



QUESTION 1: Which ONE of the following arrhythmias best accounts for what can be seen?

(a) Sinus arrhythmia	(e) Second degree AV block: Mobitz 2
(b) Atrial fibrillation	(f) Atrial ectopic beats
(c) Complete heart block	(g) Multifocal atrial rhythm
(d) Second degree AV block: Mobitz I i.e. Wenckebach	(h) Ventricular ectopic beats

To assist you, I'll ask you to make some observations and careful measurements:

1. Is the ventricular rhythm random? Is it irregularly irregular or regularly irregular?
2. Is there grouped beating? If yes, what is the differential diagnosis of any grouping of beats?
3. Are the pauses, or the longest gaps, the same?
4. Are the beat-to-beat intervals after the pauses or gaps all the same? If not, are they variable or do they progressively shorten or lengthen?
5. Is the longest gap interval $> 2 \times$, exactly $2 \times$, or $< 2 \times$ the shortest beat-to-beat interval?

This is an ECG of a 70-year-old man who has no past history of cardiac disease and is asymptomatic. He attended his family doctor for a routine check-up and was found to have an irregular rhythm.

I have deliberately hidden the atrial activity of the ECG so that all one can see is the ventricular activity. This is in order to emphasise the phenomena commonly overlooked in this arrhythmia and which are so specific to it that, in fact, if found, the diagnosis can be made confidently.

QUESTION 2: What management would you recommend for this arrhythmia?

- (a) Ignore it
- (b) Reassure the patient, recommend observation and follow-up
- (c) Anticoagulation
- (d) Anti-arrhythmics
- (e) Permanent pacemaker
- (f) Implantable cardioverter defibrillator

Please analyse the ECG carefully and commit yourself to an answer before checking the explanation.

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