CONDITION

Breast cancer and pregnancy

Learn how breast cancer may be diagnosed and treated during pregnancy, including testing, treatment timing, pregnancy care, breastfeeding, and follow-up.

WHAT IT IS
Breast cancer beginning during pregnancy

BODY SYSTEM
Breasts

MAIN SYMPTOMS
Breast or underarm lump, breast thickening, skin dimpling, unusual nipple discharge

WHAT CAUSES IT
Usually unknown, sometimes inherited risk

HOW IT IS DIAGNOSED
Core needle biopsy

MAIN TREATMENT
Surgery and trimester-timed chemotherapy

CAN IT BE CURED?
Sometimes, depending on stage and features

IS IT AN EMERGENCY?
Sometimes, with severe breathing difficulty

LONG-TERM OUTLOOK
Depends on cancer features and recurrence risk

Overview

Breast cancer during pregnancy begins in breast tissue while a person is pregnant. It may be included within the broader term pregnancy-associated breast cancer , which can also cover cancers found during the first year after delivery. Definitions vary among medical organizations.

Pregnancy does not cause breast cancer. However, normal changes can make a tumor harder to notice because breasts often become larger, firmer, tender, or lumpy as milk-producing tissue develops.

Diagnosis and treatment require coordination among breast cancer specialists, obstetricians, maternal-fetal medicine specialists, radiologists, pathologists, and other clinicians. They consider the cancer's stage and biological features, the pregnancy's stage, and the patient's

goals.

Many standard tests and treatments can be used during pregnancy, although timing may change. Surgery is generally possible during pregnancy, and some chemotherapy may be given after the first trimester. Radiation therapy and several cancer medicines are usually delayed until after delivery.

Ending a pregnancy is not routinely required and has not generally been shown to improve cancer outcomes. This personal decision should be discussed with cancer and pregnancy specialists.

Symptoms

Breast cancer during pregnancy may cause the same symptoms as at other times. A new lump is the most common concern. Cancerous lumps are often painless, but pain cannot confirm or exclude cancer.

Symptoms needing prompt evaluation include:

Most breast changes during pregnancy are not cancer. Cysts, blocked milk ducts, infections, and benign growths are more common. Even so, do not assume a persistent or unusual change is due to pregnancy or wait until after delivery to report it.

During cancer treatment, seek urgent medical advice for fever, signs of infection, uncontrolled vomiting, dehydration, unusual bleeding, or reduced fetal movement. Call emergency services for severe breathing difficulty, chest pain, fainting, sudden weakness, a seizure, or other rapidly developing serious symptoms.

- A new breast or underarm lump that does not go away
- An area of thickening or firmness
- A one-sided change in breast size or shape
- Skin dimpling, puckering, persistent redness, or thickening
- A nipple that newly turns inward
- Bloody or unusual nipple discharge
- A breast or nipple sore that does not heal
- Swelling or a lump near the collarbone

Causes and risk factors

Breast cancer develops when breast cells acquire changes that allow uncontrolled growth. In most cases, there is no single identifiable cause.

Some breast cancers have receptors for estrogen or progesterone, meaning these hormones can help the cells grow. Others produce too much HER2 protein. Testing these features helps guide treatment. Having breast cancer during pregnancy does not mean the patient caused or could have prevented it.

Risk factors include increasing age, certain inherited gene changes, a strong family history, previous chest radiation, and a personal history of breast disease or cancer. Harmful inherited changes in BRCA1 or BRCA2 can increase breast and ovarian cancer risk. However, many pregnant people who develop breast cancer have no known inherited risk.

Diagnosis

Evaluation usually begins with a breast examination and ultrasound. Ultrasound uses sound waves rather than radiation and can help distinguish a solid mass from a fluid-filled cyst. It can also evaluate underarm lymph nodes.

Mammography may be performed during pregnancy when medically needed. It uses low-dose X-rays, and fetal exposure from breast imaging is very small. Because pregnancy-related breast density can make mammograms harder to interpret, mammography is often combined with ultrasound.

Magnetic resonance imaging, or MRI, does not use X-rays, but breast MRI usually requires gadolinium contrast. Gadolinium crosses the placenta and is generally avoided unless the expected benefit clearly outweighs the potential risk.

A suspicious area usually requires a core needle biopsy , in which a hollow needle removes tissue samples after local anesthetic is given. The pathologist should know about the pregnancy because normal pregnancy changes may affect interpretation.

If cancer is found, laboratory tests determine its type, grade, and estrogen receptor, progesterone receptor, and HER2 status. Staging assesses tumor size, nearby lymph nodes, and whether the cancer has spread.

