

Common types of cancer in pregnancy

Abstract

Cancer in pregnancy is a source of high concern as it affects both the fetus and the pregnant woman's life. Although cancer is rare during pregnancy, the second cause of death in women of reproductive age is cancer.¹ Usually the frequency is reported as 1/1000 - 1/5000.² There is no clear evidence that pregnancy has prompted or accelerated the development of any type of cancer.² It is thought that termination of pregnancy does not improve the maternal prognosis.^{3,4} However, physiological changes during pregnancy may delay the diagnosis of cancer. For example, growing breast tissue in pregnancy may delay recognition of the current breast cancer. Naturally occurring pigments in pregnancy can make the diagnosis of melanoma difficult. Cervical changes in the colposcopic examination of the cervix may give misleading results in pregnancy. In this article, the most common cancer types in pregnancy were reviewed. Our goal is to raise awareness about cancer diagnosis and treatment in pregnancy.

Keywords: breast cancer, cervical cancer, ovarian cancer, gestation

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Cervical cancer

One third of all cervical carcinomas occur during the reproductive period. Cervical carcinoma is the second greatest cause of death due to cancer during this period.⁵ Approximately 1% of cervical cancer is detected in pregnancies. The incidence is reported to be 10-100 in 100.000 pregnancies and most frequency gynecological cancer in pregnancy is cervical cancer.⁵⁻⁷

Owing to the rarity of the disease and the complexity of all factors in pregnancy, standardization of treatment is very difficult. The generally accepted view is that termination of pregnancy in the first two trimester or delay of treatment until fetal maturity in the third trimester. Treatment of patients with locally advanced cervical disease is controversial and should be discussed according to the size of the tumor, radiological findings, duration of gestation, and the patient's wishes.

Ovarian cancer

Adnexal mass is detected in 1-2% of pregnancies and 2-6% of them are malignant.⁸⁻¹⁰ Ovarian cancer is the fifth most common malignancy diagnosed in pregnancy.¹¹ Adnexal mass diagnosis is incidentally detected during antenatal examination. Diagnosis may be challenging due to the modifications induced by pregnancy. Germ cell tumors are common in young women, while epithelial cancers are common in the elderly. Dysgerminoma, the most common germ cell tumor in pregnancy, constitutes 1/3 of the ovarian malignancies in pregnancy.^{2,8,12} Surgery may be safely performed after 16 weeks of pregnancy and standart chemotherapy can be administered in the second and third trimesters.¹¹

Breast cancer

Pregnancy-associated breast cancer is defined as breast cancer diagnosed during pregnancy or in the first postpartum year. In terms of prognosis, it is stated that the postpartum period has worse prognosis, but the cause is unexplained.¹³ The incidence of breast cancer in pregnancy is 30-40 in 100.000 pregnancies and 1-3% of all breast cancers are during pregnancy.¹⁴⁻¹⁷

Breast cancer in pregnancy can be seen in advanced stages due to

delay of diagnosis by effect of physiological growth in breast tissue in pregnant women. Histopathologic features of the tumor are similar to those of non-pregnant women of the same age. As an important point, in pregnancies, inflammatory breast cancer may be confused with mastitis and breast abscess. Tissue biopsy should be recommended along with abscess drainage in these women.² When a mass in the breast of a pregnant woman is noticed, it should be investigated.¹⁴

Radiation therapy is contraindicated in pregnancy however some authors stated that radiotherapy is possible during pregnancy but, dependent on the fetal dose received, can result in poor fetal outcomes.^{18,19} Radiotherapy and endocrine or antibody treatment should be postponed until after delivery according to some authors.²⁰ Surgical treatment may be performed as for non-pregnant women. Chemotherapy is allowed after the first trimester.

Melanoma

The incidence of melanoma has increased significantly over the last 50 years. The mean age of the cases is 45, 40% of the patients are on the reproductive age and 8% of them are pregnant at the time of diagnosis. The incidence in pregnancy is 10-280/100.000.²¹ The impact of hormonal changes during pregnancy and from iatrogenic hormones on melanoma is controversial. However, it has not been shown that changes in melanin production during pregnancy affect the risk of melanoma development.²² There is no evidence that there is a poor prognosis in pregnancy.²¹ In a population-based cohort study from Australia, authors reported that the incidence of pregnancy-associated melanoma has increased with increasing maternal age and that the observation of thicker melanomas in pregnancy and increased risk of large-for-gestational-age infants may suggest a role for growth-related pregnancy factors in pregnancy-associated melanoma.²³ Broer et al reported in their study 3,657 patients underwent surgery for melanoma, of which eight patients had developed melanoma during their pregnancy and authors propose that the management option of resection of the primary tumor under local anesthesia, and postponing of the sentinel lymph node biopsy until after the birth of the child and stated the completion lymphadenectomy can be performed if these nodes are found to be harboring metastases.²²

The most common cancers in pregnancy are breast cancer,

cervical cancer and melanoma.³ Cervical cancer is the most common when preinvasive pathology is included.^{3,24,25} Malignant melanoma, according to some reports, is the most common.^{26–39} Hematological malignancies are the fourth most frequent.

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Conflict of interest

Author declares that there is no conflict of interest.

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