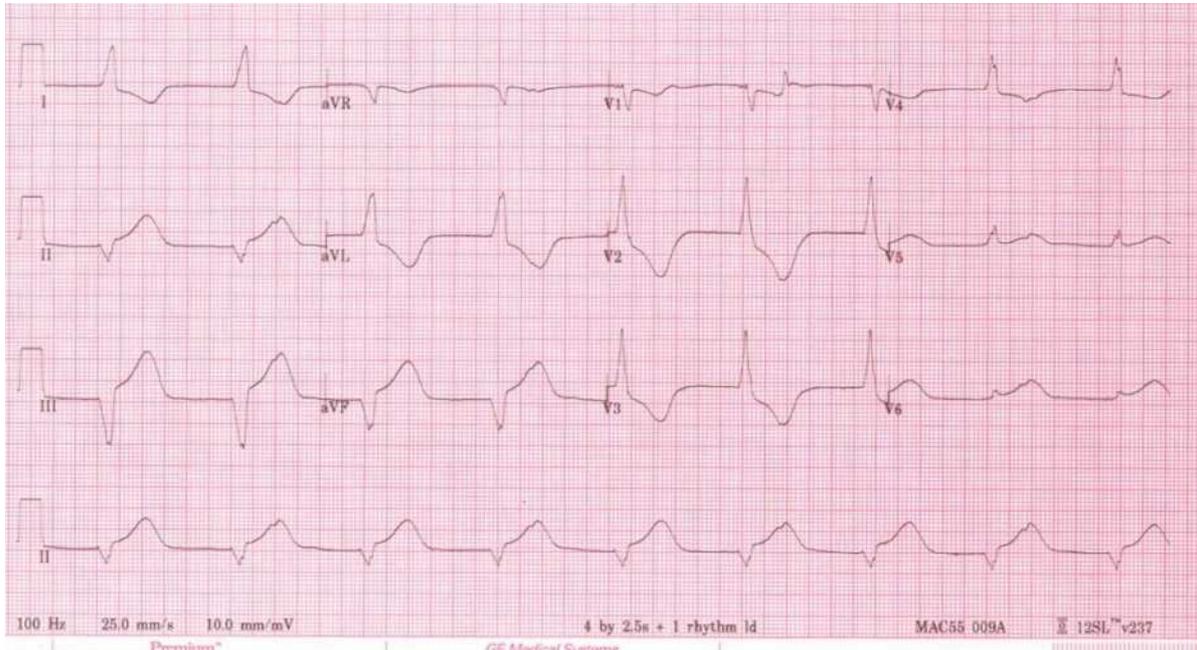**VAQ 2011.2.7 (ECG)**

A 54 year old man presents to your rural emergency department with chest pain. An initial ECG reveals an inferior STEMI. Fifteen minutes after receiving intravenous thrombolysis the following ECG is taken.
His observations are:
BP 150/80 mmHg
Temperature 36 0C
O2 Saturation 98 % on room air

a.Describe and interpret his ECG (100%)

This ECG shows a wide complex bracdycardia, likely a accelerated idioventricular rhythm (although usually defined as 60-100bpm), with repolarisation abnormalities consistent with inferior STEMI. This is most likely a benign reperfusion arrhythmia, but could also represent ongoing ischaemia. With inferior injury and likely RCA involvement, SA or AV nodal ischaemia is also a concern. In the absence of haemodyamic compromise or significant ongoing symptoms this can be observed with expected resolution, but if not transient consideration should be given to pacing or angioplasty.

Rate 54
Rhythm regular
QRS not preceded by P
although too slow for AIVR (60-100), too fast for IVR (30-45)
in context of recent lysis, 'slow AIVR' most likely
Axis – LAD

Waves
P – seen in alternate T waves (best in rhythm strip), likely retrograde conduction
Q – deep in III, aVF
R – prominent V2-5 as part of nonspecific ventricular conduction abnormality
S – no specific features
T – inverted I, aVL, V1-4
U – not seen

Intervals
PR – N/A
QRS – wide (>0.12s), nonspecific intraventricular conduction delay
ST – ST elevation II, III, aVF, V6 ; ST depression II, aVL, V1-4
in keeping with inferior STEMI
V1 changes suggest likely posterior involvement
may represent repolarisation abnormality – if reverts to narrow complex rhythm then repeat ECG will clarify
QTc – visually normal

Interpretation
most likely
      slow AIVR (vent rate 54) as **benign reperfusion arrhythmia** (no compromise)
differentials
      AV nodal dysfunction (ischaemia, pre-existing, drug effect)
      Ongoing **ischaemia** / reperfusion failure
      Electrolyte disturbance (not suggested by stem – check Ca, K)