

## Title

In Elderly Patients with Permanent AF the Left Ventricle Contractility is Influenced by Ventricular Response Rate but not by other AF Characteristics

## Authors

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## Introduction

Over 90% of patients with permanent atrial fibrillation(AF) have organic heart disease. Up to 40% of patients with heart failure (HF) have AF. The purpose of this study is to assess whether parameters defining AF determine the occurrence of HF.

## Methods

The study group consisted of 125 geriatric patients aged over 65 years diagnosed with permanent AF. Clinical, echocardiography and electrocardiography details were analysed. Patients were divided according to the presence of HF diagnosis.

## Results

B-type natriuretic peptide (BNP) levels were higher in group of patients with HF (677.3+/-1048.8 vs 191.9+/-137.3 pg/mL; p=0.014). Creatinine was higher in the patients diagnosed with HF (1.17+/-0.48 vs 0.98+/-0.26 mg%, p=0.006). Ejection fraction (EF) was lower in the group of patients with HF and in both groups slightly reduced (52.4+/-12.5 vs 57.4+/-4.7 %; p=0.006). There was no statistically significant difference in left atrium and ventricular dimension, width of QRS complex between patients with and without HF. The patients with HF more often have chronic kidney disease (p=0.002).

The prevalence of hypertension, diabetes mellitus and ischemic heart disease did not differ between the both mentioned group of patients.

In whole study group a moderate negative correlation of the EF and heart rate (HR) ( $r=-0.42$ ;  $p<0.05$ ) was revealed (Figure). There were no such correlations with maximum and minimum RR interval.

## Conclusions

In patients with permanent AF the left ventricle contractility is influenced by ventricular response rate but not other AF characteristics. The presence of HF are also determined by parameters such as BNP, EF or CKD.

