



## COPD and heart rhythm disturbances: Overview of supraventricular and ventricular arrhythmias

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### Abstract

We aimed to investigate the association between COPD and heart rhythm disturbances and their relation to the severity of airflow limitation. Cross-sectional study, including 220 patients with stable COPD as investigated group (IG), aged 40-75 years and 58 non-COPD subjects, matched by gender, age, BMI, smoking-status, as control group (CG). All study subjects underwent pulmonary evaluation, resting-ECG, 24-hour-ECG-Holter monitoring. Results presented statistically significant difference between presence of atrial fibrillation (AF) in IG 49(22.3%) vs. CG 2(3.4%) ( $p<0.05$ ). There was a significant linear positive correlation between AF and GOLD stage ( $R=0.173$ ;  $p<0.05$ ). With decrease of FEV1(GOLD1→GOLD4), the frequency of AF increased significantly. Four ventricular rhythm disturbances were processed: bigeminy, couplets, polymorphic ectopic ventricular beats (PEVB) and un-sustained ventricular tachycardia (UVT). There was no significant association between subgroups of IG and bigeminy and IG 18(8.2%) vs. CG 4(6.9%) ( $p=0.25$ ). With decrease of FEV1(GOLD1→GOLD4), the frequency of couplets increased significantly. Results presented statistically significant difference between presence of PEVB in IG 21(9.5%) vs. CG 0(0.0%) ( $p=0.01$ ). The presence of UVT was not registered in GOLD1, in GOLD2 2(3.2%), GOLD3 2(3.8%), GOLD4 2(4.1%). There was no significant association between subgroups of IG and UVT (Fisher-Freeman-Halton test:  $p=0.9$ ). Results presented statistically significant difference between presence of PEVB in IG 6(2.7%) vs. CG 0(0.0%) ( $p=0.07$ ). As a conclusion, there is an urgent need to develop strategies for detection and early treatment of life-threatening arrhythmias in COPD patients.

[COPD](#) [COPD - management](#) [Comorbidities](#)

### Footnotes

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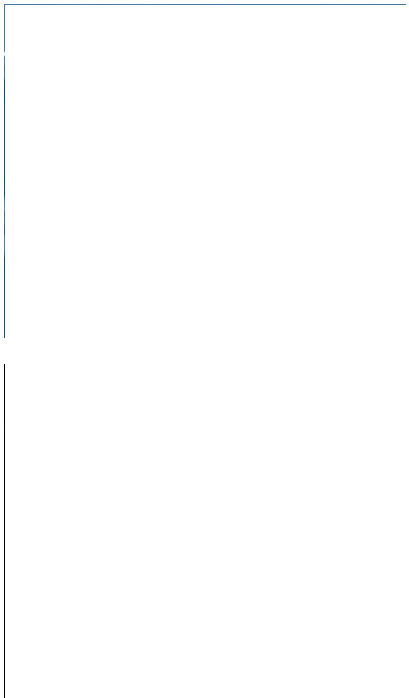
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