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WRITE SHORT NOTE ON IMPLANTATION

Implantation is a process in which a developing embryo, moving as a blastocyst through a uterus, makes contact with the uterine wall and remains attached to it until birth. The lining of the uterus (endometrium) prepares for the developing blastocyst to attach to it via many internal changes.

After the fertilization, the ovum is known as zygote. Zygote takes 3 to 5 days to reach the uterine cavity from fallopian tube. While travelling through the fallopian tube, the zygote receives its nutrition from the secretions of fallopian tube.

After reaching the uterus, the developing zygote remains freely in the uterine cavity for 2 to 4 days before it is implanted. Thus, it takes about 1 week for implantation after the day of fertilization. During the stay in uterine cavity before implantation, the zygote receives its nutrition from the secretions of endometrium, which is known as uterine milk. Just before implantation, the zygote develops into morula and then the implantation starts. A layer of spherical cells called trophoblast cells is formed around morula. Trophoblast cells release proteolytic enzymes over the surface of endometrium. These enzymes digest the cells of the endometrium. Now, morula moves through the digested part of endometrium and implants itself.

The implantation normally takes place in the superior and posterior walls of the uterine body (corpus uteri) in the functional layer of the endometrium during the secretory phase of the cycle. Normal implantation zone of the blastocyst in the superior and posterior wall of the uterine cavity.

Possible signs of implantation

Bleeding

Up to 25 percent of women experience bleeding or spotting in the first trimester and implantation is one cause of first trimester bleeding.

Differences that can help to determine when experiencing implantation bleeding or menstruation:

implantation bleeding is most likely to be light pink or brown (as opposed to the bright or dark red of your period)

implantation bleeding is more like spotting than an actual flow of blood

This spotting may occur once, or last for a few hours, or even up to three days. Brown discharge may be noticed when you wipe or on your underwear, but full pad or tampon won't be needed, possibly not for many months.

Cramps

Changing hormonal tide can cause cramping. Furthermore, there's a lot going on in the uterus as the fertilized egg implants and begins to grow.

While there's no research indicating that implantation itself causes cramps, some women do feel abdominal tenderness, lower back pain, or cramping around the time of implantation. This may seem like a mild version of how you feel before your period starts.

Discharge

During ovulation, the cervical mucus will be clear, stretchy, and slippery (sort of like egg whites). After implantation occurs, the mucus might have a thicker, "gummier" texture and be clear or white in color.

And in the days of early pregnancy, rising progesterone and estrogen may cause the mucus to become even thicker, more profuse, and white or yellow in color.

Cervical mucus can be affected by a number of things (hormones, stress, intercourse, pregnancy, implantation bleeding or your period) and may not be a reliable indicator of whether or not implantation has occurred.

Bloating

Rising progesterone slows the digestive system down. This can make one feel bloated. This feeling can be a really common symptom of menstruation too.

Tender breasts

After implantation, levels of hCG, estrogen, and progesterone all increase rapidly. This can cause the breasts to feel very sore. While many women experience breast swelling or tenderness before their periods, this is likely to be more noticeable than usual in very early pregnancy.

Nausea

Increased levels of progesterone following implantation can make one feel nauseous. This most commonly occurs around 4 or 5 weeks of pregnancy.

Progesterone slows down digestion, which can contribute to nausea. Rising hCG levels and a more sensitive sense of smell can make the problem worse.

Headaches

While they're good and necessary for a successful pregnancy, those wildly rising hormone levels (particularly progesterone) can also give headaches following implantation.

Mood swings

Estrogen and progesterone, as well as hCG, increase very quickly following implantation. This can make you feel “off” or moodier than usual.

Implantation dip

Implantation dip refers to a one-day decrease in the basal body temperature that can occur as a result of implantation.

Typically, a woman’s temperature is lower before ovulation, and then increases, and then drops again before her period starts. If you get pregnant, your temperature remains elevated.

Some women seem to experience a one-day drop in temperature around the time of implantation. This is different than the drop in temperature that means your period is coming, in the case of an imminent period, your temperature would stay low.

In the case of implantation dip, your temp drops for one day and then goes back up. It’s thought that this might be due to a rise in estrogen.

