

ECG #40

An 18-year-old man presents to the emergency department following deliberate self poisoning with an unknown quantity of escitalopram and quetiapine.

Describe and interpret his 12-lead electrocardiogram recorded 12-hours post-ingestion:



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DESCRIPTION:

- Ventricular rate 51 (variable; range 37 – 79) bpm
- Sinus rhythm with 2nd degree AV block type I (Mobitz I, Wenckebach)
 - Progressive prolongation of the PR interval culminating in a non-conducted P wave
 - Variable pattern of P:QRS groupings with *at least* 3:2 and 4:3 conduction recorded
 - Suspicion of larger P:QRS groupings when observing smaller progressive prolongations of PR intervals in the terminal 3 complexes on the rhythm strip
- Right QRS axis deviation (96°)
- Normal QRS duration 84 ms
- Generalised concave ST elevation in the precordial (V2-6) and limb leads (I, II, III, aVF), with prominent, slightly asymmetrical T waves that are concordant with the main vector of the QRS complexes consistent with early repolarisation phenomenon
- Normal QTc 342 ms *and* absolute QT interval well below

the [QT interval nomogram](#) line

INTERPRETATION:

Sinus rhythm with variable 2nd degree Mobitz I atrioventricular block (Wenckebach phenomenon)

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12-lead ECG recorded 30 seconds later...

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DESCRIPTION:

- Ventricular rate 69 (variable; range 38 – 77) bpm
- Sinus rhythm with 2nd degree AV block type I (Mobitz I, Wenckebach)
 - Progressive prolongation of the PR interval culminating in a non-conducted P wave
 - Large P:QRS grouping; likely to be *at least 11:10* or greater!
- Right QRS axis deviation (97°)
- Normal QRS duration 84 ms
- Generalised concave ST elevation in the precordial (V2-6) and limb leads (I, II, III, aVF), with prominent, slightly asymmetrical T waves that are concordant with the main vector of the QRS complexes consistent with early repolarisation phenomenon
- Normal QTc 398 ms *and* absolute QT interval well below the [QT interval nomogram](#) line

INTERPRETATION:

Sinus rhythm with *highly* variable 2nd degree Mobitz I atrioventricular block (Wenckebach phenomenon)

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