Cancer is the second leading cause of death during the reproductive years complicating between 0.02% and 0.1% of pregnancies. The incidence is expected to rise with the increase in age of childbearing. The most common types of pregnancy-associated cancers are: cervical cancer, breast cancer, malignant melanoma, Hodgkin’s lymphoma, non-Hodgkin’s lymphoma and ovarian cancer. The relatively rare occurrence of pregnancy-associated cancer precludes conducting large, prospective studies to examine diagnostic, management and outcome issues. The treatment of pregnancy-associated cancer is complex since it may be associated with adverse fatal effects. In pregnant patients diagnosed with cancer during the first trimester, treatment with multidrug anti-cancer chemotherapy is associated with an increased risk of congenital malformations, spontaneous abortions or fetal death, and therefore, should follow a strong recommendation for pregnancy termination. Second and third trimester exposure is not associated with teratogenic effect but increases the risk of intrauterine growth retardation and low birth weight. There are no sufficient data regarding the teratogenicity of most cytotoxic drugs. Almost all chemotherapeutic agents were found to be teratogenic in animals and for some drugs only experimental data exist. Moreover, no pharmacokinetic studies have been conducted in pregnant women receiving chemotherapy in order to understand whether pregnant women should be treated with different doses of chemotherapy. This article reviews the available data regarding the different aspects of the treatment of cancer during pregnancy.
ANTIBLASTIC TREATMENT OF HAEMATOLOGICAL MALIGNANCIES DURING PREGNANCY: A CRUCIAL DECISION

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Antiblastic treatment of hematological malignancies during pregnancy poses a number of issues related to the curability of the maternal disease, the need of a prompt treatment and the potential toxicity of chemotherapy for the fetus. Here we report the results of a systematic literature search about the management of the most frequent hematological malignancies that may occur during pregnancy, focusing on specific issues related to gestational age at diagnosis, fetal toxicity and efficacy on the maternal side. The standard approach in non-pregnant women is illustrated as reference.
OBSTETRICAL, FETAL AND POSTNATAL EFFECTS OF GESTATIONAL ANTI-BLASTIC CHEMOTHERAPY: HOW TO COUNSEL CANCER PATIENTS

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At least one in a thousand pregnancies is complicated by cancer and, as the maternal age at pregnancy increases, numbers are growing. If chemotherapy cannot be postponed, both doctors and patients face complex medical and ethical issues. There is a conflict between optimal maternal therapy and fetal wellbeing. Treatment during the first trimester increases the risk of congenital malformations, spontaneous abortions and fetal death. Second and third trimester exposure is less risky, but it can cause intrauterine growth retardation and low birth weight. Other effects on pregnancy after the first trimester include premature birth, stillbirth, impaired functional development, myocardial toxicity and myelosuppression. Counseling and management of these cases are difficult, because literature is mostly represented by case reports or retrospective series while randomized prospective studies or guidelines are lacking. Moreover, personal experience is often scanty due to the rarity of the condition. This article reviews the available data regarding the different aspects of systemic treatment of cancer during pregnancy to help oncologist and obstetricians in counseling their patients and treat them accordingly.