Imaging is tailored to symptoms and cancer stage. Ultrasound, chest X-ray, MRI without contrast, computed tomography, and certain nuclear medicine tests may be considered when results will affect treatment. Clinicians balance fetal exposure against the risk of missing important disease. Necessary imaging should not be withheld solely because of pregnancy.

Treatment and management

Treatment depends on the cancer's stage, receptor status and other features, the trimester, and the patient's preferences. Recommendations should come from a team experienced in cancer during pregnancy.

Surgery is generally possible during any trimester. Options include breast-conserving surgery, which removes the tumor and a rim of normal tissue, or mastectomy, which removes the breast. The choice depends on tumor size and location, lymph node findings, genetics, and whether radiation can safely be delayed.

Lymph nodes may also need evaluation. A sentinel lymph node biopsy identifies the first nodes to which cancer is likely to spread. The radioactive tracer commonly used may be considered during pregnancy in specialized care. Blue dyes are often avoided because of limited pregnancy data and the risk of a serious allergic reaction.

Anesthesia teams adapt care by monitoring blood pressure, oxygen levels, positioning, and the fetus when appropriate. Medically necessary surgery should not automatically be delayed because of pregnancy.

Chemotherapy is avoided during the first trimester, when major organs are forming, because exposure is associated with a higher risk of pregnancy loss and birth defects. Certain established chemotherapy combinations may be used during the second and third trimesters. Anthracycline-based treatment has the most pregnancy experience, but the plan depends on the individual cancer.

Chemotherapy is usually stopped several weeks before expected delivery so blood counts can recover, reducing infection and bleeding risks. Whenever possible, clinicians avoid early planned delivery because prematurity can harm the baby.

Radiation therapy is generally postponed until after delivery because it can expose the fetus. This affects decisions about breast-conserving surgery and mastectomy.

Endocrine therapy is not recommended during pregnancy. HER2-targeted medicines are also generally avoided; some have been linked to very low amniotic fluid. Immunotherapy and many newer targeted treatments are usually delayed because fetal safety is uncertain or available evidence suggests possible harm.

The diagnosis alone does not determine whether labor should be induced or a cesarean birth is needed. Planning depends on obstetric needs, gestational age, treatment timing, and blood counts. Vaginal birth is often possible.

Cancer medicines may enter breast milk or affect milk production. Breastfeeding is generally not recommended during chemotherapy, endocrine therapy, HER2-targeted therapy, immunotherapy, or other treatment that may harm an infant. The care team can advise

whether breastfeeding is possible after a medicine has cleared. After treatment to one breast, feeding from the other may sometimes be possible.

Complications

Potential complications may result from the cancer, treatment, or altered pregnancy care. Delayed diagnosis may allow a tumor to grow or spread. Advanced cancer can affect bones, lungs, liver, brain, or other organs, although this does not occur in every case.

Surgery can cause bleeding, infection, fluid buildup, numbness, or arm swelling called lymphedema. Chemotherapy may cause low blood counts, infection, nausea, fatigue, hair loss, and medicine-specific effects.

Studies of chemotherapy after the first trimester have not found a large increase in major birth defects, but treatment may be associated with preterm birth or lower birth weight. Some complications result from planned early delivery rather than the medicines themselves. Long-term childhood findings are reassuring, although evidence remains more limited than for cancer treatment outside pregnancy.

Treatment may also affect fertility, future pregnancy plans, body image, sexual health, and emotional well-being. Counseling, social work, peer support, and perinatal mental health care can help with anxiety, sadness, guilt, and uncertainty.

Follow up

Follow-up continues throughout pregnancy and after delivery. Cancer specialists monitor treatment response, side effects, blood counts, and surgical recovery. The obstetric team monitors fetal growth, pregnancy complications, and delivery planning. Additional fetal ultrasounds or other monitoring may be recommended.

After delivery, the oncology team reviews postponed treatments, which may include radiation, endocrine therapy, HER2-targeted therapy, or additional chemotherapy. Postpartum imaging may also be needed.

Long-term follow-up depends on the cancer and treatment and may include examinations and breast imaging. After mastectomy, routine mammography is generally not performed on the removed breast, but the remaining breast still needs appropriate screening.

Contact the cancer team promptly about a new breast or underarm lump, persistent bone pain, worsening headaches, unexplained weight loss, an ongoing cough, or other symptoms that do not improve. These often have noncancerous causes but should be evaluated.

Follow-up should also address contraception, fertility preservation, future pregnancy, breastfeeding, heart or bone health when relevant, and emotional recovery. The safest timing of a future pregnancy depends on the cancer's features, treatment requirements, recurrence risk, and personal priorities.

Sources

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