Abstract Group: 1.1. Clinical Problems

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Title: Impact of age-related comorbidities on the risk of COPD exacerbations in subjects with severe airflow limitation: A pan-European study

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Body: Background: Comorbidities are found in COPD subjects, but their impact on COPD exacerbations has received little attention. Methods: Stable COPD patients with severe airflow limitation (FEV1%≤60% pred) were recruited in this pan-European, cross-sectional, observational study, as previously reported (Kessler et al. Eur Resp J 2011;37:264-72). Patient classification was performed using a hierarchical cluster analysis based on the results of a principal component analysis of age, body mass index(kg/m2), FEV1(%pred), dyspnea(mMRC scale) and number of physician-diagnosed comorbidities (left heart failure, diabetes, sleep apnea, ischemic heart disease and depression). Cluster relevance was established using numbers of COPD exacerbations and hospitalizations due to exacerbation within the previous year. Results: Data are median [IQR]. 2476 COPD subjects (men 79%; age 68[61-75]yr; FEV1 42[40-56]% pred) were analyzed. Prevalence of cardiovascular comorbidities and obesity increased with older age, but was unrelated to GOLD grade or GOLD 2012 stage. Four clusters of patients were identified, including two clusters with median FEV1 48% pred and two clusters with median FEV1 33% pred. Clusters with similar FEV1 differed on age (median difference 10yrs between clusters with similar FEV1). Risk of exacerbations and hospitalizations among clusters increased with more severe airflow limitation and with older age. Conclusion: Risk of COPD exacerbations and hospitalizations increased with increasing airflow limitation and with higher prevalence of cardiovascular diseases and obesity, which correlated with older age. Analysis funded by AstraZeneca.