

OVERVIEW OF ECG ANALYSIS IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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We aimed to investigate the association between COPD and electrocardiography (ECG) abnormalities and their relation to the disease severity.

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 sinus tachycardia with decrease of FEV1(GOLD1→GOLD4), the frequency increased significantly, 29(59.18%) in GOLD4 vs. 8(14.04%) in GOLD1, $p=0,00001$. Higher prevalence of atrial fibrillation (AF) was detected in GOLD4, 15(30.61%) vs. 6(10.53%) in GOLD1, with no statistically significant difference, $p=0,0668$. AF was present in IG in 49(22.3%) patients vs. CG 2(3.45%) with clinically significant difference ($p<0.05$). With decrease of FEV1(GOLD1→GOLD4), the frequency of P - pulmonale increased significantly, $p=0,00001$. There was no significant association between subgroups of IG and the presence of Right Bundle Branch Block (RBBB), but there was clinically significant difference between IG 26(11.82%) vs. CG 3(5.17%), $p<0.05$. Right axis deviation presence increased significantly with decrease of FEV1(GOLD1→GOLD4), $p=0,0221$.

As a conclusion, ECG abnormalities are present even in the early stages of the disease. (GOLD 1, 2). Cardiovascular assessment in COPD patients is an urgent need to develop strategies for detection and early treatment.