

Awareness and Follow up of Breast Cancer in a Young Female

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Abstract

Although uncommon, breast cancer in young women is worthy of special attention due to the unique and complex issues that are raised. A 26-year young female reported with a breast lump on right side. On fine needle aspiration, it was diagnosed as breast carcinoma which is rarely seen in young cases. It is widely believed that breast carcinoma in young women is characterized by a relatively unfavourable prognosis and unusual pathological features. Despite the data available in the specialist literature, it is not yet clear whether breast cancers arising in young women are biologically different from those found in older women. Most of the published studies on this issue have focused on relatively large cohorts of premenopausal patients.

Keywords: Diagnosis; Quality of life; Treatment; Premenopausal; Awareness

Introduction

Breast cancer in women aged younger than 35 years old comprises approximately 3% of Japanese breast cancer patients. Interestingly, the estimated breast cancer incidence in young women under 40 years of age is approximately 25 per 100,000 women be it in Japan or the USA or the European Union, whereas breast cancer incidence in all ages is higher in Western than in Asian countries [1]. Younger women with breast cancer are known to have worse prognoses than their older counterparts [2]. In this comprehensive evaluation of breast cancer arising in young women, an analysis of age-specific differences in prognosis, clinicopathological variables, gene expression patterns, and oncogenic signaling pathways, thus combining traditional prognostic variables with phenotypes and providing insight into the unique biology of breast cancer [3].

Breast cancer risk factors can be broadly classified as non-modifiable risks, including age, race/ethnicity, genetics/family history, and age at menarche and modifiable risk factors, including diet, alcohol consumption, overweight, smoking and physical. Both low-fat and high-fibre diets may be weakly protective against breast cancer [4]. Interestingly, breast cancer risk factors, clinical outcomes, and tumor biology are somewhat different in the subgroup of women below 40, suggesting that breast cancer in young women represents a distinct entity [5,6]. The present study was aimed at finding any biological differences by comparing the clinicopathological features of 50 young breast cancer patients under 40 with those of 50 postmenopausal women aged 60 years or older.

Case Report

A 26-year-young female complained of a swelling in the right breast since 7 months. The lump was small in size and had increased to the present size with enlargement of the breast. She was having pain in the breast and loss of appetite for which she took medicine from the local doctor. She refused to go for surgical treatment in early stage of presentation. She came to us with increase in size of the breast and lump. There was no family history of breast disease.

On examination, the lump was present in the upper, outer quadrant on side of the right breast. The right sided nipple was inverted and the breast was enlarged as compared to the left breast. Vessels were seen overlying of the breast skin without any skin changes. The lump was 12 × 8 cm in size, hard in consistency (Figure 1). It was not

fixed to the underlying structures. There were three lymph nodes felt in the right axilla, mobile in nature and non-tender. On fine needle aspiration cytology, diagnosis was made as breast carcinoma. Modified radical mastectomy with primary closure of the skin was done. The gross cut section of the specimen revealed a large tumor of about size 12 × 10 cm, whitish in color (Figure 2). On histopathology, diagnosis came as infiltrating ductal carcinoma and ten lymph nodes were seen. On follow-up, she was put on an adjuvant chemotherapy course of 5-fluorouracil, cyclophosphamide, and methotrexate, and discharged on Tamoxifen 20 mg once a day. Patient is in still four years follow-up, without any recurrence and is asymptomatic.

Discussion

Breast cancer is one of the most prevalent cancers in females, The definition of a 'young woman' in the field of breast oncology varies, with most articles referring to women under either age 35 or 40 years as 'young'. Population-based studies have identified young age as an independent predictor of adverse breast cancer-specific outcome [3]. Breast cancer incidence increases with age, with the vast majority of women diagnosed after the age of 40 years. 5%-7% of breast cancer cases occur in women under 40 years of age. Breast cancer in the young has gained increased attention with an attempt to improve diagnosis and prognosis. Young patients tend to have different epidemiology, presenting with later stages and more aggressive phenotypes [6,7]. The incidence of a positive family history in the current series was similar to the general population with breast carcinoma, suggesting that the relatives of very young women with breast carcinoma do not require especially intensive screening. Walker et al. [8] reported a broadly similar incidence of positive family history in women aged 35-44 years compared to those under 35, but Chan et al. [9] reported a family history in 29% of women aged <35 with breast cancer. Of the

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Figure 1: Gross Appearance of the Enlarged Breast and showing Inverted Nipple.



Figure 2: Gross cut section of the Breast Tumor.

two cases with a positive family history, both had high-grade invasive breast carcinomas, but neither was of a medullary subtype typical of BRCA mutations.

It has been suggested that the mean primary tumor size at presentation is greater in women ≤ 35 years but in the current series and others, this was not the case. Another author found no significant difference between very young and young women, or any difference between all young women taken together (≤ 35 years) and a large cohort of older women (36-65 years). Conversely, there was a steady increase in mean tumor size with increasing age within the group of older women ($P=0.0108$) [10]. Biological evaluation revealed negativity for cERB-2, p53 and Bcl-2, but a high proliferation value (Ki 67: 47 and 85%), higher in the younger patient in consideration of the aggressiveness of this kind of lesions [11]. In the general breast cancer population, the recurrence rate and the disease-free survival rates are similar between women receiving BCT or mastectomy [7]. The worse prognosis may be because greater numbers of younger women have tumors with poor clinicopathological features, i.e., more advanced TNM stage at presentation and more hormone receptor negative tumors as demonstrated in previous studies [12].

Given the limitations of mammography in dense breast tissue,

ultrasound and breast-specific magnetic resonance imaging (MRI) are frequently used in the diagnostic setting. Although screening is not recommended for women at average risk prior to age 40, it is important to note that annual breast MRI is currently recommended for screening of unaffected women starting at age 30 if they have a lifetime breast cancer risk at or exceeding 20%-25%. Similar to ultrasound, MRI has a high sensitivity, but low specificity for breast cancer, which may lead to unnecessary biopsies. However, MRI has still been shown to be more sensitive than mammogram in the dense breast population [13]. Azim HA concluded that proliferation-related prognostic gene signatures could aid in treatment decision-making independent of age. This may be particularly clinically relevant for the young given the potential long-term side effects of adjuvant systemic chemotherapy. Furthermore, young age adds extra biological complexity, which is independent of differences in breast cancer subtype distribution. Although these results require further validation, either experimentally or in other clinical data sets, we suggest that separate therapeutic approaches may need to be specifically designed to improve outcomes for breast cancer arising in young women [2].

Treatment should be based on the pathological features of the tumor rather than the age of the patient, but very young women have excessive risk of local recurrence and dying, as compared to their middle-aged counterparts, even if diagnosed early and receiving an intense treatment [14]. In particular, surgical choices impact emotional status and quality of life. Mastectomy appeared to have a greater effect on quality of life [15]. In the overall breast cancer population, patients with BCT reported better body image, more physical functioning, and higher sexual activity after 5 years [16].

Conclusion

The care of young women with breast cancer has become a more recent focus with improvements in diagnosis, treatment, and survivorship. Given the differences in epidemiology and management options, as well as the unique issues surrounding fertility, sexuality, and pregnancy, the multidisciplinary approach to treatment for these women frequently may also incorporate other areas of expertise.

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