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Atrial Fibrillation Catheter Ablation in Congestive Heart Failure

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Editorial

Congestive heart failure (CHF) is emerging as one of the new, larger epidemics, due to its continuously increasing prevalence [1]. The improvement in Interventional treatments for coronary artery disease, along with the pharmacological and non-pharmacological therapies for CHF, are contributing in increasing life expectancy in patients with structural heart disease, leading however to an increased prevalence of patients requiring treatment on the long run for CHF [2].

Atrial fibrillation (AF), the most common cardiac arrhythmia, is even more frequent in patients affected by CHF, as the negative structural remodeling in cardiac chambers leads to left atrial (LA) dilation and fibrosis, providing the basis for AF occurrence and perpetuation [3]. Moreover, pharmacological antiarrhythmic options in patients with CHF are very limited, as these patients often suffer from adverse events related to antiarrhythmic drugs, and amiodarone is the only safe and effective drug [4].

In this setting, AF catheter ablation emerged during the last decade as a safe and effective option for rhythm control. The first studies showed encouraging results in term of short-term efficacy in sinus rhythm (SR) maintenance, but most of all reported a significant improvement in left ventricular function, symptoms and functional class among patients experiencing stable SR during follow-up [5-7]. Noteworthy, the procedure was safe, when performed in high-volume, experienced centers, and the incidence of serious complications did not differ compared to general population. The same results have been reported on the long-term outcome: the improvement in left ventricular function, mitral regurgitation and functional class persist after catheter ablation, later confirmed by a large meta-analysis [8-11].

Subsequently, the ATAAC-AF study reported improved clinical outcome, including improved SR rate and hospitalizations for CHF, for AF ablation compared to amiodarone therapy in patients with an implanted device and ejection fraction <40%, providing the basis for proposing AF ablation as a first-line alternative to amiodarone for rhythm control in CHF patients [12]. These results were included in most recent guidelines, in which AF ablation is proposed as an alternative to amiodarone according to physician's and patient's choice [13].

Recently, the CASTE-AF preliminary results have been presented, describing a significant reduction in overall mortality, cardiovascular mortality and hospitalizations in patients treated by AF catheter ablation compared to antiarrhythmic drugs, opening a new window on the strong benefits of stable SR obtained by ablation in CHF patients [14]. Similar results, but concerning only left ventricular function, have been reported by the CAMERA-MRI study [15].

These data show that AF ablation is the only effective rhythm control strategy that holds the potential to improve survival in CHF patients suffering from paroxysmal or persistent AF. The continuous technological improvements in Interventional Electrophysiology tools and techniques will help to further improve the safety and efficacy of this treatment, even among "difficult" subset populations, such as patients suffering from CHF.

In conclusion, AF catheter ablation is safe, and is the most effective therapeutic option for rhythm control in patients with CHF. Due to the frequent adverse events following amiodarone treatment, this option should always be at least evaluated as a first-line alternative to pharmacological treatment, especially among center's with large experience in catheter ablation.

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