A 36-year-old woman presented with paroxysmal palpitations and shortness of breath to the emergency department. She was known to have transposition of the great arteries and had undergone the Mustard operation, in addition to having a pacemaker implanted.

The electrocardiogram at the time of admission showed a broad QRS complex tachycardia with a ventriculoatrial time of \( \approx 100 \) ms. Panel A shows the response to atrial overdrive pacing. After cessation of pacing (*), the last entrained ventricular (V) is demonstrated by the arrows, and is one beat removed, i.e. the PR interval was far greater than the RR, indicating the existence of dual-atrioventricular (AV) nodal physiology, due to the paced AV delay being substantially longer than the RR interval. In addition, an A–V–A response is seen ruling out ventricular tachycardia or junctional tachycardia. Finally, entrainment of the tachycardia (Panel B) with ventricular pacing has a V–A–V response upon cessation of pacing, which again suggests atrioventricular nodal reentrant tachycardia (AVNRT) or atrioventricular reentrant tachycardia. The long post-pacing interval minus the tachycardia cycle length (180 ms) supports the diagnosis of AVNRT. Patients with cardiac pacing devices who present with tachycardia offer an opportunity to conduct basic bedside electrophysiological studies that can provide exact diagnoses and allow treatment via the pacemaker.

The full-length version of this report can be viewed at: http://www.escardio.org/communities/EHRA/publications/ep-case-reports/Documents/-broad-complex-tachycardia.pdf.