



Misdiagnosis of the acute coronary syndrome due to false positive troponin level; the role of cross-reacting heterophile antibodies

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In daily clinical practice, criteria for diagnosing acute coronary syndrome (ACS) are clinical presentation and patients' symptoms, changes in the electrocardiogram and elevated troponin level. Troponin I and T are the most specific and the most sensitive biomarkers of myocyte damage which have in the last two decades taken precedence over isoenzyme CK-MB. Although elevated troponin level is mostly associated with myocardial ischemia caused by coronary atherothrombosis, it can also be elevated in different conditions such as long-term tachyarrhythmia, reversible prolonged vasospasm, myocarditis, electrocardioversion, cardiac surgery, sepsis, chronic renal failure, stroke, pulmonary embolism, etc. Also, in some cases significantly elevated troponin level is found in patients without ACS as a result of analytical interference which includes heterophile and human anti-animal clot antibodies or microparticles in the analysed blood sample, hemolysis, lipemia, etc. Cross-reacting heterophile antibodies are produced against incompletely defined antigens. Those antibodies can occur as a result of vaccinations, blood transfusions, exposure to different animal antigens (pets, veterinary profession), etc. According to literature data, their prevalence is very wide; from less than 1% to as much as 80%. When there is a suspicion of a false positive troponin level, a close collaboration between clinicians and biochemical laboratory staff is needed. It is important to highlight that in the cases of false positive troponin level because of circulating cross-reacting heterophile antibodies, the obvious dynamics of troponin as in ACS is not present, but the level is fixed at a plateau showing only small oscillations. Through the presentation of two cases from our clinical practice¹, we want to make clinicians aware of the possibility of false-elevate troponin level due to analytical interference² caused by cross-reacting heterophile antibodies in order to avoid unnecessary procedures and overtreatment of these patients and „patients“.

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LITERATURE |||||

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