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Serum endotrophin levels in heart failure patients with reduced ejection fraction; a preliminary study

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Introduction: Endotrophin, a type VI collagen cleavage product, induces fibrosis, insulin resistance and has tumour-promoting effect. Collagen VI plays a role in cardiac fibrosis. In this study, we aimed to investigate the role of endotrophin in the pathogenesis of cardiac fibrosis by determining its levels in heart failure patients with reduced ejection fraction. We also aimed to determine the possible association between endotrophin and treatment that prevent ventricular fibrosis.

Materials and Methods: Sixty heart failure patients with reduced ejection fraction and twenty-seven volunteers with no cardiac failure were included in this study. In both groups, complete blood count, creatinine, triglyceride, total cholesterol, low density lipoproteins cholesterol, high density lipoproteins cholesterol, glucose, ejection fraction and endotrophin levels were measured. Body mass indexes were calculated. In the determination of Endotrophin levels Enzyme-Linked Immuno Sorbent Assay (ELISA) was performed.

Results: There was no significant difference between the patient and the control groups in endotrophin levels (p:0.35). Participants in the study were divided into three groups according to their ejection factions: 30% and less, 30-50% and >50% (the control group). These three groups were again divided into two groups, seperately according to usage of renin-angiotensin-aldosterone system blocking drugs. In %30-50 EF Group (p:0.04) and >50% EF Group (p: 0.03), endotrophin levels were significantly statistically lower in patients using renin angiotensin aldosterone system blockers than the patients not using renin angiotensin aldosterone system blockers.

Conclusion:This study is the first study evaluating the relationship between endotrophin and heart failure in the literature. Endotrophin levels were found to be low in the patients using the renin-angiotensin-aldosterone system blockers with heart failure. This may suggest that renin-angiotensin-aldosterone system blockers may affect endotrophin levels and it could have a role of remodelling prevention.