

Mammaglobin and maspin transcripts in blood may reflect disease progression and the effect of therapy in breast cancer

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ABSTRACT. Detection of residual tumor cells in the circulation can provide prognostic as well as therapeutic information and help in identifying patients at high risk for developing metastases. Maspin and mammaglobin are two molecules that are specifically associated with breast cancer. We looked for mammaglobin and maspin transcripts in the peripheral blood of patients with breast cancer and evaluated their utility as a marker of the response to therapy. Maspin and mammaglobin transcripts were analyzed in 85 breast-cancer patients by nested RT-PCR, prior to and after treatment. Before therapy, 10 patients were found positive for mammaglobin and 20 patients were positive for maspin. In four patients, both transcripts were de-

tected. Immediately following treatment, only one patient was still positive for mammaglobin while maspin transcripts persisted in three patients. Disease progression was observed mainly in patients in whom maspin transcripts were not detectable. Molecular detection of circulating tumor cells during therapy based on analysis for mammaglobin and maspin transcripts is an easy and practical method that can be applied to follow-up patients. We suggest that detection of mammaglobin mRNA is useful to determine the effect of therapy while maspin transcripts may indicate more aggressive disease.

Key words: Mammaglobin; Maspin; Breast cancer