

Significance of some non-invasive biomarkers in the early diagnosis and staging of Egyptian breast cancer patients.

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Abstract

Introduction:

Breast cancer is one of the most relevant malignancies among women. Early diagnosis and accurate staging of breast cancer is important for the selection of an appropriate therapeutic strategy and achieving a better outcome.

Aim:

This study aimed to explore the significance of some non-invasive biomarkers in the early diagnosis and staging of Egyptian breast cancer patients.

Subjects and Methods:

A total of 135 female patients with physically and pathologically confirmed breast cancer and 40 unrelated controls as well as 40 patients with benign breast mass were enrolled in this study. The malignant breast cancer group was further divided into four groups according to tumor size. Serum levels of carcinoembryonic antigen-related cell adhesion molecule-1 (CEACAM1), resistin and visfatin were determined by enzyme immunoassay.

Results:

Elevated levels of CEACAM1, resistin and visfatin were observed in breast cancer patients when compared with normal control and benign groups. The cutoff values, sensitivities and specificities of these biomarkers were appropriate for the discrimination of breast cancer from controls. Additionally, the serum levels of visfatin increased positively with tumor size and consequently with breast cancer stages.

Conclusion:

CEACAM1, resistin and visfatin are valuable in early diagnosis of breast cancer, with visfatin being preferentially used in staging.

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