

ECG #26

A 44-year-old man is brought to the emergency department following a collapse and suspected deliberate self-poisoning.

Describe and interpret his initial 12-lead electrocardiogram:



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DESCRIPTION:

- Ventricular rate 102 bpm
- Sinus rhythm
- PR interval 194 ms
- QRS axis (29°)
- QRS duration 128 ms
- R' wave in aVR > 3 mm
- QTc 505 ms

INTERPRETATION:

- Sinus tachycardia
- Interventricular conduction delay – QRS duration > 100 ms in lead II
- Terminal R wave (R') in aVR > 3 mm

What agents could potentially be responsible?

Below is his 12-lead electrocardiogram repeated a little while later...



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DESCRIPTION:

- Ventricular rate 100 bpm
- Sinus rhythm
- PR interval 194 ms
- QRS axis (-67°)
- QRS duration 138 ms
- R' wave > 3 mm *and* R/S ratio > 0.7 in aVR
- QTc 518 ms

INTERPRETATION:

- Progressive and worsening sodium channel blockade.
- Collateral history revealed patient was prescribed [dothiepin](#).
- Shortly after this ECG was taken the patient had a generalised tonic-clonic seizure, however with subsequent effective [management of tricyclic antidepressant \(TCA\) poisoning](#) the patient made a complete recovery.

See [LITFL](#) for further information on the electrocardiographic features of TCA overdose.