TUMOR-INFILTRATING CD79α POSITIVE LYMPHOCYTES IN BREAST CANCER

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Introduction. Tumor-infiltrating lymphocytes (TILs) represent a critical component of the immune microenvironment in breast cancer, influencing tumor progression and patient prognosis. Among B-cell markers, CD79α is a reliable indicator of mature B lymphocytes. However, its role in breast carcinoma, particularly in relation to histopathological parameters, remains insufficiently explored. This study aimed to evaluate the density and distribution of CD79α-positive lymphocytes in breast carcinoma and to assess their correlation with histological grade and the Nottingham score.

Materials and Methods. A total of 19 cases of breast carcinoma were retrospectively selected from the archive of the Oncology Institute. Immunohistochemical staining for CD79α was performed, and positive lymphocytes were quantified separately in the intratumoral and peritumoral stromal compartments. Histological grade and the Nottingham score were recorded for each case. Descriptive statistical analysis was performed, and Pearson correlation coefficients were calculated to evaluate associations between CD79α expression and histopathological parameters. Statistical significance was defined as $p \leq 0.05$.

Results. The density of CD79α-positive lymphocytes varied across compartments, with higher values observed in the peritumoral stroma compared with intratumoral regions. Intratumoral CD79a expression showed a moderate positive correlation with peritumoral density ($r = 0.41$, $p = 0.04$). Peritumoral CD79α infiltration correlated significantly with histological grade ($r = 0.52$, $p = 0.01$), suggesting a link between B-cell presence in the tumor microenvironment and tumor aggressiveness. No significant associations were found between CD79α expression and patient age. The Nottingham score demonstrated a strong correlation with histological grade ($r = 0.73$, $p < 0.001$), confirming its robustness as a prognostic tool.

Conclusions. Our findings indicate that CD79α-positive lymphocytes are more abundant in the peritumoral stroma of breast carcinoma and that their density correlates with histological grade. These results suggest that peritumoral B-cell infiltration may reflect tumor aggressiveness and could serve as a potential biomarker in breast cancer. Further studies with larger cohorts are warranted to validate the prognostic significance of CD79α -positive TILs and to explore their role in shaping the immune response within the tumor microenvironment.

Keywords: breast carcinoma, CD79 α, tumor-infiltrating lymphocytes, histological grade, Nottingham score