CONDITION

Choriocarcinoma

Learn about choriocarcinoma, a rare cancer related to pregnancy or germ cells, including symptoms, diagnosis, treatment, and follow-up.

WHAT IT IS
Rare fast-growing cancer of placental or germ cells

BODY SYSTEM
Reproductive system

MAIN SYMPTOMS
Unusual vaginal bleeding, pelvic pain, persistent pregnancy symptoms, cough or shortness of breath

WHAT CAUSES IT
Unknown cell changes

HOW IT IS DIAGNOSED
Serial quantitative hCG blood tests and imaging

MAIN TREATMENT
Chemotherapy

CAN IT BE CURED?
Sometimes - gestational disease is chemotherapy-sensitive

IS IT AN EMERGENCY?
Sometimes - very heavy bleeding, seizures or severe shortness of breath

LONG-TERM OUTLOOK
Often chemotherapy-sensitive, with rapid spread if untreated

Overview

Choriocarcinoma is a rare, fast-growing cancer that develops from cells that normally help form the placenta during pregnancy. These cells are called trophoblasts . Most cases are gestational, meaning they are related to a current or previous pregnancy.

Gestational choriocarcinoma can develop after any type of pregnancy. This includes a molar pregnancy, miscarriage, ectopic pregnancy, abortion, or full-term delivery. A molar pregnancy occurs when abnormal placental tissue grows inside the uterus instead of, or alongside, a normally developing pregnancy.

Choriocarcinoma belongs to a group of conditions called gestational trophoblastic disease . When abnormal trophoblastic cells continue to grow or become cancerous, the condition is

called gestational trophoblastic neoplasia , or GTN.

Less commonly, choriocarcinoma can develop from germ cells in an ovary, testicle, or another location. Germ cells are cells that normally develop into eggs or sperm. These nongestational cancers may behave differently and require a different treatment plan.

Choriocarcinoma can spread through the bloodstream, especially to the lungs. It may also reach the vagina, brain, liver, kidneys, or digestive tract. Although it can grow quickly, gestational choriocarcinoma is often highly sensitive to chemotherapy. Prompt evaluation and care from clinicians experienced in trophoblastic disease are important.

Symptoms

Symptoms vary depending on where the cancer began and whether it has spread.

For gestational choriocarcinoma in the uterus, possible symptoms include:

Choriocarcinoma often produces human chorionic gonadotropin , or hCG. This is the hormone measured by most pregnancy tests. A persistently positive test does not confirm cancer by itself. A new pregnancy, retained pregnancy tissue, laboratory interference, and other conditions can also affect hCG results.

Symptoms caused by cancer outside the uterus may include:

Seek emergency care for very heavy bleeding, fainting, severe shortness of breath, coughing up more than a small amount of blood, a seizure, sudden weakness, confusion, or a severe new headache. These symptoms do not always mean choriocarcinoma, but they need immediate assessment.

- Vaginal bleeding that is unusual, persistent, or heavier than expected after a pregnancy
- Bleeding that returns after it appeared to have stopped
- Pelvic pain or pressure
- An enlarged uterus
- Ongoing pregnancy symptoms after a pregnancy has ended
- A pregnancy hormone level that stays elevated instead of falling
- Cough, shortness of breath, chest discomfort, or coughing up blood if the lungs are affected
- Headache, weakness, confusion, seizures, or changes in vision if the brain is affected
- Abdominal pain or swelling if the liver or another abdominal organ is affected

- A vaginal lump or bleeding from a vaginal tumor
- A testicular lump or swelling in some nongestational cases
- Breast tenderness or enlargement in some people with testicular tumors that produce hCG

Causes and risk factors

Choriocarcinoma begins when trophoblastic or germ cells grow out of control. The exact cell changes that cause this are not always known.

Gestational choriocarcinoma may follow:

The cancer may be found soon after a pregnancy or, less often, after a longer interval. It is not caused by something the pregnant person did or did not do.

A previous molar pregnancy increases the risk of another molar pregnancy and of gestational trophoblastic neoplasia. The likelihood of persistent disease after a molar pregnancy also depends on clinical findings and how hCG levels change during follow-up. Most people who have had a pregnancy, including a molar pregnancy, do not develop choriocarcinoma.

Age at the time of pregnancy can affect the likelihood of gestational trophoblastic disease, with higher risk at the extremes of reproductive age. However, choriocarcinoma can occur at other ages as well.

Nongestational choriocarcinoma arises from germ cells rather than placental tissue. It may occur as part of a mixed germ-cell tumor, meaning that more than one type of tumor cell is present. Risk factors and treatment considerations depend on whether the tumor began in a testicle, ovary, or another site.

- A molar pregnancy
- A miscarriage or abortion
- An ectopic pregnancy
- A full-term or premature delivery

Diagnosis

Evaluation usually begins with a medical and pregnancy history, physical examination, and a quantitative hCG blood test. A quantitative test measures the amount of hCG rather than reporting only a positive or negative result.

Repeated hCG measurements are often more useful than one result. After a pregnancy ends, hCG should normally decrease. A level that remains steady, rises, or stays detectable longer than expected may lead to testing for GTN. Clinicians also consider a new pregnancy and other possible explanations for the result.

