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Is VEGF related to psychosocial factors in patients with colorectal cancer

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Purpose: VEGF and psychosocial factors have been shown to have prognostic value in colorectal cancer. The aim of this study was to investigate the relationship between psychosocial variables and VEGF in patients with colorectal cancer.

Methods: A consecutive series of eligible patients undergoing elective resection for colorectal cancer were invited to participate. Standardized measures of various aspects of quality of life were administered 5-12 days before, and 6-8 weeks after, surgery and blood samples were obtained. Solid phase ELISA was used for VEGF analysis.

Results: One hundred and four patients with colorectal cancer were recruited. A significant correlation was found between pre-operative VEGF level and pre-operative depression ($r=0.227$, $p=0.03$), cancer-related concerns ($r=-0.273$, $p=0.009$) and positive affectivity ($r=-0.219$, $p=0.05$). Linear regression showed that cancer-related concerns was an independent predictor of pre-operative VEGF levels ($p=0.02$).

Pre-operative cancer-related concerns, global quality of life and pre-operative depression were correlated with post-operative VEGF ($r=-0.381$, $p=0.001$, $r=-0.264$, $p=0.005$, $r=0.333$, $p=0.003$). Linear regression showed that HADS depression ($p=0.005$) and cancer-related concerns ($p=0.002$) were independent predictors of post-operative VEGF levels.

Post-operative VEGF was significantly correlated with post-operative anxiety ($r=0.249$, $p=0.02$), depression ($r=0.289$, $p=0.01$), and functional wellbeing ($r=-0.242$, $p=0.03$). Linear regression showed that anxiety ($p=0.048$), depression ($p=0.013$) and functional wellbeing ($p=0.046$) independently predicted post-operative VEGF-A levels.

Discussion: Various psychosocial factors, particularly cancer-related concerns and depression, appear to be related to pre-operative and post-operative VEGF level in patients with colorectal cancer. Future prognostic studies involving VEGF should assess psychosocial variables and include these in a multivariate analysis of outcomes.