



Association between Family History of Cancer and Prognostic Parameters of Breast Cancer

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Abstract

Breast cancer (BC) is the most common cancer among females in Sri Lanka. Family history (FH) of BC is an established risk factor for the development of BC. Hence, the objective of this study was to analyze the association between FH of cancer and the prognostic parameters of BC in females in Southern province of Sri Lanka. This retrospective study included all BC patients who had sought the immunohistochemistry services of our unit from May 2006 to December 2012. Data were collected from laboratory records and from the patients using a pre-tested, interviewer-administered questionnaire. Tumour grading and scoring of ER, PR and Her-2 expression were done by the Principal Investigator. The Chi-square test was used to determine the statistical significance. This study enrolled 942 BC patients which included 109 (11.6%) patients with a FH of BC, 206 (21.9%) with FH of other malignancies (OM) and 627 (66.6%) with no FH of cancer. The prevalence of lymph node metastasis ($p=0.013$), advanced pathological stage ($p=0.021$, χ^2 trend 0.004) and triple negative BC ($p=0.018$) were higher in the group with a FH of BC. The expression of ER ($p=0.010$) and PR receptors ($p=0.029$) in the BC were less in the group with a FH of BC compared to those without a FH, of BC. However there was no significant difference between these two groups of BC patients in terms of the presence of associated ductal carcinoma *in situ*, presence of lobular carcinoma *in situ*, Paget's disease, tumour size, Nottingham grade, presence of lympho-vascular invasion, Nottingham Prognostic Index and Her-2 expression. There was no significant difference between the group with FH of OM and the group with no FH of cancer with regard to any of the features considered for this study. Our study indicates, that prognostically more unfavorable tumour characteristics are present among the patients with FH of BC compared to the others.

Keywords: breast cancer, family history, prognostic parameter