

Flowcytometric Analysis of Tumor Associated Macrophages in Invasive Ductal Carcinoma of Breast

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ABSTRACT

Background: Invasive ductal carcinoma is the most common type of breast cancer in Iran. Impaired immune responses occur frequently in cancer patients, but the mechanisms of the induced immune defects remain poorly understood. It is believed that infiltrated immune cells, especially macrophages, may provide help for tumor cell growth and metastasis. **Objective:** To analyze the status of tumor associated macrophages (TAM) by immunophenotyping method. **Methods:** Twenty-three women suffering from breast cancer were examined; nineteen of them were confirmed histologically to have invasive ductal carcinoma. Tumor cell suspensions from biopsy specimens and peripheral blood mononuclear cells from patients and matched controls were processed for analysis by flow cytometry. **Results:** No significant changes in the percentages of intra-tumor leukocytes and macrophages in the different stages of tumor were observed. There were no significant differences in the percentages of leukocytes (CD45⁺), monocytes (CD45⁺/CD14⁺) and activated monocytes (CD14⁺/HLA-DR⁺ and CD14⁺/CD16⁺) in the peripheral blood of patients and controls. **Conclusion:** The results of this study indicated that human breast cancer contain substantial, although variable numbers of macrophages, however, the activation status of these macrophages remain to be elucidated.

Keywords: Breast Cancer, Tumor Associated Macrophages, Tumor Immunity

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