[Abstract:0484] MS-100 [Accepted: Oral Presentation] [COPD]

Are Comorbidities Related to Frequent Severe Exacerbations of COPD?

Deniz Doğan Mülazimoğlu, Sümeyye Ayöz, Bilge Bilgin, Fatma Çiftçi, Elif Şen

Department of Pulmonology, Ankara University School of Medicine, Ankara, Turkey

Objectives: Chronic obstructive pulmonary disease (COPD) often coexists with other diseases that can significantly impact the prognosis of patients with COPD and comorbidities are frequent in patients hospitalized for COPD exacerbation. This study aimed to investigate the relationship between frequent severe AECOPD and level of comorbidities defined by Charlson comorbidity index (CCI).

Methods: Consecutive patients admitted to the pulmonary diseases department and hospitalized for AECOPD were included into the study between May-December 2018. Exacerbation history, admissions to emergency department (ED), hospitalizations for AECOPD in the last one year, pulmonary function tests, comorbidities (CCI scores), smoking history, long term oxygen therapy (LTOT), medications have been recorded. Frequent Severe AECOPD defined as two or more severe COPD hospitalizations occurring within 1 year prior to admission, secondary outcomes were one or more severe AECOPD during year preceding admission and 1 or more ED visits or hospitalizations during year preceding admission.

Results: Ninety-two COPD patients (12 F, 80 M) were enrolled in this study. The baseline characteristics. The ROC curve analysis to determine the appropriate CCI cut-off point for predicting frequent severe exacerbations can't reach the statistical signficance in any cut-off point of CCI score. Therefore, a secondary ROC curve analysis has been performed to determine the CCI level for one or more severe AECOPD during year preceding admission. We found CCI≥1.5 had area under the curve of 0.648 (p=0.015) (95% CI 0.535-0.762) with a sensitivity of 67% and a spesifity of 55%. Patients were grouped into high CCI level (CCI≥1.5) and low CCI level (CCI<1.5). High CCI level group had significantly higher rate of one or more severe COPD during year preceding admission (33% vs 16%, p=0.03) and this high CCI level group patients had no difference from low CCI level group for frequent severe AECOPD (23% vs 14%, p=0.46) and 1 or more ED visits or hospitalizations (33% vs 20%, p=0,24). High CCI group mean FEV1 (p=0,04) was lower, mean total number of exacerbations (p=0,04), moderate exacerbation number during year preceding admission (p=0.007) were higher than the low CCI group. High CCI patients have been high rate of LTOT (32% vs 13%, p=0.01) and NIMV use at home (13% vs 2%, p=0.01).

Conclusion: High comorbidity burden identified by CCI was not related to frequent severe AECOPD. However it has been related to the increased risk of severe and moderate AECOPD. This group of patients had more severe airway obstruction, need of home oxygen and NIMV use.

Keywords: COPD, Comorbiditiy, Charlson comorbidity index, severe COPD exacerbation