

Research paper 4

The association between tumour infiltrating lymphocytes and known prognostic factors of breast carcinoma in a cohort of Sri Lankan women

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Introduction and objectives: The balance between tolerance of self-antigens and elimination of non-self-antigens plays a major role in breast carcinoma progression. Tumour infiltrating lymphocytes (TIL) in the tumour microenvironment play a crucial part in this surveillance. The objective of the study was to determine the association between TIL and known prognostic factors in a cohort of Sri Lankan women.

Methodology: Two hundred and ninety-four patients were included in the study conducted during a period from 2018 January to December 2021. Histological reports were used to gather data on age, tumour grade, tumour stage, extent and grade of DCIS, presence of lymphovascular involvement and the nodal stage of breast carcinoma. All histological types of breast carcinoma were included in the study and 85% (250/294) were of no special type (NST). The haematoxylin and eosin slides were examined, and stromal TILs were graded according to the recommendations given by an International Tumor Infiltrating Lymphocytes Working Group 2014. A Pearson's chi-square test was used to assess the relationship between categorical variables. The Spearman rank correlation was used to determine the correlation between stromal TILs and age and tumour size.

Results: The size of the tumour and Nottingham grade demonstrated a statistically significant correlation with stromal TIL ($p < 0.05$). Age, lympho-vascular invasion, DCIS and nodal stage showed no significant correlation with TIL.

Discussion and conclusion: This study demonstrated a correlation between TIL and tumour grade and size. Results of previous studies on the association between TIL and prognostic factors have shown mixed results. It is suggested that these differences may be due to genetic influences resulting in different interactions with the host immune system and further studies are recommended to validate these findings.

Keywords: breast carcinoma, tumour infiltrating lymphocytes

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