo implantation". *Molecular Aspects of Medicine* 34.5 (2013): 939-980.