

# THE CORRELATION BETWEEN SERUM SELENIUM LEVELS AND CARDIAC BIOMARKERS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Selenium plays an important role in the antioxidant defense of myocardium both by being a part of enzyme glutathione peroxidase and operating independently.

The **purpose** of this research was to establish relation between serum selenium levels and the biomarkers of cardiac injury in acute phase of myocardial infarction.

**Methods.** 42 patients with acute myocardial infarction (AMI) were examined, mean age  $61.82 \pm 7.65$  years; 11 women, 31 men. The amounts of troponin I (TnI, ng/mL) and creatine kinase-MB (CK-MB, U/L) were determined on admission and in 24 hours. Selenium (Se) level was measured by fluorometric method. All patients received standard therapy during first day of hospitalization.

**Results.** Se levels on admission and in 24 hours didn't significantly differ ( $0.225 \pm 0.03$  µg/mL and  $0.219 \pm 0.04$  µg/mL, respectively). Close correlation was established between initial Se levels and peak indexes of biomarkers: TnI ( $r=0.14$ ,  $p=0.006$ ), CK-MB ( $r=0.16$ ,  $p=0.004$ ). Also, a positive correlation was found between the peak amounts of biomarkers and the difference from initial to 24 h: TnI ( $r=0.09$ ,  $p=0.031$ ), CK-MB ( $r=0.07$ ,  $p=0.043$ ). At the same time, initial Se levels correlated negatively with the difference from initial to 24 h ( $r=-0.63$ ,  $p=0.002$ ).

**Conclusion.** Se levels in acute phase of AMI closely correlate with the peak amounts of cardiac biomarkers. Therefore, the changes of Se levels may interrelate with the extent of myocardial injury during infarction.