

SHORT CASES IN CARDIOLOGY

Fifty years of tachycardia

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In 1943 an otherwise healthy girl aged 3 developed measles encephalitis with an accompanying mild left hemiparesis. At this time a persistent tachycardia of 140 beats per minute was noted, and she was referred to Sir John Parkinson at the National Heart Hospital. He made a diagnosis of atrial tachycardia. A trial of digoxin and quinidine proved ineffective, but she remained symptomatically well throughout her childhood and teen years. At the age of 22 she was admitted under the care of Dr Paul Wood because of atypical chest pain; however, persistent tachycardia was again noted. Over subsequent years she was treated with digoxin, practolol, propranolol, and verapamil—all without effect. She remained completely symptom free, tolerating four pregnancies without complication. Her electrocardiogram has been reviewed annually since 1962 and has always shown a narrow-complex tachycardia of 140–160 beats per minute with a long RP interval. Echocardiography in 1993 showed normal left and right ventricular size and function.

The figure shows the effect of intravenous adenosine (6 mg) on the tachycardia. The tachycardia terminated transiently before starting again a few seconds later. The last complex of the tachycardia is a P wave, indicating either termination of a junctional tachycardia at the level of the atrioventricular node or coincidental termination of atrial tachycardia at exactly the same time as the production of atrioventricular nodal blockade. Examination of events post-termination

shows atrial bigeminy, with a non-conducted abnormal P wave occurring after each QRS complex. The fact that the QRS-P interval progressively increases before the abnormal P wave disappears is very strongly suggestive of the occurrence of Wenckebach block in a slowly conducting retrograde pathway (either intra or extra nodal) rather than simply that of atrial beats from an ectopic focus. These findings strongly support a diagnosis of a long RP' form of junctional tachycardia¹ and make a diagnosis of intra-atrial tachycardia extremely unlikely.

As far as we are aware this report describes the longest recorded follow up of incessant or permanent junctional tachycardia of the long RP' type. The tachycardia has been present for at least 50 years, and is likely to have been present from birth. This form of tachycardia frequently leads to a progressive deterioration of ventricular function, which is usually reversible after ablation of the abnormal retrograde accessory pathway.² This case illustrates that such a clinical course is not universal. This patient has no evidence of ventricular dysfunction despite half a century of tachycardia.

We thank Dr Peter Collins for permission to report this case.

- 1 Coumel P, Cabrol C, Fabiato A, Gourgon R, Slama R. Tachycardie permanente par rythme reciproque. 1. Preuves du diagnostic par stimulation auriculaire et ventriculaire. *Arch Mal Coeur Vaiss* 1967;60:1830.
- 2 O'Neil BJ, Klein GJ, Guiraudon GM, et al. Results of operative therapy in the permanent form of junctional reciprocating tachycardia. *Am J Cardiol* 1989;63:1074–9.

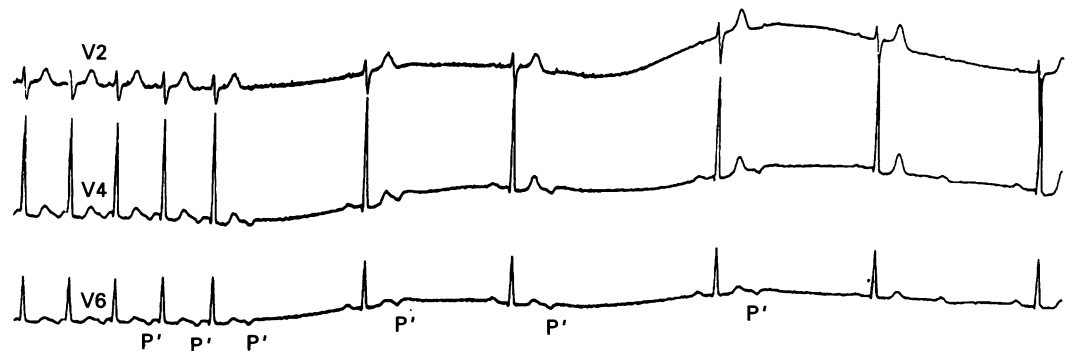
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Effects of intravenous adenosine on the tachycardia in a 54 year old woman who has been in permanent long RP' tachycardia for at least 50 years with no apparent effect on ventricular function.