THE ASSOCIATION OF TUMOUR LYMPHOCYTE INFILTRATION WITH CLINICOPATHOLOGICAL FEATURES IN BREAST CANCER PATIENTS

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Aim: Tumour-infiltrating lymphocytes (TLIs) are frequently found in malignant tumors, suggesting the presence of immune response against the tumor. The aim of this study was to evaluated the correlation between the level of tumor lymphocyte infiltration (from 0 to 3 degree) and well known clinicopathological factors in breast cancer patients.

Methods: Paraffin sections were retrospectively evaluated in 60 cases in early stage breast cancer patients who received surgery and next systemic treatment (anthracycline-based chemotherapy and trastuzumab in patients with HER2 overexpression) between 2008 and 2010 in MSC Memorial Cancer Center and Institute of Oncology, Gliwice Branch in Poland. Lymphocytic infiltrations were classified as: absent (grade 0), little (grade 1), moderate (grade 2), and marked (grade 3). These variables were evaluated for their association with clinicopathological features.

Results: Tumor lymphocyte infiltration were present in 83% of patients. Marked grade infiltration (grade 3) was detected in 8% of them. Most tumors with TLI were invasive ductal carcinoma in comparison with other histological type of cancer (89% vs. 67%), p=0.05. TLIs were observed in all patients with viral diseases in their history. They were also detected more often in diabetics then in patients without diabetes (86% vs. 25%), p=0.012. Marked grade TLIs were present more frequently in younger patients (under 35 years) comparing with older women (100% vs. 45%), p=0.09. TLIs were also more associated with negative estrogen receptor status than with positive receptor status (95% vs. 76%), p=0.05. Additionally TLIs were observed more frequently in tumors with HER2 overexpression than in HER2-negative tumors (92% vs. 75%), p=0.06. In patients with the presence of lymph nodes metastases, tumor infiltration was present more often than in group without metastases (94% vs. 79%), p=0.183. Disease recurrence was detected in 9% of patients. All of them had tumors with lymphocyte infiltration (from grade 1-3).

Conclusions: TLIs appears to be associated with negative clinicopathological factors such as negative steroid receptor status (p=0.05), HER2 overexpression (p=0.06) and the presence of lymph nodes metastases (p=0.183). Other factors were age under 35 years (p=0.09), diabetes and viral diseases in the patient history (p=0.012). Further studies are necessary.

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