



## THE PRACTITIONER LE PRATICIEN

### Country cardiograms case 25: Answer

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**T**he first ECG (Fig. 1) (see page 110 and also below) shows a wide complex tachycardia with bizarre morphology. Even more importantly, the rhythm is irregularly irregular. Only one rhythm, independent of the shape of its QRS complexes, can be irregularly irregular — and that is atrial fibrillation. This then, is atrial fibrillation with wide complex morphology (aberrant conduction) and a rapid ventricular response.

This type of ECG reading is seen in one form of Wolff–Parkinson–White (WPW) Syndrome — the form that is the most dangerous and that can easily lead to the death of the patient — particularly when digoxin, calcium channel blockers, beta-blockers or many other anti-arrhythmics are given to the patient.

The best treatment for this type of case is immediate cardioversion. The patient may have had previous regular narrow complex tachycardias for which verapamil or adenosine (although the latter may cause rapid atrial fibrillation in WPW) had been used successfully. This is no time to try these drugs again — the atrial fibrillation and wide complex morphology on this patient's ECG mean that any drug that inhibits the A–V node more than the accessory pathway might lead to irreversible ventricular arrhythmias and/or pump failure.

WPW patients are often a bit like patients with juvenile insulin-dependent. They are young, familiar with their disease and sometimes rebellious to the point of non-compliance with their medications or medical advice.

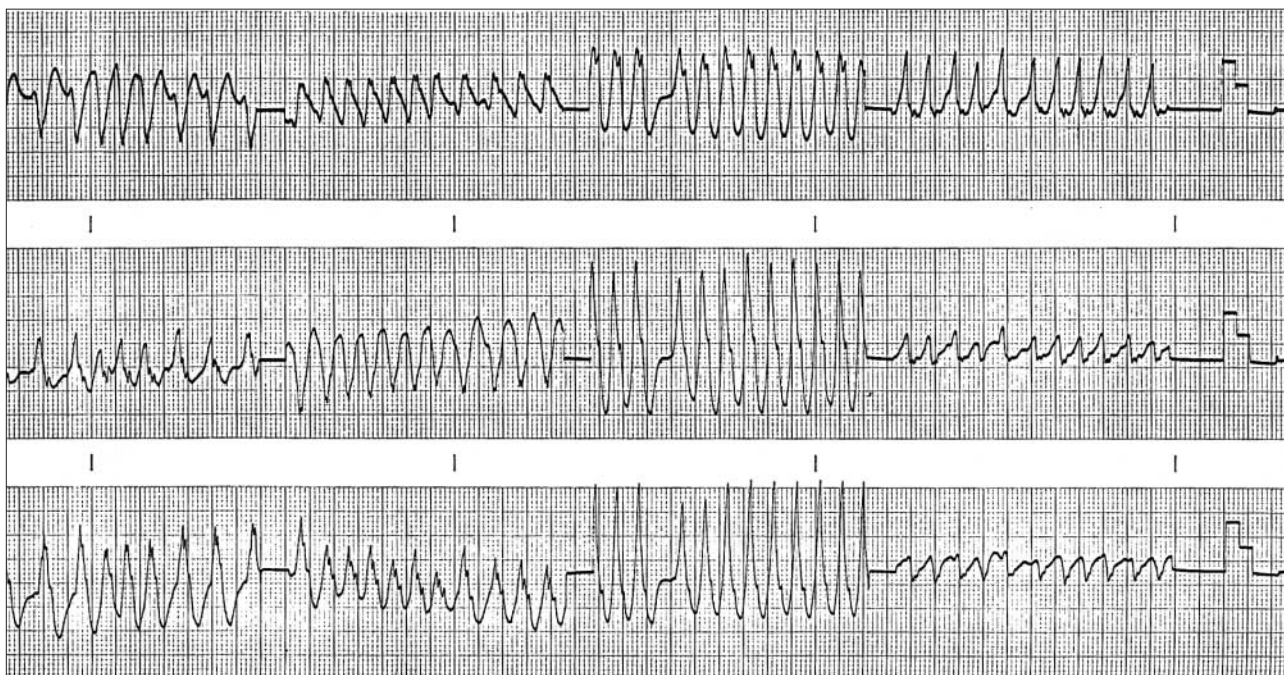


Fig. 1. Results of ECG taken shortly after patient arrived at the emergency department, showing an extremely dangerous form of Wolff–Parkinson–White (WPW) Syndrome.

