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Title: Prognostic role of cardiac troponins and simplified pulmonary embolism severity index in patients with normotensive pulmonary embolism

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Body: The new, high-sensitivity troponin T (hsTnT) assay may improve risk stratification of normotensive patients with acute pulmonary embolism (PE). Simplified Pulmonary Embolism Severity Index (sPESI) has shown prognostic accuracy. We aimed to investigate whether risk stratification by cardiac troponin testing improves the prediction of clinical outcomes in patients with a sPESI. The primary end point of the study was adverse 30-day outcome, defined as death from any cause or nonfatal recurrent venous thromboembolism or nonfatal major bleeding. 18 (14.9%) adverse events within 30 days diagnosis of PE. The sPESI classified 76 patients (62.8%) to the high-risk category (≥ 1 point[s]). Of patients with low sPESI, had hsTnT ≥ 0.014 pg/mL was 14 (31.1) patients. Low sPESI and hsTnT < 0.014 had occurred non-fatal hemorrhage in a patient. The adverse event rate rose from 0% in patients with sPESI ≥ 1 or positive hsTnT, and further to 14% in those with hsTnT ≥ 0.014 pg/mL + sPESI ≥ 1 . The adverse event rate rose from 1.6% in patients with sPESI ≥ 1 or positive cTnT, and further to 12.4% in those with cTnT ≥ 0.01 pg/mL + sPESI ≥ 1 . Of the 121 study patients, the hsTnT ≥ 0.014 + sPESI ≥ 1 point(s) had a higher sensitivity, and a higher negative predictive value than the cTnT ≥ 0.01 + sPESI ≥ 1 point(s) combinative model for predicting 30-day adverse outcome in the study. In conclusion, cardiac troponin testing may not be required for the minority of patients with a low sPESI but it does not add prognostic information. Risk stratification with the combination of sPESI and cardiac troponin may also serve for aggressive PE treatment strategies.