

Breast cancer in young women: its biological and clinical uniqueness and needs of comprehensive care

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Breast cancer in women aged younger than 35 years old comprises approximately 3 % of Japanese breast cancer patients [1]. 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 [2].

Younger women with breast cancer are known to have worse prognoses than their older counterparts [3, 4]. 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 [1, 5]. The underlying biology of breast cancer in the young woman has yet to be fully elucidated. Association with age-related biological processes, such as pregnancy, parity, and breast-feeding, has been suggested to have prognostic impact in clinical and preclinical studies [6, 7, 8].

Adjuvant chemotherapy is used more frequently in young women than in older women [1], probably because of longer life-expectancy and better tolerability to aggressive treatments and documented survival advantages compared to women not treated with adjuvant therapy. Recently, the ATLAS and aTTom trials have demonstrated statistically significant superiority of adjuvant tamoxifen of 10 years duration compared to that of 5 years [9, 10]. Biases that “young women have worse prognosis” and the fear of the disease with its accompanying threat to life that it instills in patients as well as healthcare providers might

lead to overuse of “one-size-fits-all” chemotherapy and endocrine therapy demonstrated to be of clinical benefit in randomized clinical trials. However, we have to be aware that this approach may well affect patient quality of life once a patient becomes a survivor. For example, treatment-related infertility is one of the major concerns of cancer patients of reproductive age [11].

In this issue of *Breast Cancer*, topics specific to breast cancer in young women were selected in the hope that readers might gain some insights into optimization of the care of the young breast cancer patient and future research needs for this group. Kataoka et al. [1] provide a cross-sectional data analysis of breast cancer in young Japanese women by utilizing the database of the Japanese Breast Cancer Society. They confirm that younger women in Japan present with larger tumors, more advanced disease stage, and a greater proportion of triple negative and HER2+ tumors. Suggestions for research to be developed and the results of formal prognostic analyses to help guide these efforts are awaited.

Shien et al. [12] summarized the current status of fertility preservation in breast cancer patients in Japan. They provide a review of available options and a framework for clinical discussion with the patient.

Regardless of family history, in Western countries, manifestation of breast cancer in younger women is utilized as a criterion for recommendation of genetic counseling [13]. Bando reviews the problems to be addressed and resolved in Japan, where clinical genetic services are still immature [14]. The issues of lack of data, social concerns, and availability of clinicians with good knowledge regarding genetics are noted.

Finally and importantly, Takahashi warns that psychosocial distresses of young women with breast cancer extends beyond genuine physical medical issues [15].

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There is a recognized need to address more than the biological cancer diagnosis by treating the patient within the context of their family, social roles, and emotional and psychological needs.

Utilization of molecular profiling and/or other emerging biomarkers may contribute to individualizing cancer treatment to some extent, avoiding overtreatment, and providing the best medical treatment to the right patient. However, to achieve the individual goal of satisfactory survivorship, healthcare providers have to be aware that “some elements of well-being will clearly be beyond the physician’s expertise and ... there will always be potential goals that can conflict with one another” as argued in a textbook of bioethics [16]. Conflicts between medical and other considerations affecting well-being are not unique in young breast cancer patients, but stand out in the dialogue with young women with breast cancer who are often urged to make various medical decisions in quite a short time.

With the advancement of information technology, cancer patients today, especially younger patients with common cancers, can access a rich resource of medical information, more than cancer patients of any other previous era. Clearly, participation of patients in medical decision-making is needed and physicians are urged to become less paternalistic through participatory dialogue with patients about disease, care options, and potential risks and likely benefits for their particular circumstances. Through the effort of thorough communication with patients and the development of interdisciplinary teams, we are developing a new model of the physician–patient relationship in our culture.

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