Gestational Trophoblastic Disease Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for gestational trophoblastic disease.

Prevention

At this time not much can be done to prevent gestational trophoblastic disease.

What Are the Risk Factors for Gestational Trophoblastic Disease?

A risk factor is anything that affects your chance of getting a disease such as cancer. Different cancers have different risk factors. For example, exposing skin to strong sunlight is a risk factor for skin cancer. Smoking is a risk factor for cancers of the lung, mouth, larynx (voice box), bladder, kidney, and several other organs.

But risk factors don't tell us everything. Having a risk factor, or even several risk factors, does not mean that you will get the disease. And some people who get the disease might not have any known risk factors. Even if a person has a risk factor, it is often very hard to know how much that risk factor may have contributed to the cancer.

Researchers have found several risk factors that might increase a woman's chance of developing gestational trophoblastic disease (GTD).

Age

GTD occurs in women of childbearing age. The risk of complete molar pregnancy is highest in women over age 35 and younger than 20. The risk is even higher for women over age 45. Age is less likely to be a factor for partial moles. For choriocarcinoma, risk is lower before age 25, and then increases with age until menopause.

Prior molar pregnancy

Once a woman has had a hydatidiform mole, she has a higher risk of having another one. The overall risk for later pregnancies is about 1% to 2%. This risk is much higher if she has had more than one molar pregnancy.

Prior miscarriage(s)

Women who have lost pregnancies before have a higher risk of GTD. This might be at least in part because in some cases GTD affected the miscarried pregnancy. Overall, the risk of GTD after a miscarriage is still low.

Blood type

Women with blood type A or AB are at slightly higher risk than those with type B or O.

Birth control pills

Women who take birth control pills might be more likely to get GTD when they do become pregnant. The link between the use of birth control pills and GTD is weak, and may be explained by other factors. This risk seems to be higher for women who took the pills longer. But the risk is still so low that it doesn't outweigh the benefit of using the pills.

Family history

Very rarely, several women in the same family have one or more molar pregnancies.

References

See all references for Gestational Trophoblastic Disease (www.cancer.org/cancer/gestational-trophoblastic-disease/references.html)

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Do We Know What Causes Gestational Trophoblastic Disease?

Normally, the sperm and egg cells each provide a set of 23 chromosomes (bits of DNA that contain our genes) to create a cell with 46 chromosomes. This cell will start dividing to eventually become a fetus. This normal process does not occur with gestational trophoblastic disease (GTD).

Complete hydatidiform moles

In complete hydatidiform moles, a sperm cell fertilizes an abnormal egg cell that has no nucleus (or chromosomes). The reason the egg contains no chromosomes is not known. After fertilization, the chromosomes from the sperm duplicate themselves, so there are 2 copies of identical chromosomes that both come from the sperm.

When this happens, normal development cannot occur, and no fetus is formed. Instead, a complete hydatidiform mole develops. Less often, a complete mole forms when an abnormal egg without any chromosomes is fertilized by 2 sperm cells. Again, there are 2 copies of the father's chromosomes and none from the mother, and no fetus forms.

Partial hydatidiform moles

A partial hydatidiform moleresults when 2 sperm cells fertilize a normal egg at the same time. The fertilized egg contains 3 sets of chromosomes (69) instead of the usual 2 sets (46). An embryo with 3 sets of chromosomes cannot grow into a normally developed infant. Instead, this leads to an abnormal (malformed) fetus along with some normal placental tissue and a partial hydatidiform mole.

Invasive moles

Invasive moles are hydatidiform moles that begin to grow into the muscle layer of the uterus. They develop more often from complete moles than from partial moles. It's not clear exactly what causes this to happen.

Choriocarcinomas

Most choriocarcinomasdevelop from persistent hydatidiform moles (usually complete moles). They can also develop when bits of tissue are left behind in the uterus after a miscarriage, an intended abortion, or the delivery of a baby following an otherwise normal pregnancy. Researchers have found changes in certain genes that are commonly found in choriocarcinoma cells, but it's not clear what causes these changes.

Placental-site trophoblastic tumor

Placental-site trophoblastic tumor (PSTT) is an uncommon type of GTD. Unlike choriocarcinomas and hydatidiform moles, they do not have villi (tiny finger-like projections that can grow into the lining of the uterus). They develop most often after full-term pregnancies.

Epithelioid trophoblastic tumors

Epithelioid trophoblastic tumors are even rarer than PSTTs. Like PSTTs, they develop most often after full-term pregnancies, but it can be many years later.

References

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Can Gestational Trophoblastic Disease Be Prevented?

The only way to avoid the rare chance of developing gestational trophoblastic disease (GTD) is to not get pregnant. But GTD is so rare that its prevention should not be a factor in family planning decisions for women who have never been affected by it.

Women with a history of one or more molar pregnancies should ask their doctor for any new information about prevention of GTD and be sure they understand their risk for future molar pregnancies.

References

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