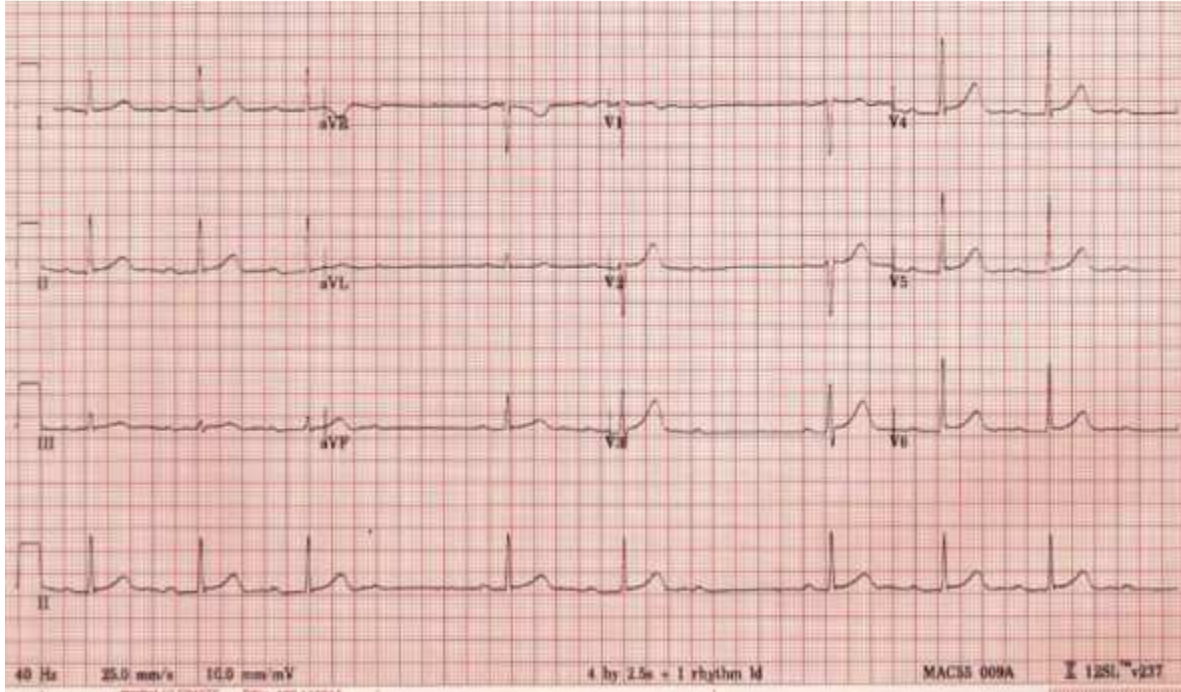


VAQ 2010.1.6 (ECG)

A 64 year old man is being evaluated in your emergency department after an episode of chest pain which has now resolved.

His observations are:

BP	140/85	mmHg supine
RR	20	/min
O ₂ saturation	97%	room air



- Describe and interpret his ECG (50%)
- List the potential causes of this rhythm abnormality (50%)

This ECG shows second degree heart block (Wenkebach). Although this can be a relatively benign arrhythmia, in a symptomatic patient it is of more concern from ischaemia. Considerations other than ischaemia are electrolyte disorder, cardioactive drug toxicity (CCB, digoxin, beta blocker particularly), myopericarditis, and an incidental finding.

Rate – 60 between conducted beats; 35 between pauses

Rhythm – lengthening PR then drop consistent with type I (Wenkebach) second degree HB

Axis – normal

Waves

P – unremarkable

Q – n/a

R – no diagnostic features

S – no diagnostic

T – unremarkable

U – not seen

Intervals

PR – progressive prolongation until non-conducted P wave

QRS – narrow

ST- slight ST elevation with J point elevation in inferior and precordial leads; appearance suggests benign early repolarisation, but need to consider ischaemia. Warrants serial ECGs

QTc – less than half R'R - probably normal

Overall unremarkable ECG other than

Non coronary artery distribution ST elevation - likely BER

consider ischaemia, pericarditis, myocarditis (at least one other cause suggested)

2nd degree Wenkebach HB

consider serial ECG

Most likely related to AV nodal ischaemia – can be RCA or LCA supply so corroborating

ECG changes unpredictable

Check drug history (CCB, digoxin, beta blocker – with therapeutic use and overdose), electrolytes