

Risk of Cardiovascular Comorbidity in Patients with Chronic Obstructive Pulmonary Disease

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ABSTRACT

The most prevalent chronic pulmonary illness is chronic obstructive pulmonary disease (COPD). The incidence of cardiovascular disease (CVD) in COPD patients is more than those without COPD and worsening their prognosis. This state is still unclear widely in Mosul city. The purpose of this study was to assess the percentage of CVD occurrence in COPD patients and identify the most common cardiovascular condition that coexists with COPD in Mosul. Additionally, investigate the connection between the severity of COPD and the existence of these cardiovascular comorbidities. From November 2024 to March 2026, a cross-sectional study was carried out. Fifty five COPD patients of both sexes, aged 45 years and more, included in this study. They were attendees to pulmonary counseling unit at Ibn –Sena Teaching Hospital complaining from dyspnea and/or cough and or expectorations of sputum. All these patients were formerly proved as COPD due to spirometry report pre and post-bronchodilator and had been subjected to the clinical and baseline collecting data. The study showed 84% of COPD patients had cardiovascular disease and 91% of them were hypertension. The two CVDs and more group had a significant lower Post-FEV1% predicted and Post-FEV1/FVC ratio means (43 vs 54) (50 vs 59) respectively than one CVD group. There were significant positive correlation between FEV1/FVC ratio and echo ejection fraction ($r=0.51$, $p=0.00$) as well as resting O₂% ($r=0.60$, $p=0.00$). The frequency of CVDs and the post-FEV1/FVC ratio showed a significant negative connection ($r = -0.35$, $p = 0.01$). There were a significant negative correlation between duration of COPD and echo ejection fraction ($r=-0.30$, $p=0.05$) in addition to resting O₂% ($r=-0.43$, $p=0.01$). In Mosul, individuals had established COPD exhibited a high prevalence of CVDs. Hypertension frequently observed as a cardiovascular condition, followed by ischemic heart disease. Patients had moderate COPD were more expected to have a single CV comorbidity, whereas those had severe COPD were more likely to present with two or more cardiovascular diseases. These results demonstrate the intimate connection between COPD severity and cardiovascular involvement and recommended cardiovascular assessment in patients with early established COPD.

Keywords: Chronic Obstructive Pulmonary Disease, COPD and CVD, cardiovascular disease.

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