Annexin V does not Represent a Diagnostic Alternative to Myoglobin for Early Detection of Myocardial Infarction

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SUMMARY

Annexin V is a calcium binding protein, which is widely present in various cells and tissues. Due to an early release reaction after myocardial injury the determination of annexin V might be useful for the rapid diagnosis of acute myocardial infarction. An enzyme-linked immunosorbent assay was used to measure annexin V in comparison to myoglobin in samples from healthy individuals, patients suffering from acute or chronic liver, renal, and pulmonary diseases as well as acute coronary syndromes and aortocoronary bypass surgery. Increased myoglobin and annexin V concentrations were observed 80 and 140 (maximum) minutes after myocardial ischemia induced by percutaneous transluminal coronary angioplasty. For the diagnosis of myocardial infarction annexin V (cutoff-level: 5.9 \textmu g/L) showed a slightly higher sensitivity than myoglobin (annexin V: 74.5\%; myoglobin: 59.6\%), but specificity was much lower (annexin V: 39\%; myoglobin: 82.5\%). The area under the curve of a ROC analysis demonstrated that annexin V cannot be used as an early marker for the diagnosis of acute coronary syndromes. Increased annexin V levels are induced by several diseases, leading to a low specificity for the diagnosis of a myocardial injury. (Clin. Lab. 2002;48:517-523)