

European Respiratory Society Annual Congress 2012

Abstract Number: 3099

Publication Number: P895

Abstract Group: 4.2. Sleep and Control of Breathing

Keyword 1: Sleep disorders **Keyword 2:** Spirometry **Keyword 3:** No keyword

Title: Prevalence of obstructive airway disease in patients with obstructive sleep apnea

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Body: Introduction: Obstructive airway disease (OAD; mainly chronic obstructive pulmonary disease and asthma) and obstructive sleep apnea (OSA) are common diseases, but data on prevalence of OAD in OSA are scarce. We aimed to assess the prevalence of OAD in patients with OSA. Methods: Medical records of all patients who underwent diagnostic polysomnography in University Clinic Golnik from 2005 to 2010 were retrospectively reviewed. Only patients with available pulmonary function tests were included (89% of all). Patients were divided in two groups: controls (apnea-hypopnea index – AHI < 5) and OSA patients. OAD was defined as FEV1/FVC<70%. Results: Out of 865 patients 718 (83%) had OSA (80.5% men, age 53.2+/-10.4y, BMI 34.3+/-6.8, AHI 41.8+/-24.9) and 147 (17%) were controls (69.4% men, age 50.5+/-12.3y, BMI 30.2+/-6.7, AHI 2.4+/-1.7). Prevalence of OAD was 141 (19.6%) in OSA and 27 (18.4%) in controls, p=0.723. In those with OAD, OAD was first diagnosed in sleep laboratory in 83 (58.9%) of OSA patients and in 8 (29.7%) of controls, p=0.005. There was no difference between groups regarding FEV1/FVC (64.1+/-7.4% vs. 62.5+/-6.7%, p=0.293) and FEV1% predicted (75.8+/-20.1% vs. 72.9+/-19.4%, p=0.485). Severe airway obstruction (FEV1<50% predicted) was present in 17 (12.1%) OSA patients and in 3 (11.1%) controls, p=0.890. In multivariate logistic regression adjusted for age, sex, BMI and chronic heart failure (CHF), age (OR 1.07, CI 1.05-1.09), male gender (OR 0.47, CI 0.26-0.80), and CHF (OR 2.13, CI 1.14-3.98) predicted OAD in OSA. Conclusions: OAD was common and underdiagnosed in OSA patients, which probably warrants screening for OAD in OSA patients. Higher age, female gender, and CHF predicted OAD in OSA.