

Diagnostic and prognostic value of Troponin I in acute pulmonary embolism

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Abstract

Objective: To determine the value of cardiac troponin I (cTnI) in identifying the right ventricular dysfunction and severity of pulmonary embolism and its correlation to the inhospital outcome.

Design: Randomized prospective study.

Setting: Department of critical care medicine, Cairo university.

Patients: A total of 30 critically- ill patients with acute pulmonary embolism.

Interventions: None.

Methods: patients diagnosed as acute pulmonary embolism by V/Q scan or CT pulmonary angiography were enrolled in the study, All patients undergone quantitative Troponin I level and D-dimer level., Echocardiography, resting ECG, ABG, Chest X ray.

Results: Among the 30 patients with cTnI measurements, 9 (30%) had abnormally elevated values. All of them had RVD > 2.5cm. , indicating that positive cTnI tests were significantly associated with RVD ($p = 0.000$). The elevated cTnI was not significantly correlated with elevated SPAP ($p = 0.192$). Regarding thrombolysis 9 patients (30%) received thrombolytic therapy and 3 of them (33%) with elevated cTnI. The hospital stay was more than one week in 88.9% of these patients. Mortality was 10% in the patients studied (3 patients) and 66.6% of them had elevated cTnI.

Conclusions: cTnI was elevated in 30% of patients with pulmonary embolism and is significantly associated with RV dilatation. cTnI measurements provide additional information in the evaluation of patients with PE by identifying cases at increased risk of mortality, and prolonged hospital stay.

Keywords: *Acute pulmonary embolism, Troponin I, RV dilatation.*