

Post-Maze Sick Sinus Node Syndrome, Followed by AF Recurrence

Cons. Pacemaker & Further Rhythm Control

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Atrial fibrillation (AF) is common in patients with sinus node dysfunction (SND). SND induces atrial electrical remodeling which facilitates AF initiation and perpetuation, and AF further aggravates atrial remodeling. Increased atrial ectopy and dispersion of refractoriness caused by SND can induce AF.¹ In addition, previous study reported that SND itself may also increase arrhythmogenesis of pulmonary vein which will further facilitate the triggering of AF.² On the other hand, it has been demonstrated that AF per se can cause electrical and structural remodeling of the sinus node and it would result in SND.³ In patients with SND, physiologic pacing can significantly decrease the incidence of AF. Maintenance of AV synchrony, reductions in the dispersion of refractoriness, and suppression of ectopic atrial premature beats can lower the risk of recurrent AF.^{4, 5}

It has been reported that the development of AF is independently associated with an increased risk of adverse events in patients with mitral stenosis and chronic AF after valve replacement is associated with a reduced survival.^{6, 7} AF results in significant hemodynamic changes because of the loss of atrial contribution to ventricular filling and shortening of the diastolic filling period caused by rapid ventricular rates. Maze operation for AF may be performed concomitantly with other cardiac surgery or as a stand-alone procedure. Advances in technology have made improvements in outcome of surgical treatment for AF. However, recurrence of atrial arrhythmias following initial procedure still may occur. The mechanisms of recurrent arrhythmias frequently involves gaps in ablation lines and recovered conduction. Previous studies have demonstrated that the majority of patients with prior maze procedures were found to have conduction recovery in at least one of the pulmonary veins and catheter ablation in patients with mechanical mitral valve and recurrent atrial arrhythmia after MAZE procedure was safe and effective.^{8, 9} If MAZE operation concomitant with mitral valve surgery fail and symptomatic atrial arrhythmia recur, catheter ablation can be a reasonable option. Even though oral anticoagulation therapy cannot be discontinued, rhythm control is valuable in some patients. Therefore, pacemaker and further rhythm control with catheter ablation should be attempted in the patient.

References

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