

DETECTION OF CIRCULATING PROTEINS AND MARKERS OF OXYGEN DEFICIT

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BACKGROUND: Persistent quest for cell response to a stress provoked by different origin, leads to investigation of models which can assure enough data. Heart tissue ischemic events with high prevalence of morbidity is one of the most research area. So far, troponin, along with CK-MB provides reliable information in diagnosis of acute myocardial infarction. Introduction of heat shock proteins (HSP70) as molecular chaperons of processes which prevent further cell integrity destruction, shows better view to a situation. This study was aimed to distinguish diagnosis and presuppose prognosis at patients admitted to emergency room (ER) with symptoms for acute coronary syndrome (ACS).

METHODS: Beside usually used parameters, samples of 200 patients were tested for troponins, myoglobin and HSP 70. Troponin and myoglobin were determined with ECLIA (ElectroChemiLuminiscenceImmunoAssay - Elecsys 2010) and HSP70 with ELISA (EnzymeLinkImmunoSorbentAssay) method. Estimated results for parameters determined at patients from ER were statistically compared to results received by testing samples from healthy blood donors as control group (C).

RESULTS: Presence of oxygen stress was confirmed as elevated level of HSP 70 at patients diagnosed with AIM (26,3 times-fold vs. C) and unstable angina (15,1 times- fold vs. C). Those results implicate that during this condition, cell engage mechanisms and processes for cell integrity protection and its components. In our opinion this is also confirmed with elevated reactive proteins level (8,5 times- fold vs C) and its regulation in a few weeks, if there is not any adverse events. In other experiment this can be supported by measuring number or level of cell involved in immune-response and production of specific antibodies which can help laboratory workers and physicians in modeling the protocols.

CONCLUSIONS: The results of this study fulfill expectation in diagnostic and prognostic value of HSP70 and further treatment of patients suffering ACS. Due to long lasting procedure and compare to results received for the troponins, our suggestions goes to use of specific proteins as diagnostic parameters at very first moment. HSP determination has its importance in follow up of the patients suffering ACS.