Conference Abstract Free

Skeletal muscle dysfunction among COPD patients in Eastern Europe

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Abstract

Introduction: Skeletal muscle dysfunction (SMD) is characterized by loss of muscle cells and abnormal function of the remaining cells. Detecting patients with low muscle strength in the early stages could help to prevent complications.

Aims: Our study aimed to determine prevalence of low muscle strength and SMD among COPD patients and clinical features of these patients.

Methods: We examined 181 COPD patients (170 men) in Ukraine and Poland. Mean age 69.9±10.6 years, FEV1 46.1±14.4%, FEV1/FVC ratio 59.7±18.0%, Charlson Comorbidity Index 2.6±1.4. We evaluated muscle quantity using bioelectric impedance analysis, muscle strength – using hand-grip dynamometry, physical performance – using gait speed by 6-minute walk test, life quality – using St. George's respiratory questionnaire, symptoms – using CAT test.

Results: SMD was present in 93 patients (51.4%) (sever sarcopenia was present in 26 patients among them (14.4%)), low muscle strength – in 15 patients (8.3%). Persons with low muscle strength had significantly higher CAT score than ones without muscle damage (21.0±9.7/15.5±6.2 (p−0.02)). Comparing to patients without muscle damage, patients with SMD had significantly worse, life quality (60.6±16.4/52.6±15.0 (p−0.004)), CAT score (19.4±7.4/15.5±6.2 (p−0.002)), FEV1 (41.6±17.8/52.3±15.6% (p<0.001)), FEV1/FVC ratio (55.0±17.8/65.6±16.7% (p−0.006)) and had lower fat-mass index (5.7±4.5/9.7±7.3 kg/m2 (p<0.001)).

Conclusions: Isolated low muscle strength was present in every twelfth COPD patient that had more severe symptoms. SMD affected half of the COPD patients had worse lung function, exercise capacity, symptoms, life quality and the lowest containing of body fat.

Footnotes

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