

Fayoum University
Faculty of Medicine
Chest Department



**Predictors of progression of renal functions
in
Patients with Chronic Obstructive
Pulmonary Disease (COPD)**

Thesis

Submitted for partial fulfillment of Master Degree of Chest
diseases and Tuberculosis

By

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الدراسات العليا

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Title of Thesis: Predictors of Progression of renal functions in patients with chronic obstructive pulmonary disease (COPD)

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ABSTRACT

- COPD patients have a higher risk of developing CKD than the general population. [Chen and Liao 2016]. Age, diabetes, arterial hypertension and overweight are the most common risk factors for new onset of CKD. The pathogenesis of CKD includes atherosclerotic damage, due to activation of pro-inflammatory and pro-oxidant pathways leading to pathologic changes in renal circulation. [Pelaia, 2020] Pulmonary cells can produce many cytokines, reach the systemic circulation and target other organs, and can also produce inflammatory effects.[Barnes, 2009] Chronic obstructive pulmonary disease (COPD) is a common, preventable and treatable disease that is characterized by persistent respiratory symptoms and air flow limitation that is due to air way and/or alveolar abnormalities usually caused by significant exposure to noxious particles or gases. {Gold 2022} , Pulmonary cells can produce many cytokines, reach the systemic circulation and target other organs, and can also produce inflammatory effects.[Barnes, 2009)

Aim of the study: To Predict the impairment of renal functions in Patients with Chronic Obstructive Pulmonary Disease(COPD). The study was carried out during the period from March 2022- February 2023 on one hundred patients with COPD during their follow up in the outpatient clinic or admission at the chest department, Fayoum University hospital. All patients in this study will be subjected to full medical history, clinical examination, BMI, spirometry, chest x-ray, blood pressure, glycated hemoglobin, fasting plasma glucose (FPG), 2 h postprandial glucose , triglycerides, total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL), albumin, creatinine, uric acid, eGFR, and urine analysis .

Results:1-There was a colleration between FEV1 and Creatinine in COPD patientsduring the study. (P: 0.019). (P<0.05)

2-There was no significant colleration between uric acid and FEV1 (P: 0.359) or with COPD class (P:0.477)

3-There was no significant statistical correlation between FEV1 or classes of COPD patients as regard (eGFR) (P:0.095 , 0.554). (P<0.05) respectively.

Conclusion: -COPD patients have a higher risk of developing CKD than normal populations that can be assessed by multiple methods including laboratory assessment of serum creatinine, uric acid, albumin and eGFR .

-serum creatinine (S.cr) can be routinely used to detect and evaluate the renal injury In COPD patients