

Vascular Endothelial Growth Factor in Colonic Cancer, Ulcerative Colitis and Colonic Adenoma: An Immunohistochemical Study

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مكان وتاريخ النشر:

Macedonian Journal of Medical Sciences. 2014 Sep 15; 7(3):439-443

Abstract:

BACKGROUND: Colon cancer is one of the most common malignancies worldwide. Colonic adenoma and ulcerative colitis (UC) are important precancerous lesions. Vascular Endothelial Growth Factor (VEGF) is a well-known pro-angiogenic factor plays important role in physiologic and pathologic conditions and in neovascularization in cancer and hence becomes a potential target for anti-angiogenic cancer therapy.

AIM: This study investigated VEGF immunohistochemical expression in colon cancer and its precancerous lesions.

MATERIAL AND METHODS: Paraffin blocks from two hospitals were collected in a year: Colon cancer: 20 cases, colonic adenoma: 15 cases, UC: 15 cases and 5 controls from normal mucosa. VEGF was assessed immunohistochemically using a primary anti-VEGF antibody (VG1, Dako, Denmark).

RESULTS: Median age was 49 years (range 31-52) in cancer, 40 years (range 31-52) in adenomas and 33 years (range 27-43) in UC. VEGF expression was negative in control, significantly strongly positive in 90% of colonic adenocarcinoma ($p=0.001$), significantly positive in adenomas ($p=0.002$) - the weak positivity significantly seen in mild dysplasia ($p=0.001$) - and significantly positive in 73.3% of UC cases ($p=0.022$).

CONCLUSION: The significant increase in positivity of VEGF in precancerous to cancerous lesions may point to its potential role in the pathogenesis and progression of colonic neoplasia.