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Title: The relationship of comorbidities with clinical and physiological parameters in COPD

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Body: Chronic obstructive pulmonary disease (COPD) is defined as a systemic inflammatory disease. Systemic inflammation can start certain comorbidities or increase their severity. This study aims to assess the relationship of comorbid diseases with clinical and physiological parameters. The study enrolled 115 patients (15 female, 100 male) who are on regular follow-up in COPD outpatient clinic. In each patient the presence of cardiovascular disease (hypertension, coronary artery disease, arrhythmia, heart failure), hyperlipidemia, cachexia, malignancy, diabetes, osteoporosis, anxiety disorder, depression, obstructive sleep apnea, and anemia was questioned. The most frequent diseases were hypertension, coronary artery disease, and hyperlipidemia (43,9%, 39,6%, 27,4%, respectively). Cardiovascular diseases were more common in those with a FEV1 percent below 50 ($r=0,10$; $p<0,05$). Hypoxemia level was related to heart failure in COPD patients ($r=0,014$; $p<0,05$). In patients with a high Charlson Comorbidity Index (CCI) coronary artery disease ($r=0,032$; $p<0,05$) hyperlipidemia ($r=0,00$; $p<0,001$), diabetes ($r=0,00$; $p<0,05$), anemia ($r=0,019$; $p<0,05$) were more common. In patients with a high COPD assessment test (CAT) hypertension ($r=0,051$; $p<0,05$) was more prevalent. As a conclusion, disease stage and hypoxemia level are related to concomitant cardiovascular system diseases. A more than expected deterioration in general health status is observed in COPD patients with comorbidities.