Plasma Connective Tissue Growth Factor (CTGF) Would Be a Novel Potential Biomarker of Atrial Structural Remodeling in Patients with Atrial Fibrillation

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Purpose: We hypothesized plasma CTGF concentration would be a biomarker for clinical AF. Methods: The study population consisted of consecutive 64 patients with minimal structural heart disease. They were divided into two groups; 1) SR (sinus rhythm, n=6), and 2) AF (n=58, chronic AF n=13, and paroxysmal AF n=45). The AF group was further divided into two subgroups with and without ARB or angiotensin converting enzyme inhibitor (ACEI). The clinical characteristics and plasma CTGF concentrations, which were evaluated by ELISA, were compared.

Results: The plasma CTGF concentration in total population was 0.653 ± 0.091 ng/mL and tended to be higher in AF group than SR group (SR vs. AF groups: 0.450 ± 0.091 vs. 0.674 ± 0.101 ng/mL, p=0.328). ARB/ACEI was administered in 33/58 AF patients (56.9%). Plasma CTGF concentration tended to be lower in the AF with ARB/ACE-I group than the AF without ARB/ACE-I group (AF+ARB/ACEI vs. AF-ARB/ACEI groups: 0.583 ± 0.083 vs. 0.794 ± 0.206 ng/mL, p=0.198). Conclusions: It might be speculated plasma CTGF concentration would be a novel biomarker for AF and this increase would be suppressed by ARB/ACEI in clinical patients with AF.

Keywords: connective tissue growth factor, angiotensin receptor blocker, atrial fibrillation