

ECG #46

An 83-year-old woman presents to the emergency department reporting a 3-hour history of central pleuritic chest pain, onset at rest, with associated dyspnoea and diaphoresis.

Describe and interpret her initial 12-lead electrocardiogram:



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DESCRIPTION:

- Sinus rhythm with a ventricular rate of 88 bpm
- Normal PR interval (194 ms)
- Normal QRS axis (-11°)
- Normal QRS duration (82 ms)
- Normal R wave progression
- Widespread ST-segment/J-point elevation (V2-6, I, II, aVL) with associated broad-based hyperacute T-waves
- ST-segment depression with associated T-wave inversion lead III
- Isolated premature ventricular contraction (beat 6)
- ST-segment depression in high lateral leads (I aVL) and V6 with associated T-wave inversion

INTERPRETATION:

- Subtle/early left anterior descending (LAD) coronary artery occlusion *versus* early repolarisation phenomenon

15 minutes later...



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DESCRIPTION:

- Sinus rhythm with a ventricular rate of 81 bpm
- Normal PR interval (190 ms)
- Normal QRS axis (-24°)
- Normal QRS duration (86 ms)
- Normal R wave progression
- Resolution/normalisation of ST-segment elevation
- Normalisation of T-waves throughout
- Premature ventricular contractions (beat 3 & 7)

INTERPRETATION:

- Electrocardiographic changes consistent with a dynamic LAD lesion

CASE RESOLUTION:

- Emergent coronary angiogram revealed small vessel disease, in particular affecting LAD artery, but no significant lesion to explain ECG findings and elevation in hs-TnI.
- Diagnosed as coronary artery vasospasm and proceeded to medical management.