Mechanical tachycardia of the slow pathway induced by a percutaneous tricuspid valve device

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A 47-year-old woman with Ebstein’s anomaly was referred to our department for progressive apparition of narrow QRS tachycardia with short RP’ intervals (Panel A, left). Her medical history included tricuspid valve plasty followed 10 years later by transcatheter tricuspid valve replacement. One year before presentation, she underwent percutaneous closure of a septal peri-prosthetic leak by an Amplatzer™ Duct Occluder™. During the electrophysiological study, a 1:1 atrioventricular relationship was found with concomitant atrial and ventricular activations (Panel A, right), but the initiation of the tachycardia did not depend on AH-interval prolongation. Right atrial activation mapping showed a centrifugal activation pattern with an earliest inferoseptal activation site (Panel B, left), within the triangle of Koch, concordant with a scar area corresponding to the device (Panel B, middle). Fluoroscopic views showed the position of the Amplatzer™ in the septal right atrium (Panel B, right). A SmartTouch™ ablation catheter was positioned at the site of earliest atrial activation, which coincided with the position of the atrial tip of the device. Radiofrequency ablation at this site successfully terminated the tachycardia, with further non-inducibility.

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