

Immunohistochemical Expression of Stanniocalcin 2 in Colorectal Cancer: A Retrospective Egyptian Study

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Abstract

Introduction: Colorectal cancer is third most common cause of cancer death worldwide. Stanniocalcin 2 (STC2) is a glycoprotein hormone over expressed in many human cancers where it regulates tumor progression and invasion, so evaluating its expression in colorectal cancer and its relation with different clinicopathological parameters can provides valuable information about its role in colorectal cancer progression and behavior.

Study Design: A retrospective study of 60 tissue samples of colorectal cancer.

Material and methods: Stanniocalcin 2 immunohistochemical expression was detected and evaluated in 60 cases of colorectal cancer tissue samples of formalin-fixed and paraffin-embedded blocks then statistical analysis was performed to assess the relation between its expression level and several clinicopathological parameters in the studied cases.

Results: A statistically significant relation between high level of Stanniocalcin 2 (STC2) immunohistochemical expression and tumor histological grade (p-value < 0.001), tumor depth of invasion (T-stage)(p-value=0.004), lymph node metastasis (N-stage) (p-value=0.001), tumor Dukes' stage (p-value < 0.001), the presence of lymphovascular invasion (p-value < 0.001), and perineural invasion (p-value < 0.001).

Conclusion: Stanniocalcin 2 overexpression in colorectal cancer is associated with more aggressive tumor behavior including: increased tumor invasion, higher histological grade, higher rate of nodal metastasis and increased incidence of lymphovascular and perineural invasions. These data suggest a potential role for STC2 as a predictive biomarker for tumor behavior in colorectal cancer patients.