

THE CORRELATION OF KLF4 EXPRESSION AND CELL ADHESION MOLECULES IN GASTRIC CANCER

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Klf4, transcription factor essential for the regulation of proliferation and differentiation of gastric epithelial cells, and cell adhesion molecules, E-cadherin and β -catenin, have a crucial role in gastric cancer invasion and metastasis. Considering the complex interactions between Klf4 and cell adhesion molecules, the aim of this research was to investigate the immunohistochemical profile and possible association of these proteins with clinico-pathological characteristics of gastric cancer. The tumors with good or moderate histological differentiation were more likely to express retained Klf4 expression ($p < 0.001$). Altered expression of Klf4 was found in 82.6% of the tumors, and significantly correlated with older age and lymph node metastases ($p = 0.046$, and $p < 0.001$, respectively). High E-cadherin expression was significantly associated with low histological grade and absence of nodal metastases ($p = 0.016$, and $p = 0.028$, respectively), while aberrant β -catenin expression was linked to advanced pathological stage, metastatic spread to regional lymph nodes, and younger age ($p = 0.027$, $p = 0.001$ and $p = 0.001$, respectively). In addition, strong correlation was found between Klf4 and E-cadherin expression ($p = 0.001$). The translation of the results acquired in molecular studies into the pathological practice is essential for establishing the potential diagnostic, prognostic, and therapeutic application of biomarkers. This study identified significant correlation between Klf4, and immuno-histochemical expression of cell adhesion molecules in gastric cancer tissue. Immuno-histochemical detection of altered expression of Klf4, E-cadherin, and β -catenin may suggest unfavorable prognosis of the disease and contribute to the selection of patients who require closer follow-up after surgery. *Acta Medica Medianae 2017;56(3):143-150.*

Key words: gastric cancer, Klf4, E-cadherin, β -catenin, immunohistochemistry