Successful Ablation of Left-Sided Accessory Pathways in a Patient with Coronary Sinus Atresia Using 3-Dimensional Mapping System

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A 62-year-old man with recurrent paroxysmal supraventricular tachycardia was referred to our hospital for ablation. A 12-lead electrocardiogram revealed sinus rhythm with no delta waves. A 12-lead electrocardiogram during the palpitations recorded a regular, narrow QRS tachycardia at the rate of 186/min. A coronary angiography was performed after the coronary sinus could not be cannulated. On levophase coronary angiography, there was dual venous drainage into the right and left atria and no coronary sinus ostium. A regular, narrow QRS tachycardia with a cycle length of 300 ms was induced by atrial extrastimulus pacing. A transseptal catheterization was performed using the standard Brockenbrough technique. Mapping of the mitral annulus was performed during ventricular pacing, using a 7-French deflectable ablation catheter and the 3-dimensional electroanatomical mapping system. The earliest retrograde atrial activation was recorded in the posterolateral region of the mitral annulus. Though the ventriculoatrial conduction time was prolonged after radiofrequency energy was delivered to this site, the ventriculoatrial conduction after transvenous adenosine triphosphate administration was maintained. After re-mapped, the earliest retrograde atrial activation site was shifted to the left anterior region. Radiofrequency energy eliminated this accessory pathway. Thirty minutes after effective radiofrequency discharge, there was persistent ventriculoatrial dissociation. Six months after the procedure, the patient has been free from any symptoms.

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