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Angiogenesis Markers After Chemoembolization of Liver Metastases in Patients with Neuroendocrine Tumour

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Aims: The aim of this study is to investigate angiogenesis activity after embolization by measuring of midregional pro-Adrenomedullin (proADM), C-terminal pro-Endothelin-1 (proET), vascular endothelial growth factor (VEGF) and endothelin-1 (ET). To examine necrosis activity MonoTotal (MT), a cytokeratin marker, was measured.

Methods: Between 2003 and 2008 12 patients (M/F: 6/6, age (mean ± SD): 59 ± 9 years) were treated with transcatheter embolization of whom blood was obtained before embolization and the days following this treatment during hospitalization. ProADM was detected on the Kryptor and proET levels were measured with an immunoassay (BRAHMS AG; Hennigsdorf, Germany). VEGF and ET were measured with ELISA kits (R&D Systems, Minneapolis, USA) and MT was measured with an IRMA-assay (IDL Biotech AB, Bromma, Sweden).

Results: From 12 patients 90 blood samples were obtained before and during 8 days after embolization. Mean (± SD) pretreatment proADM levels were 0.77 (±0.29) nmol/l. The follow-up samples showed no significant difference with pretreatment samples. Mean (± SD) pretreatment proET levels were 9.2 (± 7.0) pmol/l. An increase of proET levels was observed with the highest levels 6 days after treatment: mean ± SD: 40.8 ± 17.0 pmol/l (p=0.002, Bonferroni test). VEGF, ET and MT levels will be presented at the congress.

Conclusions: The increase of the endothelial growth factors shows that angiogenesis plays an important role after embolization. This indicates a need for the development of adjacent therapy.