Abstract:
Studying Electrocardiography and Echocardiography findings, serum level of IL6 and serum level of ProBNP in COPD patients.

Background:
Chronic obstructive pulmonary disease (COPD) is a major cause of chronic morbidity and mortality throughout the USA and more than sixteen million patients involved in this illness. Serum level of IL6 in the patients with COPD is increased and also IL6 can predict the amount of morbidity and mortality in these patients. Serum of ProBNP is useful for predicting the amount of morbidity and mortality in these patients. Serum level of ProBNP in COPD patients can indicate the heart failure and pulmonary hypertension in COPD patients. The purpose of this study was to study Electrocardiography, Echocardiography, serum level of IL6 and ProBNP in COPD patients.

Materials and methods:
This descriptive study was carried out in patients who came to Kosar center of Ardebil. With symptoms and spirometry, lung specialist diagnosed Chronic obstructive pulmonary disease for them, after primary inspection, we filled CAT questionary and other questionaries about history of patient. For each patient we did Electrocardiography and Echocardiography and measured serum level of IL6 and ProBNP. In this study carried out on 82 COPD patients and because of the lack of competition of some patients, only 69 patients had Electrocardiography and Echocardiography.

Results:
In this study 27 patients (32.9%) were female and 55 patients (67.1%) were male. 29 patients (35.4%) were in the range of 46-60 years old and 53 patients (64.3%) were older than 60 years old. 4 patients (5%) were in GOLD stage I and 33 patients (40%) were in GOLD stage II and 31 patients (38%) were in GOLD stage III and 14 patients (17%) were in GOLD stage IV. 30 patients (44.92%) had low voltage in ECG, 7 patients (10.14%) had ST section changes in ECG, 20 patients (28.98%) had minus T changes in V1-V6 IN ECG, 4 patients (5.8%) had RVH in ECG, 31 patients (45.92%) had Poor R progression, 20 patients (28.98%) had mild RA enlargement and 11 patients (19.4%) had moderate RA enlargement and 14 patients (20.3%) had severe RA enlargement in ECG. 3 patients (4.3%) had TR in echocardiography, 1 patient (1.4%) had mild PAP (25-34.99 mmHg) and 1 patients (1.44%) had moderate PAP (35-44.99 mmHg) and 1 patient (1.44%) had severe PAP (>45 mmHg). There was no significant difference between the average serum level of IL6 and blocking airways severity (P=0.128). There was no significant difference between the average level of ProBNP and blocking airways severity (P=0.633). There was no significant difference between the average serum level of IL6 and two groups with and without IHD (P>0.05). There was significant difference between the average heart rate in rest time and blocking airways severity (P=0.029). There was no significant difference between the average of RV enlargement and blocking airways severity (P=0.951). There was no significant difference between the average of LVEF and blocking airways severity (P=0.662). There was slight significant difference between the average right axis deviation and blocking airways severity (P=0.093).

Conclusion:
In this study electrocardiographic findings in COPD patients were mild, echocardiographic finding in mild to moderate COPD patients were few and serum level of IL6 and ProBNP in blocking airways severity in this study were not effective.

Key Words: Chronic obstructive pulmonary disease (COPD), IL6, ProBNP.