A 41-year-old man was referred for electrophysiological evaluation after recurrent syncope that occurred frequently during vigorous exercise. The patient had a complete, normal cardiological work up, including a resting ECG, an exercise stress test, and an echocardiogram. He reported that just before loss of consciousness, his heart was beating very fast. An electrophysiological study was performed (Figure), and typical atrioventricular nodal reentrant tachycardia was inducible, with a single atrial premature extrastimulus, after the infusion of 1 mg/h orciprenaline. With the induction of the tachycardia, heart rate increased from 91 beats/min (R-R interval, 660 ms) during sinus rhythm to 175 beats/min (R-R interval, 335 ms), blood pressure dropped from 120/80 mm Hg to 50/40 mm Hg, and mean right atrial pressure increased from 1 mm Hg to 18 mm Hg. Although the patient was in the supine position, he lost consciousness when tachycardia was induced. Successful catheter modification was performed, and the patient remained free of symptoms during a follow-up of 37 months.

Displayed are surface leads I, II, III, V₁, and V₆. In addition, the recordings from the high right atrium (HRA), the His bundle (HBE), and the right ventricular apex (RVA) are shown. Invasive recordings of blood pressure in the right femoral artery and the right atrium were obtained. A single paced premature atrial contraction (ES) induced a typical slow/fast atrioventricular nodal reentrant tachycardia. Almost instantaneously, arterial blood pressure dropped.

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