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The possible development of pulmonary hypertension is a well-known complication in the course of chronic obstructive pulmonary disease and is described as secondary pulmonary hypertension.

Pulmonary hypertension well lead to right ventricular systolic dysfunction and subsequent right sided failure or the so called core-pulmonal, such complication have to be recognized because they are potential candidates for specific therapies aiming at reducing pulmonary vascular resistence.

PHT due to COPD was estimated by right heart catheterization which is invasive, risky method, so there is a need for simple, non invasive method to estimate PAP.

Doppler echocardiography was used as a non in vasive, simple method to estimate PAP through measurment of tricuspid regurge velocity but the proplem is that tricuspid regurge is not present in all patient with COPD, so still we need another simple, non invasive method to estimate PAP.

Tissue Doppler imaging emerged as anew simple method to assess PAP.

-Our study search for assessment of PAP in patients with COPD by tissue Doppler parameters.

This study carried out on fifty patient known to have COPD and twenty healthy persons as a control group. All patients included in the study were subjected to full history taking, complete general and local examenation of the heart, chest and abdomen, twelve lead resting ECG. Routine laboratory investigations including: Fasting and 2 hours post

prandial blood sugar level, urea, creatinine, AST, AIT, PT, cholesterol, triglycerides, HDL, LDL and uric acid- echocardiographic examination was done using M mode 2-D, conventional Doppler echocardiography, tissue Doppler imaging.

Exclusion Criteria:

1-Hypertension.

2-Valvular heart disease.

3-Atrial fibrillation.

4-Coronary artery disease.

5-Pulmonary Embloism, Pulmonary infarction .

6-Left ventricular dysfunction.

7-Bundle branch block.

8-Regonal wall motion abnormalities

9-Patients taking long term oxygen theoapy.

10-patient receiving long a cting theophyllin.

All patients were assessed by Doppler echocardiography and tricuspid regurge was estimated in 23 patients where right a trial pressure was estimated and added to transtricuspid gradient by using modified Bernoli equation pulmonary artery pressure was measured.

23 COPD patient were found to have pulmonary hypertension and classified as group I and 27 COPD patients where tricuspid regurge was not present classified as group II.

Tissue Doppler were conducted on lateral tricuspid annulus and found that as regards to systolic TDi parameters systolic myocardial velocity (Sm), and velocity time integral of sm (smVTi) were lower in pulmonary hypertension group than patients with out pulmonary hypertension.

That is not all but also there was a negative correlation between Sm, SmVTI, and estimated pulmonary artery systolic pressure (PASP) and as regards to diastolic TDi parameters, IVRTm values were higher in group I than group II or control group and there was highly significant positive correlation between IVRTm and PASP.

Em, Em/Am, were found to be lower in group I with pulmonary hypertension, Am, DTm, ICTm were similar in both groups .

This study had found that in COPD patients with pulmonary hypertension tissue Doppler parameters (Sm, SmVTI) were in negative correlation while IVRTm was in positive correlation with the degree of pulmonary artery pressure, also Em, Em/Am values were found to be lower in patients with pulmonary hypertension in comparison with patients with out pulmonary hypertension and control group.