Coronary Artery Disease, Acute Coronary Syndromes, Acute Cardiac Care –
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Association between serum osteoprotegerin levels and severity of coronary artery disease in patients with acute myocardial infarction

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Background: Osteoprotegerin (OPG), a glycoprotein of the tumor necrosis factor (TNF) superfamily is a main biomarker for vascular calcification.

Aim: We aimed to evaluate the association between serum OPG levels and extent of coronary lesions in patients with acute myocardial infarction (MI).

Methods: Consecutive patients hospitalized for an acute MI who underwent coronary angiography were included. SYNTAX score was calculated to assess the severity of coronary artery disease. The population was analysed in low (5 (3–6)), medium (11 (9–13)) and high (20 (18–23)) tertiles of SYNTAX score.

Results: Among the 378 patients included, there was a gradual increase in age, rate of diabetes, anterior wall location, and a reduction in left ventricular ejection fraction across the SYNTAX tertiles. OPG levels significantly increased across the tertiles (962 (782–1,497), 1,240 (870–1,707), and 1464 (1,011–2,129) pg/ml, respectively (p<0.001)). In multivariate analysis, OPG [OR (CI95%): 2.09 (1.31–3.32) p=0. 002], were associated with the high SYNTAX group, beyond hypercholesterolemia, CV history and creatinine.

Conclusion: We found an association between OPG levels and coronary lesions complexity patients with acute MI. Determining OPG levels in combination with an ischemia test could be used in the clinical setting for the early diagnosis of subclinical atherosclerosis.