Gradually implemented new biomarkers for prognostication of breast cancer: complete case analysis may introduce bias.

Bhoo Pathy N, Uiterwaal CS, Taib NA, Verkooijen HM, Yip CH.

Source
Julius Centre University of Malaya, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya, 50603 Lembah Pantai, Kuala Lumpur, Malaysia. ovenjjay@gmail.com

Abstract
OBJECTIVE:
Many recent studies investigated the prognostic value of new biomarkers in breast cancer using data from cancer registries. Some of these studies were conducted using only patients for whom biomarker status was available (or tested). Using human epidermal growth factor receptor 2 (HER2) as an example, we determined whether testing for a recently introduced biomarker was associated with the outcome of women with breast cancer.

STUDY DESIGN AND SETTING:
We included 910 women with newly diagnosed breast cancer in a tertiary academic hospital in Kuala Lumpur, Malaysia, between 2005 and 2007. Individual 2-year absolute mortality risk was estimated using Cox regression analysis. Logistic regression was used to assess the association between the absolute mortality risk and assessment of HER2 status.

RESULTS:
There was a significant inverted U-shaped association between predicted mortality risk and HER2 status determination. Compared with patients with the lowest predicted mortality risk (quintile 1), patients with highest predicted mortality risk (last quintile) were significantly less likely to be tested for HER2 status, whereas those with intermediate predicted mortality risk (quintile 3) were more likely to be tested.

CONCLUSION:
Breast cancer prognostication using only patients with available biomarker status may lead to invalid results.

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