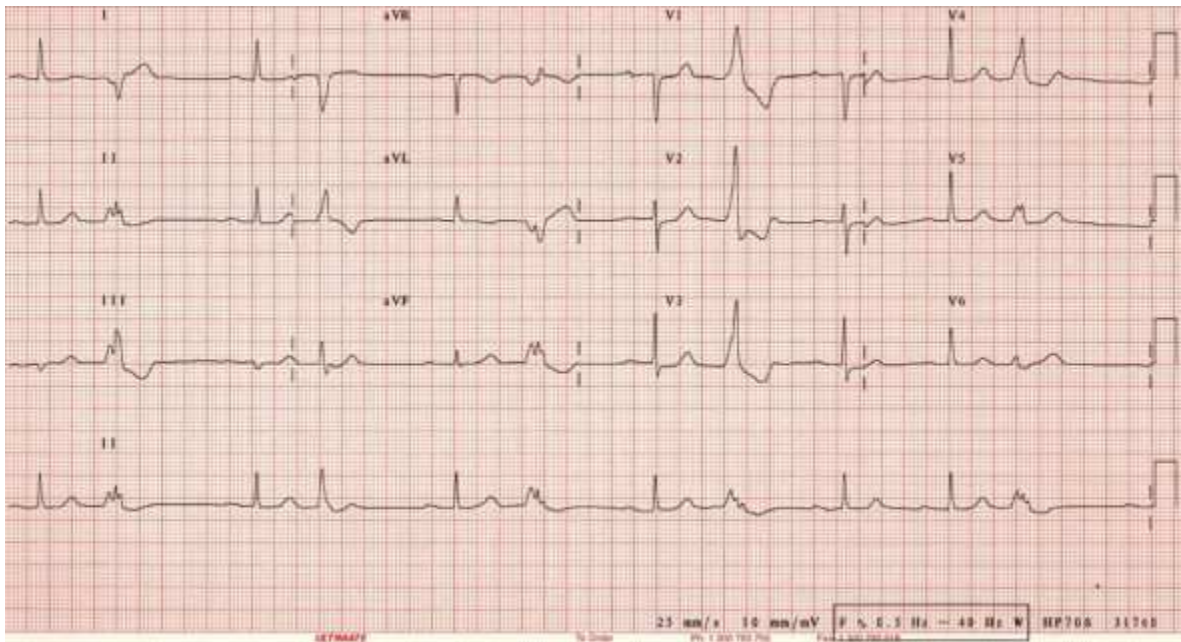


VAQ 2010.2.8 (ECG)

An 82 year old man, who lives alone, presents to the emergency department following being found collapsed at home. He says he takes tablets for his heart but cannot recall their names.



Describe and interpret his ECG (100%)

This ECG shows first degree heart block, sinus rhythm with ventricular bigeminy with compensatory pauses, and very slight ST depression in V1-3 which is not particularly suggestive of posterior infarction but in the context of rhythm disturbance should be considered. Causes include ischaemia, electrolyte imbalance, and drug toxicity.

Rate – ventricular rate 66 but may well have ineffective cardiac output on ventricular beats closely following sinus beats

Rhythm – sinus rhythm with ventricular bigeminy with exception of two consecutive sinus beats

Axis – normal

Waves (in sinus beats)

P – 120, just within normal limits

Q – no significant Q waves

R – no particular features

S – no particular features

T – no hyperkalaemic changes

U – not seen

Intervals

PR – approx 200ms, prolonged (first degree HB)

QRS – narrow complex, no diagnostic features, no Osborne wave

ST – slight nondiagnostic ST depression V1-3 without reciprocal changes, consider posterior leads for ischaemia

QTc – less than half of R'R interval suggests normal

Interpretation

Nonspecific arrhythmia with AV nodal dysfunction and effective bradycardia

Multiple possible underlying causes, guided by history, examination, clinical chemistry

Electrolytes – particularly hypo/hyperkalaemia (no diagnostic features seen)

Drugs – particularly CCB, digoxin, beta blockers (check drug history, consider digoxin levels)

Ischaemia – ACS / MI

Miscellaneous – degenerative / infiltrative conduction defect