

CASE REPORT

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Elevation of troponin values in differential diagnosis of chest pain in view of pulmonary thromboembolism

Određivanje vrednosti troponina pri diferencijalnom dijagnostikovanju bola u grudima sa stanovišta pulmonarne tromboembolije

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Abstract

Introduction. Acute coronary syndrome, as unstable form of ischaemic heart disease, beside clinical presentation and electrocardiographic abnormalities, is characterized by increased value of troponin one of cardiospecific enzymes. Although troponin is a high specific and sensitive indicator of acute coronary syndrome, any heart muscle injury may induce its increasing, so there are some other diseases with the increased troponin value. **Case report.** We presented a female patient with chest pain, admitted because of suspicion of acute coronary syndrome. Performed coronarography excluded ischemic heart disease. Considering symptomatology, electrocardiographic abnormalities, increased troponin and D-dimer values, as well as echocardiography finding we considered pulmonary embolism as a differential diagnosis, which was confirmed by pulmoangiography. **Conclusion.** Isolated increased troponin values are not enough for diagnosis of acute coronary syndrome.

Key words:

coronary disease; diagnosis, differential; pulmonary embolism; chest pain; troponin I.

Apstrakt

Uvod. Akutni koronarni sindrom, kao nestabilni oblik ishemijske bolesti srca, pored kliničke slike i elektrokardiografskih promena, karakteriše i porast vrednosti jednog od kardiospecifičnih enzima – troponina. Ipak, bez obzira na to što je troponin visokospecifičan i senzitivni indikator akutnog koronarnog sindroma, svako oštećenje srčanog mišića može dovesti do njegovog porasta, pa postoji određen broj drugih bolesti gde se posledično javljaju povišene vrednosti troponina u perifernoj krvi. **Prikaz bolesnika.** Prikazana je bolesnica hospitalizovana zbog bolova u grudima i sumnje na akutni koronarni sindrom. Urađena je koronarografija kojom je isključeno postojanje ishemijske bolesti srca. S obzirom na simptomatologiju, promene u EKG-u, pozitivne vrednosti troponina i D-dimera, kao i ehokardiografski nalaz, diferencijalno dijagnostički razmatrana plućna embolija, koja je dokazana pulmoangiografijom. **Zaključak.** Povišene vrednosti srčanog troponina ne mogu izolovano obezbediti dijagnozu akutnog koronarnog sindroma.

Ključne reči:

koronarna bolest; dijagnoza, diferencijalna; pluća, embolija; bol u grudima; troponin I.

Introduction

Any cross-striated muscle fiber is composed of several hundred to several thousand myofibrils, each of which contains 1,500 myosin and 3,000 actin filaments. Actin filament is composed of three different protein components: F-actin, tropomyosin and troponin (Tn). Troponin achieves its physiological role in controlling the contraction of cardiac and skeletal muscle thanks to its structure, since it consists of three loosely related protein subunits: troponin I (TnI), tro-

ponin T (TnT) and troponin C (TnC)¹. Cardiac troponins (cTnT and cTnI) highly sensitive and specific indicators of myocardial damage, because it leads to the increase of troponins in peripheral blood only 3 to 4 hours after the necrosis of cardiac muscle cells, reaching a maximum within 12 to 24 h, and after that it returns to the initial value in 7 to 10 days² (cTnI < 0.01 ngmL⁻¹ – laboratory Clinical Center Kragujevac).

In addition to troponin as markers of cardiac damage creatinine phosphokinase (CK) and its isoenzyme CK-MB

