

## Images in Congenital Heart Disease

# Diverticulum of the coronary sinus complicating ablation of an inferior paraseptal pathway in an 18-month-old child

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**A**N 18-MONTH-OLD CHILD WITH Wolf–Parkinson–White syndrome underwent electrophysiological studies for drug refractory supraventricular tachycardia. Intracardiac mapping of the accessory pathway performed during orthodromic supraventricular tachycardia and pre-excited sinus rhythm revealed earliest retrograde atrial activation and earliest ventricular activation, respectively, in the inferior and paraseptal region of the right atrioventricular groove. Radiofrequency applications to this region, however, failed to terminate

supraventricular tachycardia, or to eliminate the pre-excitation. A transseptal puncture was performed, and the inferior paraseptal region was mapped, but electrograms with early activation were not observed. Accordingly, angiography was then performed with an end-hole catheter advanced into the coronary sinus via the internal jugular vein. This demonstrated a diverticulum of the coronary sinus (arrows) with a discrete narrow neck<sup>1</sup> in the right (Fig. 1a) and the left (Fig. 1b) anterior oblique projections. A hexapolar diagnostic electrophysiology catheter is seen at the

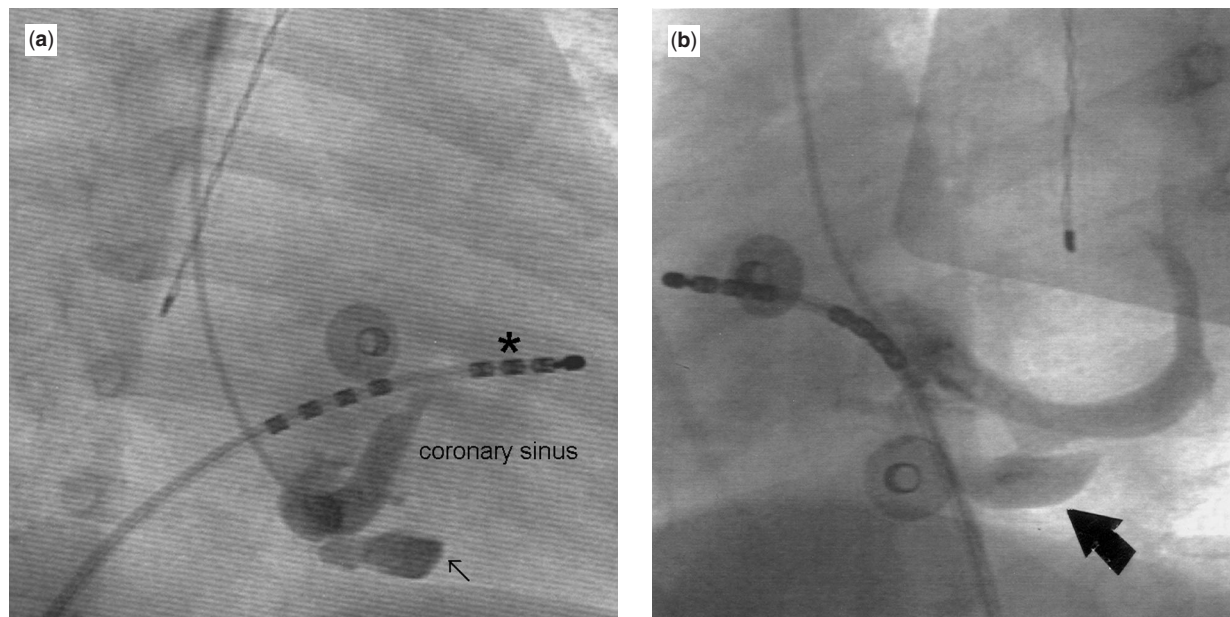


Figure 1.

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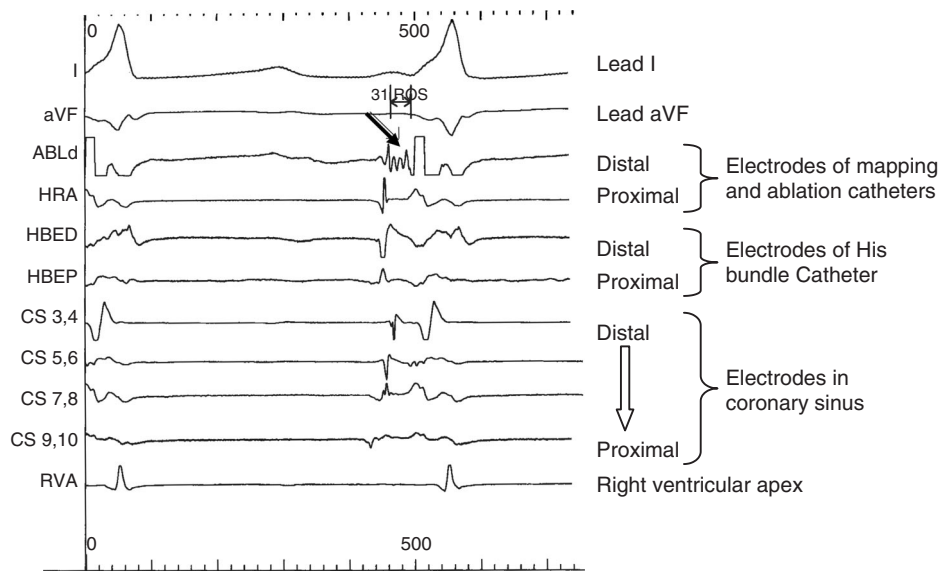


Figure 2.

site of the bundle of His in both images (asterisk in Fig. 1a). The radiofrequency ablation catheter was advanced into the diverticulum, and was pulled back from its base to the body of the coronary sinus during preexcited sinus rhythm. The site of successful radiofrequency ablation of the accessory pathway was in the neck of the diverticulum, where a high frequency "pathway" potential was present (Fig. 2, small arrow). The patient tolerated the procedure well and experienced no complications. Over a period

of follow-up of two years, the child has had neither recurrence of supraventricular tachycardia, nor manifestations of ventricular preexcitation on the surface electrocardiogram.

## Reference

1. Binder TM, Rosenhek R, Frank H, Gwechenberger M, Maurer G, Baumgartner H. Congenital malformations of the right atrium and the coronary sinus. *Chest* 2000; 117: 1740–1748.