Conference Abstract Free

Impact of comorbidities on the deterioration of skeletal muscle dysfunction among COPD patients

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Abstract

Introduction: Coexisting COPD with comorbidities may affect disease course and prognosis. Skeletal muscle dysfunction (SMD) is one of these disorders that contribute to exercise intolerance, poor health status in patients and could be deteriorated because of the other comorbidities.

Aims: Our study aimed to evaluate the role of comorbidities in the deterioration of SMD among COPD patients.

Methods: We examined 181 COPD patients (170 men) in Ukraine and Poland. We evaluated muscle quantity using bioelectric impedance analysis (percentage of muscle tissue, fat-free mass index (FFMI) and skeletal muscle index (SMI)), muscle strength – using hand-grip dynamometry, physical performance – using gait speed by 6-minute walk test, presence of comorbidity – using Charlson Comorbidity Index (CCI).

Results: Mean age 69.9±10.6 years, FEV1 46.1±14.4%PW, FEV1/FVC ratio 59.7±18.0%PW, Charlson Comorbidity Index 2.6±1.4 ($p<0.001$). The bivariate Pearson correlation analysis showed moderate negative correlation between CCI and gait speed ($r=-0.412$ ($p<0.001$)) and weak negative correlation with SMI ($r=-0.22$ ($p=0.004$)) and with hand-grip strength ($r=-0.33$ ($p<0.001$)). There was no significant correlation between CCI with percentage of muscle tissue and FFMI.

Conclusions: The prevalence of comorbidity among COPD patient was high and was associated with reduced muscle strength, muscle quantity and low physical performance. Therefore, the presence of comorbidities leads to the deterioration of SMD among COPD patients.

Footnotes

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