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Title: Acute exacerbation of COPD is associated with three-fold elevation of cardiac troponin T

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Body: Several studies have shown that elevated levels of cardiac troponin T (cTnT) in patients hospitalised for acute exacerbation of chronic obstructive pulmonary disease (AECOPD) is associated with dismal prognosis. The aim of the present study was to compare cTnT in patients hospitalised for AECOPD with cTnT among chronic obstructive pulmonary disease (COPD) patients in stable state. The index group (N=50) were hospitalised due to AECOPD. They had a confirmed diagnosis of COPD before admission to the hospital. The references (n=124) were recruited from a hospital for pulmonary rehabilitation. They all had COPD in a stable state. High-sensitivity cTnT was measured within the first day of admission for AECOPD. The cumulative tobacco consumption in the index group and the references was 43 and 33 pack-years, respectively. Similarly the FEV₁/FVC-ratio in the index group and the stable state was 40 % and 47 %, respectively. The geometric mean of hs-cTnT in the index group was 25.8 ng/L (95 % confidence interval (CI): 21.1 – 31.7) compared with 4.5 ng/L (95 % CI: 3.7 – 5.5) in the reference group. Multiple linear regression analyses showed that the ratio between hs-cTnT in AECOPD-patients and the references was 3.40 (95 % CI: 2.30 – 5.02) and that hs-cTnT increased 1.34-fold (95 % CI: 1.16 – 1.54), 1.24-fold (95 % CI: 1.07 – 1.44) and 1.14-fold (95 % CI: 1.00 -1.29) for each quartile increase in leucocyte count, age and creatinine, respectively. A significant univariate association between cTnT and arterial hypoxemia was also found but this association attenuated almost to a zero-effect after inclusion of relevant covariates. AECOPD is associated with elevation of hs-cTnT compared to stable COPD.