

RELATIONSHIP 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 cardiac marker levels in patients undergoing percutaneous transluminal coronary angioplasty (PTCA).

Methods : Anamnestic and clinical data were collected in 213 patients who underwent PTCA, and blood was drawn at baseline and 18 h after the intervention. 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 ± 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 $\mu\text{g/l}$, $p < 0.01$; cTnT : 0.06 ± 0.21 vs 0.01 ± 0.03 $\mu\text{g/l}$, $p = 0.01$). Significant differences between groups were also recorded for post-PTCA levels of cTnI (3.1 ± 5.4 vs. 1.7 ± 3.5 $\mu\text{g/l}$, $p < 0.05$), cTnT (0.19 ± 0.45 vs. 0.048 ± 0.084 $\mu\text{g/l}$, $p < 0.001$) and CK-MB (10.7 ± 21.1 vs. 5 ± 5.9 $\mu\text{g/l}$, $p < 0.01$).

Conclusions : Patients with Lp(a) > 0.6 g/l demonstrated higher basal and post-PTCA levels of troponins. This suggests a failure in plaque stabilisation which results in greater frequency of thrombus formation and downstream embolization, particularly during the intervention.