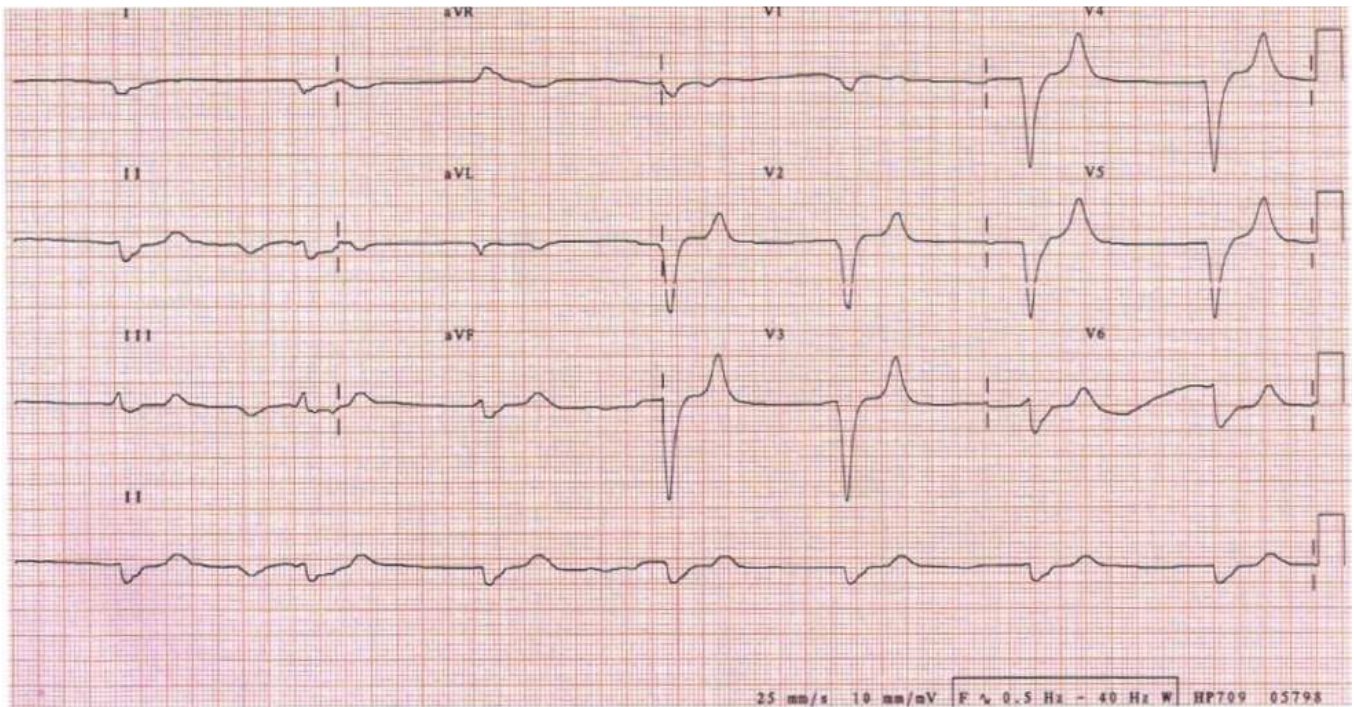


VAQ 2008.2.1 (ECG)

An 82 year old man is brought to your emergency department after having been found on the floor of his home. He was last seen by his neighbor 18 hours earlier.



- Describe and interpret his ECG (50%)
- Outline the investigations you would perform (50%)

This ECG shows a wide complex bradyarrhythmia consistent with junctional rhythm, wide QRS, deep anterior Q waves and tall anterior T waves.

Immediate concerns would be for ischaemia, hyperkalaemia and hypothermia (though no Osborne wave) but there are a wide variety of differentials requiring consideration including ischaemia, electrolyte abnormality, drug effect, and sepsis among others. An extensive panel of investigations would be likely in a patient such as this, guided by clinical assessment.

Rate – 42

Rhythm – regular, no P waves seen - junctional rhythm

Axis – right

Waves

P – not seen

Q – in I, aVL, V1-5

R – no diagnostic features

S – no diagnostic features

T – peaked V2-5

U – not seen

Intervals

PR – N/A

QRS – broad >0.12 - not typical of LBBB, no Osborne waves

ST – ST elevation V2-4

QTc – visually normal

Interpretation

Nonspecific junctional bradycardia in an elderly male found collapsed - possibly many hours on floor

Wide differential

Myocardial ischaemia / infarction

Drug toxicity

Digoxin, CCB, beta blocker

Electrolyte abnormality

hypocalcaemia

hyperkalaemia (e.g. dehydration or rhabdo and subsequent AKI)

Sepsis

CVA

Preexisting conduction abnormality

Investigations

Bedside

Temperature

BSL (hypoglycaemia)

ECG (already performed)

VBG (rapid estimation of Ca, K, acid-base)

Urinalysis (urinary sepsis)

mobile CXR (aspiration, heart failure, pneumonia)

Laboratory

FBC (anaemia (collapse), leucocytosis (infection))

UEC (electrolytes – K, Ca; uraemia (GI bleed), creatinine (AKI as cause or effect))

CK (rhabdo)

Serial Tnl (ischaemia)

G&H (if indicated by clinical assessment)

Coag (warfarinised, or if sepsis (DIC))

Digoxin level if suspected toxicity

Blood cultures if sepsis suspected

Imaging

CXR as above

CT head if neurological cause suspected