Additional blood tests may check:

A pelvic ultrasound can examine the uterus, ovaries, and nearby structures. Imaging of the chest is commonly used because the lungs are a frequent site of spread. Depending on the findings, computed tomography, or CT, and magnetic resonance imaging, or MRI, may be used to examine the abdomen, pelvis, brain, or other areas.

A biopsy is not always needed to diagnose gestational choriocarcinoma. These tumors contain many fragile blood vessels, so a biopsy of a suspected vaginal or metastatic tumor can cause serious bleeding. Clinicians may instead use the pregnancy history, hCG pattern, and imaging results. Tissue removed during uterine surgery or another procedure can be examined when available.

Gestational disease is assigned a stage based on where it has spread. A World Health Organization risk score, used with the International Federation of Gynecology and Obstetrics staging system, considers factors such as the previous pregnancy, time since that pregnancy, hCG level, tumor locations, and previous treatment. This score helps the care team choose between single-drug and multi-drug chemotherapy.

When the pregnancy relationship is uncertain, specialized genetic testing of tumor tissue may sometimes help distinguish gestational from nongestational disease.

- Blood cell counts to look for anemia or other abnormalities
- Kidney and liver function
- Thyroid function, particularly when hCG is very high
- Blood type if bleeding is present
- Other tumor markers when a nongestational germ-cell tumor is possible

Treatment and management

Treatment depends on whether the cancer is gestational or nongestational, its stage and risk score, prior treatment, and the person's overall health. Care is often coordinated through a center experienced in gestational trophoblastic disease or germ-cell cancers.

For low-risk gestational trophoblastic neoplasia, treatment usually uses one chemotherapy medicine. Methotrexate or dactinomycin, also called actinomycin D, are commonly used

options. The schedule and choice depend on the clinical situation and the treatment center's protocol.

The care team checks hCG during therapy. If the level does not fall as expected, the clinician may change the medicine or use combination chemotherapy. Treatment usually continues for a period after hCG becomes normal to reduce the chance of cancer remaining.

High-risk gestational choriocarcinoma generally requires several chemotherapy medicines. A commonly used combination is called EMA-CO. It includes etoposide, methotrexate, dactinomycin, cyclophosphamide, and vincristine. People with extensive disease or serious complications may need a modified initial approach before full combination treatment.

Chemotherapy side effects depend on the medicines used. Possible effects include fatigue, nausea, mouth sores, hair loss, low blood cell counts, infection risk, and changes in menstrual periods. The care team may use anti-nausea medicines, blood tests, and other supportive treatments to manage these effects.

Surgery has a more limited role in gestational choriocarcinoma because chemotherapy is usually effective. A hysterectomy, which removes the uterus, may be considered in selected cases, such as uncontrolled uterine bleeding or disease that remains limited to the uterus and does not respond fully to chemotherapy. A hysterectomy does not always remove the need for chemotherapy.

Surgery or radiation treatment may also be used for selected tumors in the brain, liver, lung, or another location, particularly when there is bleeding or a resistant tumor site.

Nongestational ovarian or testicular choriocarcinoma is treated according to germ-cell cancer protocols. Treatment may include surgery and platinum-based combination chemotherapy. The gestational risk-scoring system does not guide these cases.

Treatment planning should include discussion of fertility when appropriate. Many people treated for gestational disease can later have a healthy pregnancy, but the effects of treatment vary. Fertility preservation may need to be discussed before treatment for nongestational cancer or before certain intensive therapies.

Complications

Untreated choriocarcinoma can invade nearby tissue or spread through the bloodstream. Tumors may bleed because they contain many delicate blood vessels.

Potential complications include:

Most treatment effects can be monitored and managed. Some chemotherapy medicines may

carry longer-term risks, including effects on fertility, the heart, nerves, or the chance of another cancer. The specific risk depends on the medicines and total treatment received.

- Anemia or low blood pressure from bleeding
- Breathing problems or bleeding in the lungs
- Neurologic problems if the brain is affected
- Liver injury or internal bleeding
- Infection or low blood counts during chemotherapy
- Reduced fertility related to surgery or certain cancer treatments
- Emotional distress related to pregnancy loss, cancer treatment, or uncertainty about future pregnancy

Follow up

Follow-up is an essential part of treatment. Quantitative hCG tests are repeated until the level becomes normal and then monitored regularly for a defined period. The schedule and length of monitoring depend on the diagnosis, risk category, treatment, and local protocol.

Pregnancy raises hCG and can make it difficult to tell whether disease has returned. Clinicians therefore usually recommend reliable contraception during the monitoring period. The care team can discuss which method fits the person's health and preferences.

Routine follow-up visits may include a review of symptoms, physical examination, blood tests, and imaging when indicated. Keep scheduled appointments even when feeling well, because an hCG increase may be the first sign that further evaluation is needed.

Contact the oncology or trophoblastic disease team promptly for new vaginal bleeding, persistent cough, unusual headaches, abdominal pain, or a positive pregnancy test during surveillance. Emergency symptoms such as severe bleeding, fainting, major breathing difficulty, coughing up significant blood, seizure, or sudden neurologic changes require immediate care.

After the recommended follow-up period, future pregnancy is often possible. A clinician may recommend early ultrasound and hCG testing in a later pregnancy. Placental or pregnancy tissue may also be examined when clinically appropriate.

Sources

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