

## EDITORIAL

# Left Atrial Volume to Predict the Recurrence of Atrial Fibrillation in Patients Treated with Catheter Ablation

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Atrial fibrillation (AF) is a cardiac condition that may cause severe complications, eventually leading to the death of the patient. As the disease progresses, fibrillation periods become more frequent and last longer. Patient outcomes show a strong correlation with the duration of each episode, and persistent AF responds increasingly poorly to antiarrhythmic medication.<sup>1</sup> Therefore, catheter ablation has become one of the most important therapeutic methods in the treatment of AF.

Studies show a positive correlation between the size of the left atrium (LA) and the incidence of AF,<sup>2</sup> heart failure,<sup>3</sup> and ischemic stroke.<sup>4</sup> In an enlarged LA, the myocardium has time for repolarization, and the electrical impulse depolarizes the myocardium again, causing AF. It is important to determine the correlation between the size of the LA and the incidence of AF and other complications that are associated with AF or the size of the LA. Multislice computed tomography (MSCT) creates a 3D image of the heart and has the ability to calculate the size and volume of the LA.<sup>5–7</sup>

An enlarged LA can also lead to heart failure and an increased risk of cardio-embolic events such as stroke or end-artery organ damage. It can also be the starting point of cardiomyopathy or the consequence of other diseases such as left ventricular failure or hypertension.<sup>8</sup> Identifying the cause of LA enlargement is important for treatment and the prognosis of the patient.

In a study published in this issue of the Journal of Cardiovascular Emergencies,<sup>9</sup> Bordi *et al.* demonstrate a relationship between the size of the LA and the occurrence of AF. The study enrolled patients with previous episodes of AF, treated with catheter ablation, with the aim to assess the rate of emergency hospitalization due to symptoms related to enlarged LA and to examine whether these rates can be predicted with volume measurement using MSCT. The results clearly depict a direct relationship between the size of the LA and the reoccurrence of AF. The study has also found emergency admissions due to heart failure to be correlated with LA enlargement in these patients. M-mode echocardiography is also frequently used to determine the volume of cardiac chambers and there is a debate regarding its benefits compared to MSCT.<sup>10,11</sup>

It is conclusive to say that LA volume determination in patients treated with catheter ablation for AF plays an important role in the long-term outcomes of AF and affects the frequency of emergency hospitalizations. Catheter ablation improves the quality of life and has economic benefits in the form of reduced need for hospitalization, but attention needs to be paid to risk factors such as CCS and RAV, which influence the prognosis of the patient.

## CONFLICT OF INTEREST

Nothing to declare.

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