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Pregnancy-Associated Breast Cancer

Short Communication

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Currently, breast cancer (BC) is the most frequent malignant tumor in women, characterized by around two million of new cases and the leading cause of cancer-related female mortality with approximately half of million disease-related deaths noticed annually worldwide. Although the average age of onset of breast cancer is 61 years, approximately 1 in 40 women diagnosed with breast cancer is very young, and the disease constitutes 5 to 7% of all cancer deaths in these young women. Pregnancy is one of the situations in which breast cancer can appear in a young age. The diagnosis of any cancer during pregnancy is not frequent, with an incidence of 1:1000 pregnant women Notably, BC is the most common form of cancer diagnosed during pregnancy and occurs in 1 to 4 cases per 10,000 pregnancies. Apart from BC, other prevalent malignancies during the gestational period include cervical and ovarian cancer, melanoma as well as hematologic malignancies.

There has been interest in BC coinciding with pregnancy since the early 20th century, when multiple case reports on the subject were published. In a report from the 1907 Annals of Surgery, Dr. Cheesman, a surgeon, describes the influence of pregnancy on the cancer of the breast. He specifically mentions that "as all surgeons are aware, cancer of the breast under the stimulus of pregnancy takes on an especially malignant character and runs a furiously rapid course". Similarly, in 1929, Alson Kilgore published a review on tumours of the breast in association with pregnancy. Although the dismal prognosis for pregnant women with breast cancer reported in that review has greatly improved, the disease still carries a worse prognosis for pregnant than for non-pregnant age-matched young women with breast cancer.

What should be considered BC in pregnancy has been the subject of controversy over the past several decades. Gestational or pregnancy-associated breast cancer (PABC) is typically defined as breast cancer that is diagnosed during pregnancy, in the first postpartum year, or any time during lactation. Some investigators chose to include patients up to six months after delivery and others up to two years after delivery, while others have narrowed their definition to patients diagnosed during pregnancy or during lactation. Some have further asserted that patients found to have breast cancer during pregnancy who actually experienced symptoms prior to pregnancy do not qualify as having PABC.

While these different definitions may be informative in specific settings, a more universal definition would allow for better comparison of data, and thus more insight into the disease; discrepancies in definition between studies appear to be the reason behind the seemingly contradictory results in this field. Some evidence suggests that it is worthwhile to differentiate between diagnosis during pregnancy and diagnosis during the postpartum phase because separating patients in this way reveals a potential prognostic difference between the two groups.

Women with PABC have not been shown to have a poorer prognosis than non-pregnant women with breast cancer after matching for stage, age, and year of diagnosis, whereas patients with breast cancer diagnosed in the postpartum period may have a worse prognosis than women with non-PABC when matched for such prognostic factors. The argument that has been made opposing this separation is that many pregnant women have a significant increase in the time between the first symptoms and diagnosis, resulting in a transfer of some pregnant women with BC into the postpartum group. Furthermore, the inherent growth of BC suggests that it would have been in situ for at least one year before being identified as a mass.

BC occurring during pregnancy presents a challenging clinical situation since the welfare of both the mother and the fetus must be considered in any treatment planning. In addition, prospective studies of breast cancer during pregnancy are very few, and much of the clinical evidence is limited to retrospective case series and case reports. Furthermore, all breast disorders emerging during pregnancy and/or lactation should be "handled with care". On the one hand, hormone-induced anatomical and functional changes occurring in breast tissue during lactogenesis may cause an overlap in imaging appearance of lesions, as well as in physical examination.

On the other hand, pregnancy and postpartum are extremely delicate moments in a woman's life, and psychological aspects of fear

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and anxiety, especially in a context of life changes, need to be always considered. Breast cancer during pregnancy and lactation is rare, but delayed diagnosis is frequent, mainly due to lack of awareness of this clinical entity, fear of X-ray-based diagnostic examinations, as mammography, and, probably, a certain degree of denial of suspicious signs and symptoms. Moreover, pregnancy-associated breast cancer is often aggressive; therefore, the postponement in diagnosis or management until delivery or after the end of lactation should be avoided, as delay is associated with poor prognosis. Nonetheless, a quick and precise clinical and radiological assessment is essential, as well as fast multidisciplinary management.

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