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Overweight and obesity versus concentrations of VEGF-A, sVEGFR-1, and sVEGFR-2 in plasma of patients with lower limb chronic ischemia

Key words: Overweight, Obesity, Angiogenesis, Vascular endothelial growth factor, Soluble type-1 and type-2 receptors, Peripheral arterial disease

Research Summary

- Being overweight or obese comprises a significant risk factor for atherosclerosis. Fat tissue also generates factors stimulating angiogenesis, the process by which new blood vessels form. The purpose of this paper is to assess concentrations of the vascular endothelial growth factor A (VEGF-A) and its soluble type-1 and type-2 receptors (sVEGFR-1 and sVEGFR-2) in plasma of patients with peripheral arterial disease (PAD) depending on the level of nutrition according to body mass index (BMI).

Results and conclusions

- The group of patients with PAD co-existent with being overweight or obese tended to have higher mean concentration levels of VEGF-A and sVEGFR-2 when compared with patients suffering from PAD with normal BMI. A statistically significant positive correlation was obtained between BMI and average plasma concentrations of sVEGFR-2.

- A positive correlation determined between the level of antiangiogenic factor and BMI value may be indicative of the linearly growing prevalence of some antiangiogenic factors in patients with metabolic disorders – which may be one of numerous factors contributing to incomplete efficiency of collateral circulation development in patients with PAD.