

## Risk factors for heart failure hospitalizations among patients with atrial fibrillation

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### BACKGROUND

Patients with atrial fibrillation (AF) have an increased risk for the development of heart failure (HF). In this study, we aimed to detect predictors of HF hospitalizations in an unselected AF population.

### METHODS

The Basel Atrial Fibrillation Cohort Study is an ongoing observational multicenter cohort study in Switzerland. For this analysis, 1193 patients with documented AF underwent clinical examination, venous blood sampling and resting 12-lead ECG at baseline. Questionnaires about lifestyle and medical history were obtained in person at baseline and during yearly follow-up phone calls. HF hospitalizations were validated by two independent physicians. Cox regression analyses were performed using a forward selection strategy.

### RESULTS

Overall, 29.8% of all patients were female and mean age was  $69 \pm 12$  years. Mean follow-up time was  $3.7 \pm 1.5$  years. Hospitalization for HF occurred in 110 patients, corresponding to an incidence of 2.5 events per 100 person years of follow-up. Independent predictors for HF were body mass index (HR 1.40 [95% CI 1.17; 1.66],  $p = 0.0002$ ), chronic kidney disease (2.27 [1.49; 3.45],  $p = 0.0001$ ), diabetes mellitus (2.13 [1.41; 3.24],  $p = 0.0004$ ), QTc interval (1.25 [1.04; 1.49],  $p = 0.02$ ), brain natriuretic peptide (2.19 [1.73; 2.77],  $p < 0.0001$ ), diastolic blood pressure (0.79 [0.65; 0.96],  $p = 0.02$ ), history of pulmonary vein isolation or electrical cardioversion (0.54 [0.36; 0.80],  $p = 0.003$ ) and serum chloride (0.82 [0.70; 0.96],  $p = 0.02$ ).

### CONCLUSIONS

In this unselected AF population, several traditional cardiovascular risk factors and arrhythmia interventions predicted HF hospitalizations, providing potential opportunities for the implementation of strategies to reduce HF among AF patients.

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