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Title: Pulmonary hypertension in COPD: Prevalence and characteristics

Daniela 23552 Gologanu gologanu@gmail.com MD ¹, Ioana 23553 Ion ioana.i.ion@gmail.com MD ¹, Marius 23554 Balea marius.balea@gmail.com MD ¹, Poliana 23555 Leru polianaleru@yahoo.com MD ¹, Simona 23556 Caraiola scaraiola@yahoo.com MD ¹ and Cristina 23557 Stanescu dr_stanescuc@yahoo.com MD ¹.

¹ Internal Medicine, Colentina Clinical Hospital, Bucharest, Romania .

Body: Background: Pulmonary hypertension (PH) is a common complication in COPD; its prevalence is unknown due to low accessibility of right heart catheterization. Aim: To evaluate the prevalence of PH in COPD patients (pts) and define the characteristics of this group. Methods: retrospective study including 66 consecutive COPD pts hospitalised in our department. Spirometry, peripheral oxygen saturation, hematocrit, echocardiography, history of exacerbations and comorbidities were obtained from patients records. PH was defined as systolic pulmonary arterial pressure (sPAP) greater than 35 mmHg. Results: Among 66 COPD pts studied, mean age was 67 years and GOLD stages were: II - 26 pts, III - 15 pts, IV - 22 pts. Only 33 pts had undergone echocardiography. Among them, mean age was 68, GOLD stages were II - 11 pts, III - 7 pts, IV - 15 pts. PH was found in 12 pts (36,4 %). Mean FEV1 was 46,4 % in COPD pts without PH and 36,9% in pts with PH (p=0.07). PH resulted in right ventricular(RV) enlargement in 9 out of 12 pts; these particular COPD pts had lower mean FEV1 (37 %) than pts with PH without RV enlargement (56 %)(p = 0.02). More severe PH was found in 7 pts; the mean FEV1 was 37,2% versus 36,7 % in pts with moderate versus mild PH. No significant association between PH and GOLD stage, FEV1, polyglobulia, COPD exacerbation or basal SpO2 were found. Conclusions. The prevalence of PH in our COPD pts was 36,4 %, probably overestimated, as echocardiography was performed mostly in pts with higher GOLD stage. No significant associations between PH and GOLD stage, FEV1, polyglobulia, COPD exacerbation or basal SpO2 were found. RV involvement due to PH seems to occur mostly in pts with more severe obstructive disease.