



Dr Stephen Fenton

# Light hearted and light headed



**Dr Stephen Fenton**

Dr Stephen Fenton is a cardiologist in private practice with the Sydney Cardiology Group.

A 64-YEAR-OLD lady had been widowed for 10 years. She was now enjoying several social activities, including regular ballroom dancing.

On one recent occasion, she felt dizzy after completing a dance and then collapsed in the middle of the dance floor. She recovered fairly quickly after the episode.

On questioning, she recalled several other episodes of dizziness and light-headedness where she had to hold on to a wall

to keep from falling. The ECG above was subsequently recorded.

**Q1. Based on this ECG, would you regard the major abnormality as:**

1. Ventricular tachycardia
2. Sinus bradycardia
3. Complete heart block
4. Second-degree (Wenckebach) AV block
5. Junctional bradycardia.

**Q2. Which of the following options should be the next step?**

1. Electrophysiology study
2. Insertion of an implantable defibrillator
3. Permanent pacemaker
4. A temporary pacemaker possibly followed by a permanent pacemaker
5. Obtain more details of the patient's history.

## DISCUSSION

This lady presents with some intermittent presyncope and one short syncopal episode. The ECG shows a slow regular heart rate of approximately 37 beats per minute. The QRS complexes are narrow and there is no anterograde P-wave. There is a retrograde P-wave seen after each QRS complex, and this pattern represents a junctional rhythm. Therefore the correct answer to question 1 is number 5 – a junctional bradycardia.

Further details of this patient's history revealed that she was being treated for hypertension with diltiazem 360 mg mane.

There is a very strong likelihood that the effect of this drug on her AV node exacerbated the situation. The correct management at this stage is to cease the diltiazem and to monitor the patient with clinical examination, further ECGs and probably a Holter monitor study. The answer to question 2 is therefore number 5.

Had the patient presented with no potential reversible causes, then a permanent pacemaker would be indicated. It is also important in a patient like this to assess thyroid function and exclude other pathology. A more thorough cardiac assessment with echocardiography and stress echo would also be recommended to exclude underlying structural or significant obstructive coronary artery disease.

This patient stopped the diltiazem and reverted to normal sinus rhythm. Subsequent Holter monitor studies were normal and her hypertension was managed with a different class of antihypertensive. 