Evaluation of the relationship Between inflammatory factors (IL6, TNFa, HS.Crp) and secondary pulmonary Hypertension in patients with COPD:
A Cross sectional study

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Abstract

**Background:** Inflammatory mechanism appears to play a major role in pathogenesis of various type of human pulmonary hypertension such as idiopathic PAH (iPAH) and PAH associated" with connective tissue disease. Although we know that inflammatory factors such as IL6 and TNFa have an important role in IPAH but there are limited information about the relationship between acute phase reactants and pulmonary hypertension occurring secondary to pulmonary diseases such as chronic obstructive pulmonary diseases (COPD).

**Methods and material:** This cross-sectional study was carried out on 94 patients who had COPD. Patients with a recent history of, systemic steroid and ASA use, infection, trauma or surgery, and gastrointestinal bleeding, CAD and Hypertension were excluded. Body plethysmography and trans thoracic echocardiography were done. Blood sample of each included patients was drawn and sent for complete blood count (CBC), IL6, TNFa and Hs.CRP.

**Results:** Twenty patients (28.6%) had pulmonary hypertension. The difference between the mean IL6 and Hs.CRP in patients with and without pulmonary hypertension was significant too (7pg/ml vs. 4.4pg/ml and 13.04pg/ml vs. 3.31pg/ml) (p= 0.006 and p=0.000). There was a correlation between IL6 and mean pulmonary arterial pressure ($r = 0.35$, $p=0.003$). After adjustment for age, sex, serum Hemoglobin, Hematocrit, O2Sat, FEV1, FVC the relationship between the IL6, Hs.CRP and the present of pulmonary hypertension remained significant ($p=0.022$, $p=0.026$).

**Conclusion:** Inflammatory factor such as IL6, Hs.CRP is a independent risk factor for pulmonary hypertension in COPD patients

Key words: COPD, Pulmonary hypertension, inflammatory factors