

Soluble ST2 and GDF15 biomarkers analysis in atrial fibrillation.

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Abstract

Objective: Atrial fibrillation (AF) is a common and clinically relevant supra-ventricular arrhythmia which represents an independent risk factor for development of heart failure as well as for ischemic stroke. Clinical management of this pathology can be still challenging in many patients, in particular the older ones and/or those which present comorbidity. The interest in biomarkers for diagnosis and management of the AF becomes more evident in recent years. We studied the possible role of the soluble sST2 and the GDF15 as biomarkers to stratify the risk of patients with persistent or permanent AF. Method: The serum concentrations of these biomarkers have been measured in a group of 58 patients (mean age 83.6 ± 6.0 years) and in a control set of 40 individuals. Results: The mean serum concentration of sST2 is 22.6 (18.85-25.35) ng/mL in the AF group, while in the control is 17.25 (15.7-18.9) ng/mL (p<0.05). The corresponding data for the GDF15 are 1579 (975-3213) pg/mL and 850 (438-1234) pg/mL, respectively. Remarkable differences have been obtained for the two subsets of patients with persistent and permanent AF (sST2: (23 (21.2-24) ng/mL vs 30 (28.6-32) ng/mL, GDF15: 1347 (837-3320) vs 1931 (1238-3178)). The analysis has been completed with a trans thoracic echocardiographic exam to evaluate the left atrium size and the left ventricular ejection fraction. The results have been discussed to enhance the correlation between the instrumental and laboratory results. Conclusions: The present study suggests a possible clinical valuable role of the two biomarkers considered to refine the stratification risk in patients as the cohort here studied. A comparison between the two biomarkers is presented and discussed. The main pathological conditions that could increase the biomarkers are evaluated.

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Running Title: Biomarkers analysis in atrial fibrillation.

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Compliance with Ethical Statement

Conflict of interest.

The authors declare that they have no conflict of interest.

Statement of human and animal rights .

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional or national research committee and with the

Helsinki Declaration of 1975, as revised in 2000. This article does not contain any studies with animals performed by any of the authors.

Informed consent.

Informed written consent was obtained from the patients and control group individuals included in this study.

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