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Systemic inflammation induced by exacerbation of COPD or pneumonia in patients with COPD cardiac troponin elevation**Vidar Soyseth***Akershus University Hospital, Norway*

Statement of the Problem: Troponin is a biomarker of myocardial injury. In chronic obstructive pulmonary disease (COPD), troponin is an important determinant of mortality after acute exacerbation. Whether acute exacerbation of COPD (AECOPD) causes troponin elevation is not known. Here, we investigated whether troponin is increased in AECOPD compared to stable COPD.

Methodology & Theoretical Orientation: We included 320 COPD patients in the stable state and 63 random individuals from Akershus University hospital's catchment area. All participants were ≥ 40 years old (mean 65.1 years, SD 7.6) and 176 (46%) were females. The geometric mean of high-sensitivity cardiac troponin T (hs-cTnT) was 6.9 ng/L (geometric-SD 2.6). They were followed regarding hospital admission for the subsequent five years.

Findings: During the 5-year follow-up, we noted 474 hospitalisations: Totally, 150 and 80 admissions were due to AECOPD or pneumonia, respectively. The geometric mean ratio with geometric standard error (gse) between cTnT at admission and stable state in AECOPD and pneumonia was 1.27 (gse = 1.11, $p = 0.023$) and 1.28 (gse = 1.14, $p = 0.054$), respectively. After inclusion of blood leucocyte count and CRP at hospitalisation, these ratios attenuated to zero. However, we estimated an indirect of AECOPD and pneumonia on the ratio between hs-cTnT at admission and the stable state to 1.16 ($p = 0.022$) and 1.22 ($p = 0.008$), representing 91 (82 – 100) and 95 (83 – 100) % of the total effects, respectively (95 % confidence intervals in parentheses).

Conclusion & Significance: AECOPD and pneumonia in COPD patients is associated with higher cardiac troponin T levels. This association appears to be mediated by systemic inflammation.

Biography

Vidar Soyseth is a professor, affiliated with the Akershus University Hospital, University of Oslo Norway. He is a Norwegian Physician, researcher, Member of European Respiratory Society, Norwegian Medical Association and his research interests are Pulmonary Medicine.