CD147 expression in breast cancer and its association with tumor clinicopathological features

المشتركون فى البحث:
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Abstract

Background Breast cancer (BC) is ranked first in frequently diagnosed tumors among women. In addition, it is the principal reason of deaths reported due to cancer. The cause of death is usually wide dissemination of the tumor. CD147 proteins were found to have a role in cancer development. The goal of this research is to assess the expression of CD147 in BC. In addition, we aim to detect the association between CD147 expression and the clinicopathological characteristics of the tumor.

Materials and methods The authors randomly included 50 BC specimens collected from the pathology laboratory of the Ahmed Maher Hospital and private laboratories.Their demographic and clinicopathologic data were extracted from medical records. The specimens were cut and stained with "hematoxylin and eosin" stains for histological evaluation. In addition, immunostaining of CD147 was applied. Results Of the cases, 48% showed a positive CD147 expression. Tumor type significantly correlated to CD147 expression, where invasive ductal carcinoma of no specific type had a higher rate of CD147 expression than the other histological types. CD147 expression was significantly elevated among specimens without necrosis. In addition, ER-negative cases, PR-negative cases, and HER2-negative cases showed high expression rates. In addition, cases with elevated levels of Ki-67 showed significantly more CD147 expression than those of low Ki-67 cases. CD147 showed no statistically significant correlation with age, tumor size, grading, staging, in-situ component, and multiplicity of masses.

Conclusion Our results are in favor of extracellular matrix metalloproteinase inducer (EMMPRIN, e.g. CD147) theory, where an extracellular matrix metalloproteinase inducer was detected in 49.8% of the cases. We also concluded that CD147 overexpression is significantly correlated with histological type, necrosis, immunohistochemical status, and Ki-67 levels. No other clinicopathological features were found to have an association with CD147 expression. The correlation of CD147 expression with survival should be further investigated. In addition, we recommend to address the possibility of targeting CD147 in treatment courses of BC.

Keywords: breast cancer, CD147, immunohistochemistry