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Abberant Immunohistochemical Expression of OCT3/4 and EMT Related Markers, Vimentin and E-cadherin, is Correlated with Adverse Histopathological Features in Colorectal Adenocarcinoma

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Abstract
Background: Although clinical management for colorectal cancer has been markedly improved, it is faced with a growing incidence among the young and among those in developing nations. Furthermore, diagnosis occurs mostly in advanced stages, when the therapeutic resources are limited. Therefore we need new biomarkers for diagnostics and therapeutic targets. The key event that leads to invasion and metastasis is the epithelial to mesenchymal transition (EMT), which can be studied with IHC markers. We aimed to corelate the expression of EMT related markers (Vimentin and
E-cadherin) and a stem cell marker (OCT 3/4) with the clinicopathological parameters of the tumors.
Material and Methods: Surgical resection specimens from 30 treatment-naive colon cancer patients, hospitalized from 2018 to 2021 were assessed. Immunohistochemical tests were
performed to investigate the expression of EMT related markers and OCT 3/4 in tumor cells.
Results: Vimentin, OCT3/4 positivity and loss of E-cadherin were significantly associated with tumor grade, tumor budding, invasive tumor front, and lymph node metastasis.
Conclusions: Vimentin, E-cadherin and OCT 3/4 might serve as a panel of biomarkers that can aid in the prognostication of patients, with the added potential of being oncotargets.
Key words: colon adenocarcinoma, EMT, Vimentin, E-cadherin, OCT3/4, tumor budding, invasive tumor front