

No need to treat atrial fibrillation. An unexpected perspective.

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Abstract

Heart failure and atrial fibrillation are often associated. Both conditions share pathophysiology and risk factor; as an example, atrial fibrillation may be regarded as either the ‘cause’ or the ‘consequence’ of heart failure. If coexistent, they are associated to very poor outcome. With this in mind, finding effective therapy for patients presenting with both heart failure and atrial fibrillation remains of paramount importance. There are also little evidence of the role and benefit of surgical atrial fibrillation ablation concomitant to heart surgery (i.e., coronary or valve surgery).

No need to treat atrial fibrillation. An unexpected perspective.

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Commentary to: ‘*Effect of Concomitant Surgical Atrial Fibrillation Ablation in Patients with Reduced Left Ventricle Ejection Fraction: A Propensity-Score Matching Analysis*’

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Abstract

Heart failure and atrial fibrillation are often associated. Both conditions share pathophysiology and risk factor; as an example, atrial fibrillation may be regarded as either the ‘cause’ or the ‘consequence’ of heart failure. If coexistent, they are associated to very poor outcome. With this in mind, finding effective therapy for patients presenting with both heart failure and atrial fibrillation remains of paramount importance. There are also little evidence of the role and benefit of surgical atrial fibrillation ablation concomitant to heart surgery (i.e., coronary or valve surgery).

The interplay between atrial fibrillation (AF) and heart failure (HF) has been well documented (1). Both AF and HF are responsible for high morbidity, mortality and also associated with enhanced healthcare cost (2). Patients with concomitant AF and HF suffer from even worse symptoms and poorer prognosis (2). Nevertheless, the role of both surgical and transcatheter atrial fibrillation ablation in patients with reduced left ventricle function and HF needs further clarification.

Rimac and colleagues investigated the effect of SAFA in patients with reduced left ventricle ejection fraction (3). Data from 682 patients with pre-operative AF who underwent cardiac surgery were prospectively collected and analysed. Of the note, only patients who had isolated coronary artery bypass grafting, valve surgery or combined valved and coronary surgery were included in the study cohort. Outcomes of interest were all-cause mortality (primary outcome) and rehospitalization for HF (secondary outcome).

Energy sources for the surgical ablation included cryoablation, monopolar radiofrequency and bipolar radiofrequency ablation.

In order to reduce in between groups clinical differences a propensity score matching was performed resulting in 291 patients after matching (132 and 159 for the SAFA and control group respectively). Interestingly, SAFA was not associated to reduced post-operative AF and lower all-cause mortality at 30 days. Moreover, concomitant SAFA did not result in improved survival over a mean follow-up of 6 year not reduced the incidence of rehospitalization for HF. Finally, concomitant SAFA was not related to adverse event.

Authors tried to fill a gap in the literature since there are little evidence on the benefit of atrial fibrillation ablation in the context of reduced left ventricle function as demonstrated by different trials (4-6).

Why this neutral finding?

There can be several explanations for that.

First and foremost, due to both baseline patients and surgical heterogeneity such as persistent and permanent AF, different energy sources utilized for SAFA, left atrial appendage technique etc. Importantly, data for completeness of surgical lesions sets could not be retrieved.

Secondly, as acknowledged by the Authors, the study bears the limitations of any retrospective research. As a result of that, rhythm assessment could not be carried out, nor the adherence and effects of antiarrhythmic medications.

Lastly, propensity score matching technique while can balance observed baseline covariates between groups, do little to balance unmeasured characteristics and confounders (7). Unlike controlled randomized trial, matching has the caveat that unmeasured covariates may lead to biased results.

A final word of caution. While the Authors have to be commended for this interesting and original study, I believe that these neutral results should not undermine the value and the potential of surgical ablation. Perhaps, prospective or randomized controlled studies are needed to further clarify the role of SAFA in the context of reduced left ventricle function.

Glossary

AF= Atrial fibrillation

HF= Heart failure

SAFA= Surgical ablation for atrial fibrillation

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