



# International Congress on Biological, Physical And Chemical Studies

*International Congress on Biological, Physical And Chemical Studies - is an international conference platform under open access policy. The conference is led by international expert members who take an objective approach to peer review, ensuring each research paper is reviewed, edited by authors and evaluated on its own scholarly merits and research integration. Publishing and joining on the proceeding of the International Congress on Biological, Physical And Chemical Studies will ensure publishing experience and indexing possibilities on various global indexing.*

## Various Hemodynamics of Chronic Heart Failure Role of Aldosterone in Assessment of Fibrosis Processes

**R. K. Karakhanov**

Tashkent Medical Academy Termiz branch, Uzbekistan

**The purpose of the study:** Studying the role of aldosterone in the evaluation of fibrosis processes in different hemodynamic types of chronic heart failure (CHHF)

**Materials and styles.** The study included 60 patients with CHHF developed against the background of ischemic heart disease. Patients were divided into 3 groups according to clinical and echocardiography (Echo) results. The first group consisted of 16 people (average age  $64.85 \pm 1.2$  years, 10 men and 6 women, II FG-7, III FG -9) with left ventricular ejection fraction (LVEF) ( $<40\%$ ) low CHHF, the second group 20 (average age  $63.05 \pm 1.7$  years, 14 men and 6 women, II FG-9, III FG-11) LVEF (41-49%) intermediate CHHF, in the third group 24 people were included (average age  $64.7 \pm 1.3$  years, 14 men and 10 women, II FG-12, III FG -12) LVEF ( $>50\%$ ) patients with CHHF were included in the study. The diagnosis of CHHF was based on the criteria of the European Association of Cardiology. In all group of patients who suffer from CHHF to measure fibrotic processes developed in the myocardium, aldosterone levels were used as an immunoenzymatic test. The statistical analysis of the obtained data is carried out by using the MS Excel (2016) program.

**Results.** Aldosterone level in the patients included in the study was 4.1 times higher than the reference value in group 1 (358.5 pg/ml), 5.6 times higher in group 2 (490.7 pg/ml) and 6.1 times higher in group 3 (528.3 pg/ml).

Additionally, when analyzing the correlation between the amount of aldosterone and central parameters of hemodynamics, weakly positive correlation was found between aldosterone and thickness of the posterior wall of the left ventricle ( $r=0.20$ ,  $r=IE$ ), and convincing strong negative correlation was found with LVEF ( $r=-0.70$ ;  $p<0.001$ ). In group 2 patients, aldosterone was found to be positively correlated with end diastolic size of the left ventricle (EDSLV), end-diastolic volume of the left ventricle (EDVLV) and end-systolic volume of the left ventricle (ESVLV) (respectively  $r=0.35$ ,  $r=0.39$ , and  $r=0.35$ ,  $p<0.01$ ), and weak positive with posterior wall of left ventricle (PWLV) ( $r=0.23$ ,  $r=IE$ ), convincing moderate positive with left ventricular myocardial mass index (LVMMI) (respectively  $r=0.31$ ,  $p<0.05$ ) and a convincing moderate negative correlation with LVEF ( $r=0.37$ ;  $p<0.01$ , respectively). In group 3 patients, aldosterone was revealed to have convincing moderate positive correlation with BWLV (respectively  $r=0.33$ ,  $p<0.05$ ), interventricular septum thickness (IVST) ( $r=0.31$ ,  $p<0.05$ ), LVMMI ( $r=0.44$ ,  $p<0.001$ ) and the relative thickness of the left ventricle end diastolic wall ( $R=0.38$ ;  $p<0.01$ ).

**Summary.** In patients with LVEF intermediate and preserved CHHF, compared to patients with low LVEF and CHHF, levels of aldosterone, considered a marker of fibrosis is found to be significantly higher statistically than the reference values, and in some patients concentric remodeling and hypertrophy of the left ventricle resulted in the accumulation of excess collagen in the extracellular matrix and the acceleration the process of fibrosis and myocardial hardening and results are consistent with the conclusion of previous studies.