

عنوان مقاله:

HEF, A New Potential Tumor Marker for Early Diagnosis and Predicting of Breast Cancer Progression

محل انتشار:

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خلاصه مقاله:

Background & Objective: This study examined the potential of human epididymis protein 4 (HEF) as a marker in early diagnosis or as a prognostic factor for breast cancer (BC) patients. **Methods:** A total of 31 patients diagnosed with BC were enrolled in the study between 2008 and 2018. The mRNA and protein expression levels of HEF were analyzed by immunohistochemistry (IHC) and real-time polymerase chain reaction (PCR) in the BC tissue and the non-tumoral adjacent tissue. Using ELISA technique, HEF plasma levels were also measured in 43 BC patients compared to 43 healthy individuals. The correlation between HEF expression and clinicopathological features was then investigated. **Results:** An increase in HEF expression was observed at mRNA and protein levels in the BC group compared to the control group ($p < 0.01$, $p < 0.0001$, respectively). In addition, the relative expression of HEF mRNA in BC patients showed a significant correlation with the differentiation grade of cancer cells ($p < 0.001$). Plasma levels of HEF was also associated with grade ($p < 0.0001$), stage, and tumor size in BC patients (for both $p < 0.01$). Patients with metastatic BC ($p < 0.01$), lymphatic invasion, and lymph node involvement (for both $p < 0.05$) showed significantly higher plasma levels of HEF expression than patients without metastasis. **Conclusion:** According to our findings, upregulation of HEF is probably related to invasive BC phenotype, and measuring plasma levels of HEF could be useful as a screening test in early diagnosis of BC.

کلمات کلیدی:

Breast neoplasms, Gene expression, HEF, WAP Four-Disulfide Core Domain Protein 2, WFDC2 Protein

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