

## The commentary



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The question “Which therapeutic strategy in patients with slow ventricular rate during atrial flutter (AFL) is better — pacemaker implantation or ablation?” is an important clinical issue. In every day clinical life, patients with AFL are quite often admitted to hospital for electrical cardioversion or for pacemaker implantation. However, ablation offers a unique opportunity to interrupt AFL, prevents from AFL recurrences and, in some patients, obviates the need for pacemaker implantation. I believe that the solution of the problem with patients with AFL scheduled for electrical cardioversion is straightforward

— if a patient has typical cavo-tricuspid isthmus-dependent AFL, ablation is always better than cardioversion because it offers permanent cure.

More complicated situation is with patients scheduled for pacemaker implantation due to slow ventricular rate during AFL. If a patient is symptomatic, permanent pacing may be considered. However, ablation in such patients may be a better choice. Firstly, slow ventricular rate during AFL does not always predict automaticity or conduction disturbances after sinus rhythm restoration. It has been shown that heart rate below 65 during AFL and intraventricular conduction defect (for example, bundle branch block) are independent predictors of the need for pacemaker implantation; however, the sensitivity and specificity of these parameters are modest, reaching 79% and 74% [1]. Thus, a substantial proportion of patients with slow ventricular rate during AFL do not need permanent pacing after successful ablation.

Secondly, restoration of sinus rhythm is almost always beneficial — cardiac output increases and the risk of rapid ventricular rate, which can occur during AFL, disappears. Even if a patient will need pacemaker implantation after ablation due to slow sinus rhythm or atrioventricular (AV) conduction disturbances, he or she will usually do better having sinus rhythm and not AFL. Also the long-term risk of thrombo-embolic events may decrease and some patients may not need prolonged anticoagulation.

Thirdly, ablation of AFL is very effective and safe. The long-term efficacy usually exceeds 90% and complications are rare, although may be severe such as damage to the right coronary artery, acute myocardial infarction, cardiac tamponade or even death [2]. Left atrial appendage stunning with immediate clot formation at the time of AFL termination and long pause before sinus rhythm restoration in patients with AV conduction disturbances and no escape rhythm has also been described [3]. Therefore, although the threshold for performing AFL ablation is usually low (it may be offered after first AFL episode, even in the elderly), the decision has to be carefully taken and the procedure performed by properly trained electrophysiologist.

Fourthly, pacemaker implantation in patients who are in sinus rhythm is a little bit easier than during AFL. In particular, atrial sensing and pacing threshold can be usually better assessed during sinus rhythm than during AFL.

In conclusion, in patients with typical AFL, ablation should be almost always offered before pacemaker implantation. However, a patient should be informed about the possibility of pacemaker implantation if cardiac rhythm after ablation will be too slow. This especially holds true for asymptomatic or very mildly symptomatic patients who may prefer stay in AFL and not to undergo invasive procedures.

## References

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