



Question: How does a history of cancer affect a subsequent pregnancy? Should I be worried about birth defects, pregnancy complications or recurrence? — HEATHER SALER MT. LAUREL, NEW JERSEY

Answer: As cancer therapies improve, more patients are retaining their fertility and enjoying a longer life span. Patients need more information about the effect of chemotherapy and radiation on their reproductive capacity and on the risks, if any, of pregnancy after cancer.

► **Effects on the child after maternal treatment for cancer:** In the majority of cases, healthy children are born to cancer survivors despite chemotherapy treatment prior to pregnancy. Studies have found no significant difference in birth defects between offspring of cancer survivors compared with offspring of sibling controls. In fact, the rate of birth defects among the cancer survivor and general populations is the same (about 3 to 4 percent).

For women who had chemotherapy, no study has shown an increased risk of miscarriage, fetal demise or low birth weights. However, if a woman received pelvic radiation as a child, her offspring may be at higher risk for having a low birth weight.

When it comes to cancer risk in the offspring of cancer survivors, researchers have found no increased risk when compared to the offspring of sibling controls. Hereditary cancers, however, create exceptions and an underlying genetic predisposition for certain tumors may exist in these families. Genetic counseling is recommended for those who suspect a genetic link.

► **Pregnancy in women with a history of breast cancer:** Data do not suggest that pregnancy after breast cancer increases the risk of breast cancer recurrence. But how long should a patient wait after completion of breast cancer treatment to become pregnant?

Although no standard guidelines have been developed for this, the expected risk of recurrence after breast cancer peaks in the first two to three years after completion of all breast cancer treatment (including surgery, radiation and adjuvant chemotherapy). Therefore, experts suggest breast cancer survivors delay pregnancy until the greatest risk of recurrence is past (which usually means about three years after completion of treatment). An individual patient's risk assessment of recurrence over time should replace any set time frame for optimal pregnancy after breast cancer.

Many women will be put on five years of tamoxifen after completion of surgery, radiation and chemotherapy to reduce their risk of breast cancer

recurrence. It must be kept in mind that tamoxifen may make premenopausal women more fertile. Doctors advise women on tamoxifen to avoid pregnancy because animal studies suggest the use of tamoxifen in pregnancy can cause fetal harm.

If a pregnancy does occur spontaneously within the first two years after treatment, no evidence suggests that termination should be recommended. Women who inadvertently get pregnant while on tamoxifen should stop taking the drug immediately.

► **Risk of complications during pregnancy from prior therapy:** Most cancer survivors tolerate pregnancy very well, but complications can occur depending upon prior treatment. Chemotherapy drugs like Adriamycin® (doxorubicin) or Elice® (epirubicin) can damage the heart, so women who received these agents may develop clinical symptoms of congestive heart failure because of the extra strain a pregnancy can put on the heart. Some women who received radiation to the chest (as treatment for Hodgkin's disease or breast cancer) may also develop symptoms or complications related to radiation-induced heart damage for the first time during pregnancy.

Radiation-induced cardiomyopathy can even occur years after treatment, especially if radiation therapy was given during or after anthracycline chemotherapy. It is recommended that pregnant survivors with a history of prior thoracic radiation therapy undergo a baseline echocardiogram during prenatal care.

Also, most patients who receive radiation to the neck or chest (a treatment for lymphoma) develop an underactive thyroid gland and become hypothyroid. Blood tests to check for thyroid function should be done during prenatal care to check for this.

► **Breastfeeding after breast cancer:** For breast cancer survivors wanting to breastfeed, minimal breast milk may be produced from the irradiated breast. But even if breast milk is produced from the irradiated breast, breastfeeding is not recommended, as mastitis (inflammation of the breast) will be difficult to treat if it occurs. Breastfeeding from the other breast can usually be done safely. ◻

—Elyce Cardonick, MD, Department of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine, Cooper University Hospital