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ASSOCIATION BETWEEN LIPOPROTEIN (A) AND CARDIAC TROPONINS IN PTCA PATIENTS

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Lipoprotein (a) [Lp(a)] promotes the development of atherosclerotic lesions. The aim of this study was to analyse the influence of high plasma Lp(a) concentrations on biochemical and clinical parameters recorded in patients undergoing percutaneous transluminal coronary angioplasty (PTCA) for stable or unstable angina. Methods : 213 patients underwent coronary angioplasty from the right femoral artery following insertion of an arterial sheath. In each patient, several anamnestic and clinical data were collected, and blood was drawn at baseline and 18 h after PTCA. Cardiac troponins I and T (cTnI and cTnT) and other biochemical parameters were measured in each sample. Results : The study population was subdivided into 3 groups according to Lp(a) concentration : < 0.3 (group I, n = 142), 0.3-0.6 (group II, n = 39) and > 0.6 g/L (group III, n = 32). The 3 groups were homogenous according to age, sex and anamnestic data. However, patients of group III had higher diameter stenosis at admission than those of group I [79 (SD:16) vs 72 (13) %, $p < 0.01$] and demonstrated higher residual stenosis after PTCA [30 (22) vs 21 (11) %, $p < 0.005$]. Patients of group III showed significantly higher basal levels of cardiac troponins than group I [cTnI : 0.5 (1.3) vs 0.1 (0.4) ng/ml, $p < 0.01$; cTnT : 0.06 (0.21) vs 0.01 (0.03) ng/ml, $p = 0.01$]. Significant differences between groups were also recorded for post-PTCA levels of cTnI [3.1 (5.4) vs 1.7 (3.5) ng/ml, $p < 0.05$], cTnT [0.19 (0.45) vs 0.048 (0.084) ng/ml, $p < 0.001$] and CK-MB [10.7 (21.1) vs 5.0 (5.9) ng/ml, $p < 0.01$]. Among acute phase reactants and lipids, significant differences between groups were seen for alpha-1 acid glycoprotein only. Conclusions : The patients with Lp(a) > 0.6 g/l demonstrated higher basal and post-PTCA levels of troponins. This suggests a failure in plaque stabilization which results in greater frequency of thrombus formation and downstream embolization, particularly during the intervention.