

ECG of the Month



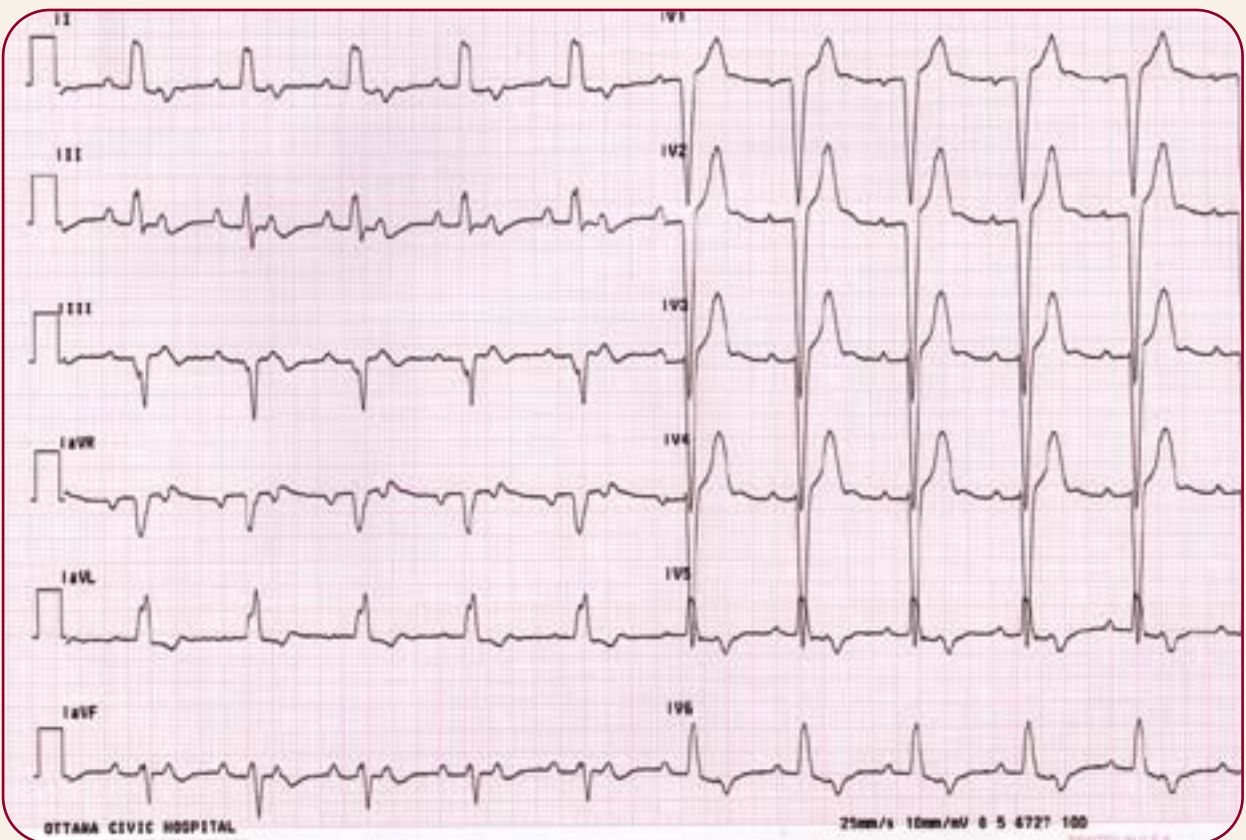
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“Two for one”

This ECG is from an 82-year-old woman who complained of some lightheaded spells.

What is the diagnosis?





This Month's ECG Diagnosis

This ECG shows an atrial rhythm at about 130 beats per minute (bpm) with a ventricular rate of 65 bpm. The QRS complexes are wide and of left bundle branch block morphology. The PR interval is about 220 milliseconds.

The atrial tachycardia is best seen in lead II with a second P wave in the T wave of each QRS complex. Interestingly, if one looks at precordial leads such as V₂ to V₄, it is very difficult to discern these P waves and one would easily get the mistaken impression of sinus rhythm with first degree AV block. This, of course, underscores the importance of getting the full 12 lead ECG before making a rhythm diagnosis. In this particular case, the second P wave is not evident in all leads.

The atrial rhythm at about 130 bpm may well be sinus rhythm as the P wave is positive in leads

I, II, and aVF. If this is sinus rhythm, then certainly one must find an explanation for the sinus tachycardia and this could be the hemodynamic effect related to the 2:1 conduction. On the other hand, it may be an atrial tachycardia that is arising high in the right atrium in close proximity to the sinus node.

In view of the PR interval which is borderline prolonged but not markedly prolonged, and in view of the conducted wide QRS complexes with left bundle branch block morphology, it is likely that the heart block occurs in the distal conduction system rather than the AV node. Nevertheless, the possibility of 2:1 AV nodal

block cannot be excluded.

Further monitoring on this patient revealed long pauses and episodes of heart block that likely explained the symptoms of lightheadedness. She received a permanent pacemaker. 