Elevated CEA and CA15-3 Serum Levels in Different Molecular Subtypes of Breast Cancer Have Prognostic Significance

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ABSTRACT

Breast cancer is the most frequent disease in women and the main cause of death from cancer, accounting for 23% of all cancer diagnoses and 14% of cancer deaths worldwide. Molecular indicators including hormone receptor status and human epidermal growth factor receptor 2 (HER2) expression are employed in addition to classic pathological measures such tumor size, tumor grade, and lymph node status. Many cancers employ serum tumor markers for screening, early detection of recurrence, and therapy. We enlisted the help of 36 women who had been diagnosed with stage I, stage III, invasive breast cancer that had been proven histologically and radiologically, and who had no clinical or radiological indications of metastases. Patients had surgery, either a modified radical mastectomy or a conservative mastectomy, and their preoperative CEA and CA15-3 levels, as well as regular follow-up, were all evaluated. Before surgery, we compared tumor marker levels, TNM staging, and molecular subtypes, as well as comparing tumor marker levels, TNM staging, and molecular subtypes. We discovered a relationship between preoperative CEA and CA15-3 serum levels and distinct molecular subtypes of breast cancer, as well as a link between preoperative CEA and CA15-3 serum levels and clinic-pathological tumor characteristics. TNM staging is one of the most important criterion. For distinct molecular subtypes of breast cancer, preoperative blood levels of tumor markers (CEA & CA15-3) have independent predictive significance.

Keywords: Carcinoembryonic antigen, Cancer antigen 15-3, Breast cancer

Bahrain Med Bull 2023; 45 (1): 1295-1299

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