Serum Myoglobin in Pulmonary Embolism

To The Editor:

N. Kucher and S.Z. Goldhaber discuss the potential role of cardiac troponins and brain natriuretic peptides in the risk stratification of patients with acute pulmonary embolism (APE). Increased levels of cardiac troponins indicate myocardial damage in an overloaded right ventricular myocardium. Interestingly, right ventricular infarctions were reported in patients who died from massive APE and in survivors with angiographically normal coronary arteries. Myoglobin, a highly sensitive marker of myocardial injury, can be elevated after myocardial damage, even before any detectable rise of cardiac troponin levels occurs. However, to our knowledge, measurement of serum myoglobin levels has not been evaluated in APE. Therefore, we checked the prevalence and prognostic significance of elevated serum myoglobin levels in 46 patients with major APE. Our study showed that on admission, myoglobin serum concentrations are elevated in 45% of APE patients. All 7 in-hospital deaths occurred in the group with elevated serum myoglobin, and in one fatal case, cardiac troponin T measured simultaneously was negative. Moreover, elevated serum myoglobin was a significant predictor of fatal outcome (odds ratio 25, 95% confidence interval 1.3 to 474.2). We think that both cardiac troponins and myoglobin, a biochemical marker of myocardial injury, are powerful predictors of increased risk of fatal outcome in major pulmonary embolism.

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