

Summary

Objectives. To analyze the predictive value of cardiac collagen metabolism "in vivo" in patients with myocardial infarction (MI) treated with percutaneous coronary intervention (PCI)

Design. 45 patients (age $66 \pm 8,27$) underwent biochemical analysis for cardiac collagen metabolism (groups A, B, C); 30 patients with their first MI were treated with successful PCI (group A; n= 30), group B (n=5) were MI patients with unsuccessful PCI. Group C were patients without MI (n=10), they underwent elective diagnostic coronary angiography only. The collagen metabolism was analyzed in acute and subacute MI phases by using of serum blood markers: the carboxy-terminal propeptide of type I procollagen (PICP), amino-terminal propeptide of type III procollagen (PIIINP) and carboxy-terminal telopeptide of type I collagen (ICTP). Furthermore, the ejection fraction (EF) and left ventricular end-diastolic volume maximal changes in the course of 6 months were measured by echocardiography.

Results. A significant increase of both PICP and PIIINP on day 4 following MI was detected. Furthermore, PICP and PIIINP level assessed on the 30th day was significantly higher in the PCI unsuccessful group versus successful. PICP level on day 4 above 110 ug/l and PIIINP level above 4 ug/l was significantly often found in the subgroup of patients with the EF improvement less than 10% or worsening and with significant left ventricular dilatation during 6 month follow-up. Cardiac catheterization itself does not affect collagen metabolism.

Conclusion. We concluded that collagen metabolism markers enable to study in vivo the MI healing and to predict left ventricular functional and volume changes.