Case 4: collapse as a result of bradycardia

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CASE 4

A 73-year-old woman was being monitored on a medical admissions ward following an episode of collapse. She gave a history of recurrent dizzy spells. With the exception of bruising related to her collapse, examination was normal, as was her resting 12-lead electrocardiogram. A further presyncopal episode occurred on the ward and was captured on the electrocardiogram (*Figure 1*). What was the diagnosis?

DISCUSSION

The initial rhythm was atrial fibrillation. This terminated abruptly and was followed by a 5-second period of asystole. There followed a junctional escape beat before sinus rhythm returned. The diagnosis was sick sinus syndrome. Sinus pauses may allow the emergence of atrial tachyarrhythmias while the termination of such arrhythmias may be followed by sinus pauses as in this case. In addition to the symptoms of bradyarrhythmias and tachyarrhythmias, patients may present with thromboembolic complications.

Permanent pacing is indicated for symptomatic sick sinus syndrome (in contrast to atrioventricular block where pacing may be required on both symptomatic and prognostic grounds). The pacing modality that should be employed is the subject of debate and ongoing randomized clinical trials (Gregoratos et al, 1998).

Studies of pacing for sinus node disease have demonstrated that when the atrium is paced the incidence of atrial fibrillation and thromboembolic events is significantly lower than when only the ventricle is paced. Atrial pacing also has the advantage of maintaining the appropriate relationship between atrial and ventricular contraction.

Questions remain about the impact of atrial pacing on quality of life. In a proportion of cases atrial pacing alone will suffice but in many patients coexistent atrioventricular nodal disease will result in the need for dual chamber pacing. The incidence of clinically significant atrioventricular block following atrial pacemaker implantation of sinus node disease has been estimated at 0.6–3.0% per year (reviewed by Gregoratos et al, 1998). Against this the implanting cardiologist must consider the additional risk and complexity of dual chamber pacemaker implantation. HM

Gregoratos G, Cheitlin MD, Conill A et al (1998) ACC/AHA Guidelines for implantation of cardiac pacemakers and antiarrhythmia devices. *J Am Coll Cardiol* **31:** 1175–209

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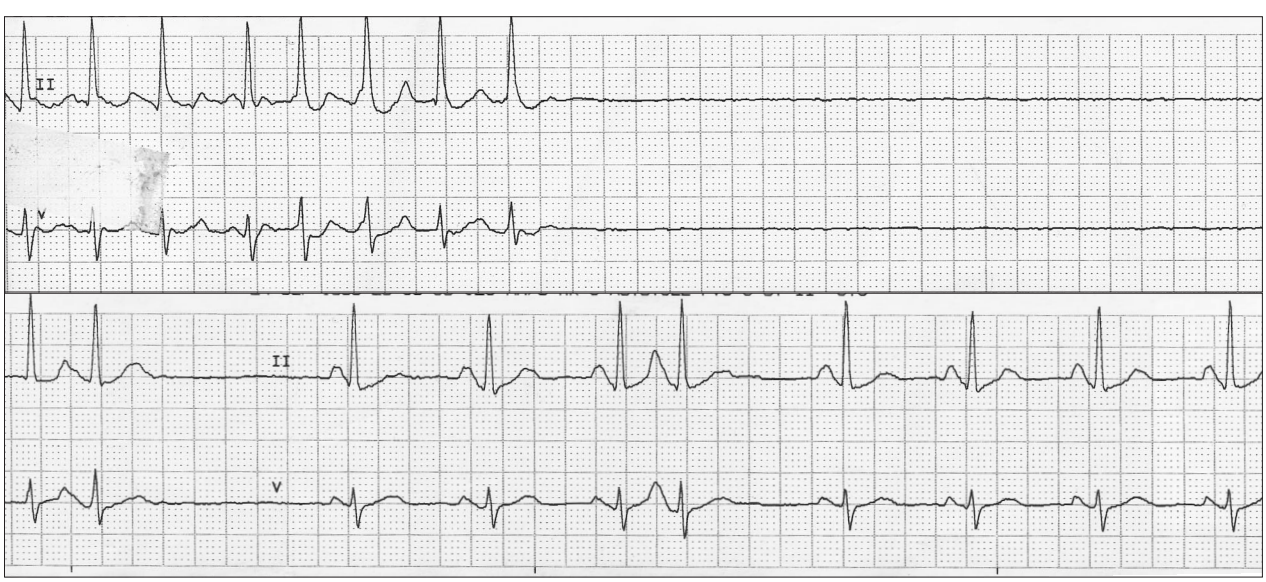

Figure 1. Monitor strip (in two parts) during a presyncopal episode.