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## Breast cancer in ethnically different populations

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Dear Editor,

Adjuvant treatment for breast cancer is undergoing a paradigm shift with an increased focus on personalized therapy for patients. It is against this backdrop that prognostic and predictive factors and their interplay with various genetic variables are being looked at with renewed interest. According to the human genome project only a 0.1% difference<sup>[1]</sup> exists in the genetic makeup of human beings worldwide. These are the very differences that probably account for the racial/ethnic disparity in terms of breast cancer risk and response to treatment. We are however yet to clearly define the contribution of these genetic factors to phenotypic differences and their implications in discrepancies arising due to ethnicity.

Thangjam *et al.*<sup>[2]</sup> have retrospectively reviewed 507 mastectomy specimens, out of which 160 cases were women <40 years and the remaining 347 cases were women aged 40 years or more. As expected, larger tumors with greater rates of nodal positivity translating into a higher tumor, node, metastasis stage was noted in the younger age group (<40 years); however, the authors have failed to show a survival difference between the two groups. An interesting observation is that, inspite of a higher stage South Asian Journal of Cancer ♦ April-June 2015 ♦ Volume 4 ♦ Issue 2

and an expected poorer outcome, there appears to be an insignificant impact on survival. Adami<sup>[3]</sup> in 1984 had also made a similar observation, wherein younger women appeared to have a better overall survival as compared to older women. Although the study by Thangjam *et al.* has also observed the tendency for younger patients to be afflicted by aggressive disease, it deals with extremely small numbers, which further diminishes considering that a large number of patients are lost to follow-up ( $n = 170$ ). Furthermore, a more detailed pathological analysis of these tumors in terms of tumor grade, receptor status and proliferation indices to name a few would have been of interest.

In the article by Mehdi *et al.*<sup>[4]</sup> retrospective data in a larger sample size of 1230 cases of breast cancer in Oman was retrieved using the National Cancer Registry and analyzed. The median age at diagnosis of breast cancer in both the Omani and nonOmani population was considerably lower than the western population at 48 years and 45.5 years, respectively. The authors have correctly identified this distinct demography of breast cancers in this region but regrettably have not furnished valuable data pertaining to treatment decisions, patterns of care, and survival outcomes.

Comprehensive reviews<sup>[5,6]</sup> on breast cancer epidemiology in South Asia have observed a lower median age at diagnosis,

with a higher incidence of lymph node as well as distant metastases. Several hypotheses have been discussed for the late stage at presentation, including delays in seeking medical help and inadequate facilities for timely diagnosis and treatment being some of them. However, the reasons behind the racial disparity in median age at initial diagnosis of breast cancer are yet to be elucidated.

Authors in the above mentioned studies<sup>[2,4]</sup> have attributed the fact that most women present to the clinic in relatively advanced stages of disease, to the lack of screening mammography. This might prove to be counterproductive especially since numerous randomized clinical trials and meta-analyses<sup>[7]</sup> have consistently failed to show neither any increase in incidence of cancer cases nor a survival benefit in women aged <50 years. Though screening mammography has overall improved the detection rate of nonfatal *in situ* and early stage breast cancers, its role in early diagnosis of advanced stage breast cancers has been rather insignificant.<sup>[8]</sup> Moreover, the rates of over diagnosis<sup>[7]</sup> with screening mammography approach 30-40%, something that the developing world population cannot afford to treat currently!

By highlighting the fact that, women in this geographical area have an aggressive disease at a younger age, these studies have drawn attention to the dearth of structured trials answering questions on diagnosis, treatment and survivorship issues in this subset of population. Breast cancer is a heterogeneous and clinically diverse disease. It is for precisely this reason that despite remarkable progress in breast cancer treatment, it still

needs further understanding to decipher the interaction and impact of various environmental, socioeconomic, biological, and ethnic factors on treatment and outcomes. Nonetheless, we must move ahead with greater emphasis on studies that are clinically relevant to our population at large.

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