

Martovytskyi Dmytro, Zaikina Tetiana, Koteliukh Mariia
Kharkiv National Medical University
Department of Internal Medicine No.2, Clinical Immunology and Allergology named after
academician L.T. Malaya
Kharkiv, Ukraine
Scientific advisor: Prof. Shelest O.M.

ASSESSMENT OF ANGIOGENESIS MARKERS IN PATIENTS WITH MYOCARDIAL INFARCTION DEPENDING ON THE PRESENCE OF OBESITY

Introduction: It is well known that risk angiogenesis factors such as insulin-like growth factor-1 (IGF-1) and endostatin play an important role in the course and risk stratification of myocardial infarction (MI). Presence of obesity can worsen the prognosis due to its harmful influence on the processes of angiogenesis.

The aim of the study: To estimate the markers of angiogenesis: IGF-1 and endostatin in patients with acute MI depending on the presence of concomitant obesity.

Materials and methods: 105 patients with acute MI were enrolled in the study (average age 64.6 ± 7.4 years), 55 of them with concomitant obesity. The control group consisted of 20 healthy persons. These groups were equivalent by sex and age. MI was diagnosed according to ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation (2017). Obesity was diagnosed according to guidelines of American association of clinical endocrinologists and American college of endocrinology for patients with obesity (2016).

Results: According to received data, in obese and non-obese patients with MI the levels of IGF-1 were significantly higher ($p < 0.05$) than in the control group. Moreover, in case of concomitant obesity levels of IGF-1 were statistically greater than in patients with normal body mass (180.64 ± 12.2 ng/ml and 128.76 ± 8.1 ng/ml accordingly, $p < 0.05$). In contrast to IGF-1 levels, levels of endostatin in obese patients were lower, than in non-obese (148.26 ± 6.04 pmol/l and 169.83 ± 8.39 pmol/l accordingly, $p < 0.05$).

Conclusions: The presence of obesity in patients with MI is associated with increasing of IGF-1 and lowering of endostatin levels that. The presence of obesity is also accompanied by a significant increase in the concentration of angiogenesis parameters, mainly due to IGF-1, which leads to natural myocardial revascularization in these patients, in contrast to patients without concomitant obesity.