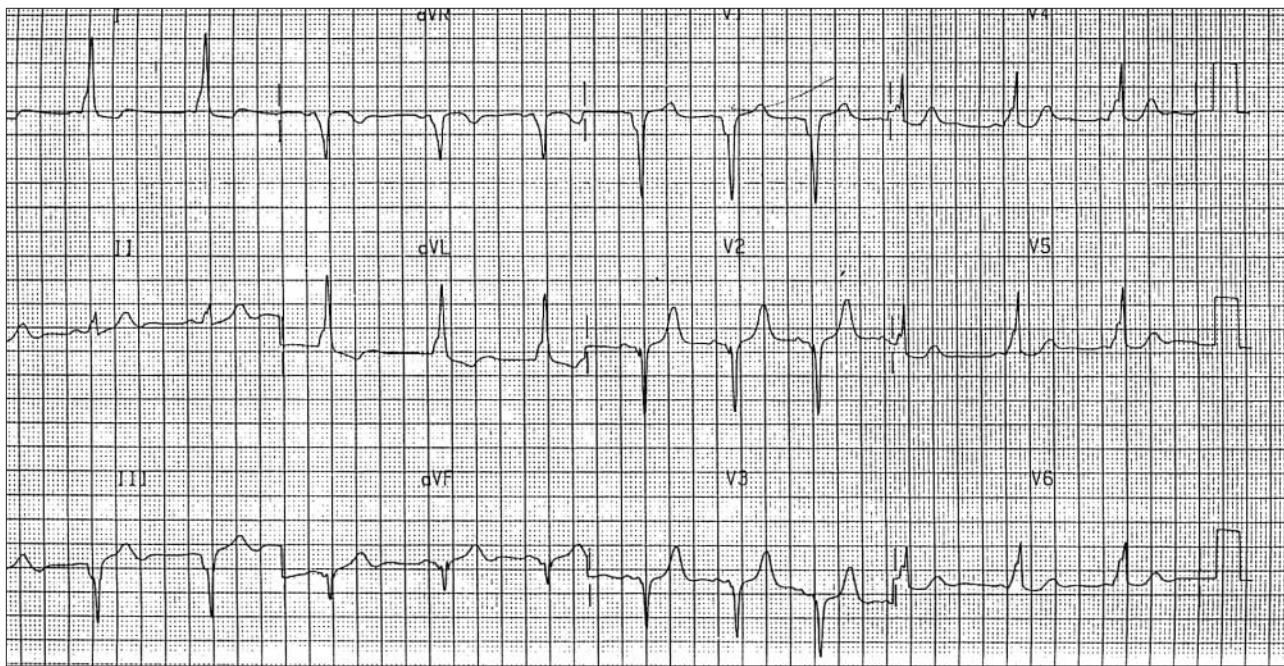


Fig. 2. Results of an ECG taken of a patient with WPW Syndrome, after electrical cardioversion has been performed.

This type of patient might experience a life-threatening arrhythmia, even without treatment, while being transported. If you cannot persuade such a patient to accept electrical cardioversion, then try IV procainamide or even amiodarone. But don't leave the bedside, and have the defibrillator warmed up and ready.

You use your maximum powers of persuasion,

and the patient finally allows you to perform electrical cardioversion. Results of post-cardioversion ECG, showing sinus rhythm, short P-R interval and enormous delta waves, are shown in Fig. 2.

A short few hours in an electrophysiology lab nearest you will spare this patient (and his rural doctors) much future grief.

For the Question, see page 110.

We invite physicians to speak out on issues that concern them. Please send Podium submissions to Suzanne Kingsmill, Managing Editor, *CJRM*, Box 1086, Shawville QC J0X 2Y0; [cjrm@ca.inter.net](mailto:cjrm@ca.inter.net)