



## **CANCER IN PREGNANCY**

Many challenging issues arise when cancer is diagnosed in a pregnant woman. The course of treatment depends on circumstances of the pregnancy and whether the cancer was diagnosed prior to pregnancy. Following are some of the different types of cancer and the issues that surround this diagnosis during pregnancy.

### **BREAST CANCER**

Breast cancer in pregnancy is rare, approximately 1 in 3000. The survival rate for breast cancer in pregnancy is about 15 to 20 percent, significantly less than that for non-pregnant women. Explanations for the poorer prognosis of breast cancer in pregnant women are: delayed diagnosis due to breast changes in pregnancy, increased estrogen levels in pregnancy that can stimulate estrogen receptor positive tumors, and increased lymphatic drainage from the pregnant breast that may increase the likelihood of metastasis (spread of the tumor).

Pregnancy is not thought to change the natural course of breast cancer after it is diagnosed and treated. Therefore, an abortion may not necessarily be recommended if you are diagnosed with breast cancer in pregnancy. Radical mastectomy can be performed in pregnant women and has been shown to have the same results as in non-pregnant women.

To date, no data suggests that pregnancy after breast cancer increases the risk of recurrence.

### **COLON CANCER**

Colon cancer is a rare complication of pregnancy. Approximately 1 in 50,000 to 1 in 100,000 pregnant women are confronted by this type of cancer. Perhaps the most difficult problem with colon cancer and pregnancy is a delay in diagnosis, since bleeding hemorrhoids are so common in pregnancy. Treatment of colon cancer in pregnant patients is the same as treatment in non-pregnant patients. If the tumor is found in the first trimester, physicians often recommend treating the tumor surgically, and subsequently aborting the fetus. If the tumor is found in the third trimester, the physician may suggest either removing the tumor and leaving the pregnancy in place, or waiting to do surgery after delivery. If there is widespread metastasis, the physician may suggest cesarean section with definitive surgery at that time. The prognosis for a pregnant woman with colon cancer is the same as that for a non-pregnant woman.

## **OVARIAN CANCER**

Ovarian cancer is also uncommon in pregnancy. Ovarian cancer has been reported to occur in 1 in 10,000 to 1 in 25,000 pregnancies. Of all ovarian masses found in pregnancy, only 2 to 5 percent of them have been found to be cancerous. Pregnancy does not seem to worsen the prognosis of ovarian cancer. However, obstruction of labor from the tumor, infection, etc. can occur and may cause complications with pregnancy such as pre-term delivery.

If an ovarian mass is present in a pregnant patient, the optimal time to explore the abdominal cavity is about 18 weeks gestation. At this point the woman is at low risk of miscarriage. During surgery the physician will try to manipulate the uterus as little as possible in an attempt to decrease irritability to the uterus, and therefore decrease chances for miscarriage.

If you have an early stage of ovarian cancer during your pregnancy, your physician may recommend a conservative approach to treatment. This includes generalized sampling of all the tissues in your abdomen, but no hysterectomy and therefore continuation of pregnancy. If the tumor appears to be in an advanced stage, the physician will probably suggest removing your uterus, tubes, and ovaries at the time of the surgery, which will result in termination of the pregnancy.

## **CERVICAL CANCER**

The reported rate of invasive cervical cancer and pregnancy is approximately 1 in 2200. All pregnant women have a Pap smear at their initial obstetrical visit. If a lesion is noted on the cervix, it should be biopsied. If the Pap smear comes back suspicious for cancer, you should undergo colposcopy (where the cervix is examined under a large instrument similar to a microscope) and have cervical biopsies as indicated. If the diagnosis is still in question, cervical conization (where a piece of the cervix is removed) may be recommended in the second trimester.

If you are diagnosed with cervical cancer during your pregnancy, treatment options will be based on the extent to which the disease has progressed. If the cancer is in an early stage (known as microinvasive carcinoma) surgery may be delayed until after delivery. If there is very early spread of cervical cancer, the physician may recommend a cesarean section at term, followed by a radical hysterectomy (which is a more extensive hysterectomy than is done on patients without cervical cancer). If the cancer is greater than 5 millimeters in depth, the physician will probably advise you to wait no longer than 4 weeks for treatment. Decisions will have to be made regarding the timing of your delivery and subsequent surgery. If you are early in pregnancy, your physician may suggest terminating your pregnancy and treating the cancer.

The prognosis for cervical cancer and pregnancy is the same as that in the non-pregnant patient.

## **LYMPHOMA**

Hodgkin's lymphoma commonly affects young people ages 18 to 30 and will sometimes coincide with pregnancy. The incidence of Hodgkin's lymphoma and

pregnancy is reportedly around 1 in 6000 deliveries. Studies show that a diagnosis of Hodgkin's disease during pregnancy does not appear to adversely affect a woman's survival. If the Hodgkin's lymphoma appears to be confined to the upper abdomen, you may be able to receive radiation therapy while your abdomen is being shielded. Aggressive treatment of Hodgkin's lymphoma requires termination of the pregnancy. There is a high success rate for complete cure of Hodgkin's disease with early treatment. Many physicians advocate termination of the pregnancy, followed by aggressive treatment, for all patients except those already in the third trimester.

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Date Published: 2000-09-20

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