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Title: The utility of echocardiography in elderly smokers with COPD and of spirometry in elderly smokers with CHF

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Body: In spite of sharing common risk factors, in particular cigarette smoking, and aetiological substratum like low-grade systemic inflammation, chronic obstructive pulmonary disease (COPD) and chronic heart failure (CHF) have been studied mostly separately. We investigated the coexistence of left ventricular dysfunction in COPD patients and of airway obstruction in CHF patients. Patients aged ≥ 50 years and with ≥ 10 pack/years of cigarette smoking presenting with a diagnosis of stable COPD (n=70) or stable CHF (n=124) were recruited. All COPD patients underwent routine echocardiographic assessment and Nt-pro brain natriuretic peptide (BNP) measurements, and all CHF patients underwent routine spirometry. Also, plasma levels of high sensitivity C reactive protein (hs-CRP), interleukin (IL)-6, IL-1 β and its decoy receptor (IL-1RII), and pentraxin 3 (PTX3) were determined by using a sandwich enzyme-linked immunosorbent assay in all patients and in 24 healthy smokers. We did not detect ventricular dysfunction in COPD patients, whereas the occurrence of airway obstruction among CHF patients was 34%. COPD patients had higher plasma levels of hs-CRP and IL-1 β as compared with CHF and healthy subjects (p<0.001) after adjusting for possible confounders. None of the inflammatory biomarkers was different between CHF patients and controls. COPD coexists frequently in CHF patients; routine spirometry therefore seems to be worth in CHF subjects. COPD outpatients showed a low-grade systemic inflammation, but not left ventricular dysfunction. Supported by the Ministry of Health and CFR.