

AN ASSOCIATION DEMONSTRATED BETWEEN HOMO-CYSTEINE, CRP AND TROPONIN LEVELS IN PTCA PATIENTS

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Homocysteine (Hcy), an amino acid intermediate of methionine metabolism, is considered as a factor responsible for the development of atherosclerotic lesions and for premature coronary artery disease. Plasma Hcy was measured before the intervention in 98 patients who were submitted to percutaneous transluminal coronary angioplasty (PTCA). One objective of this study was to analyse the association between Hcy and the vitamins involved in its metabolism (vit. B12 and folate). Our aim was also to examine the relationship between Hcy levels and various biochemical parameters (acute phase reactants, lipids, cardiac markers) determined before and 24 h after PTCA. The study population was subdivided into 3 groups according to Hcy concentration: (10 (group I, $n = 43$), 10-15 (group II, $n = 44$) and $> 15 \mu\text{mol/l}$ (group III, $n = 11$). Folate levels regularly decreased from group I to group III, and significant differences were recorded between groups I and III [6.6 ± 2.5 (mean \pm SD) vs. 4.0 ± 3.4 ng/ml, $p < 0.05$]. In contrast, there were no significant differences for vit. B12 concentrations measured in the 3 groups. Among acute phase reactants (serum amyloid A, haptoglobin, α 1-acid glycoprotein, ultrasensitive CRP), only CRP showed significant differences between groups. Basal and post-PTCA CRP levels were higher in group III than in group I (9.0 ± 13.4 vs. 2.7 ± 2.8 mg/l, $p < 0.01$) and 18.4 ± 17.6 vs. 8.8 ± 8.1 mg/l, $p < 0.01$, respectively). Patients of group III showed significantly higher basal levels of cardiac troponins (cTnI and cTnT) than the others. In addition, the amplitude of the changes recorded during PTCA was, on average, 10 times greater in group III than in group I for the two markers. No differences between groups were recorded for total cholesterol, triglycerides, Apo A1, Apo B and Lp(a). In conclusion, the patients with Hcy levels $> 15 \mu\text{mol/l}$ demonstrated more important inflammatory response and cardiac troponin release during PTCA.