

ECG – implantable loop recorder

Presentation

The 12-lead resting electrocardiogram (ECG) of a 77 years-old male patient is presented. He was admitted in our institution after a syncope with brain traumatism. The patient has no cardiovascular risk factors, and no significant medical history, except the presence of a left popliteal artery stenosis, under

long-term acetylsalicylic acid medication. The ECG (speed 25 mm/s) on admission showed sinus rhythm at 70/min, with PR interval = 190 ms, QRS width = 100 ms and a left axis deviation suggesting the presence of a left anterior fascicular block, with a corrected QT interval = 389 ms (Fig. 1). The echocardiography was unremarkable, with a normal biventricular function, without significant valvulopathy.

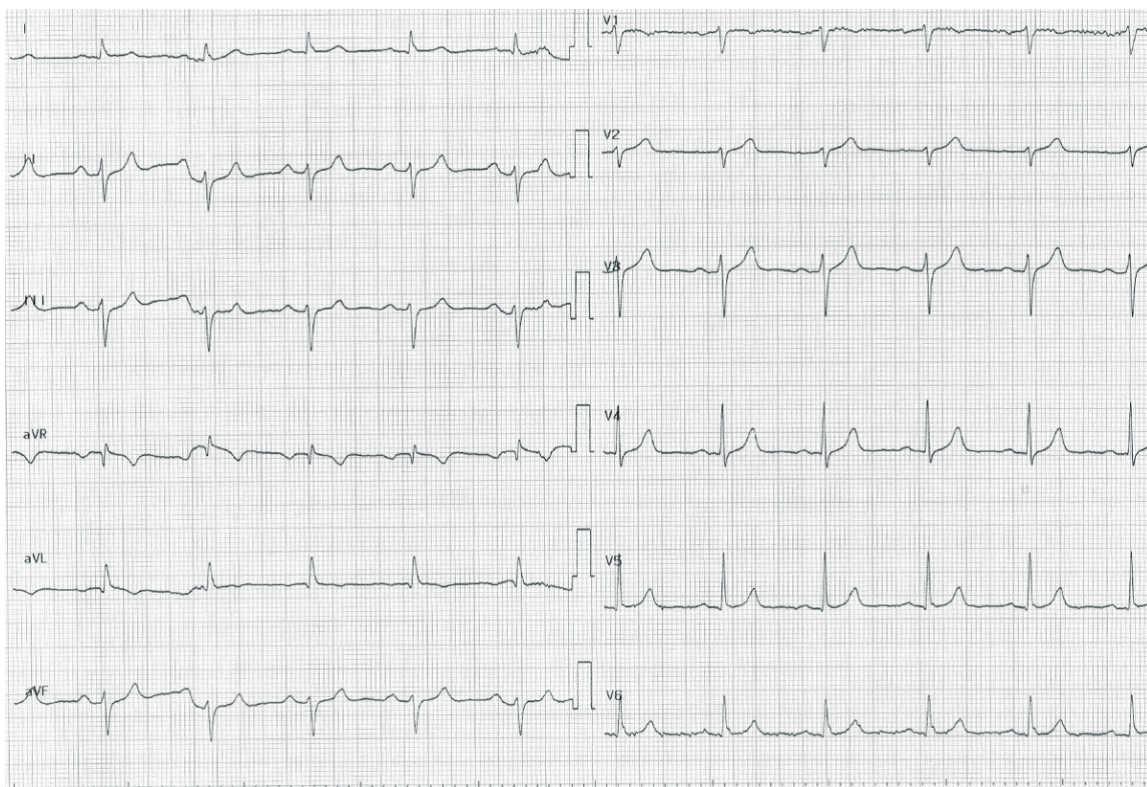
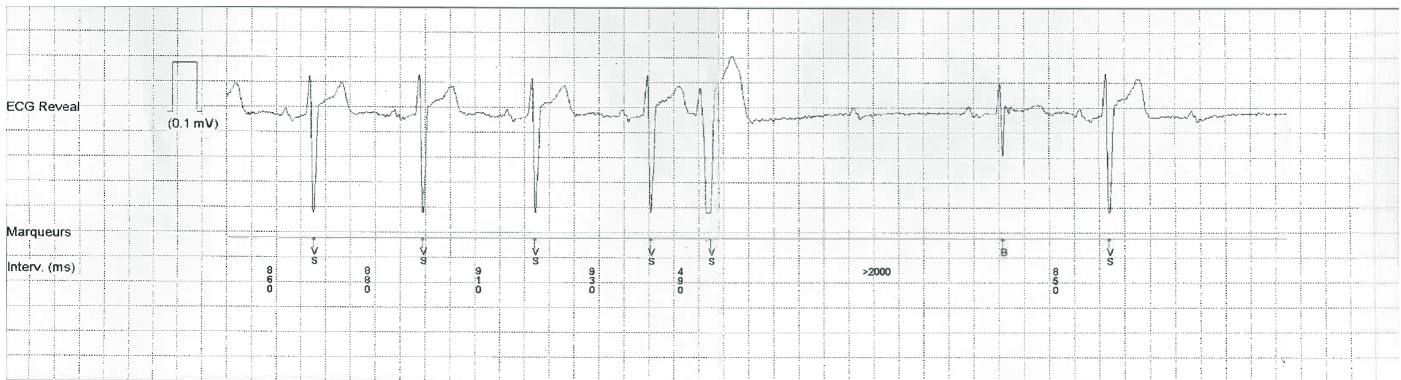


Figure 1. The 12-lead resting electrocardiogram

The patient underwent an electrophysiological study which showed an HV interval measured at 42 ms, with an anterograde Wenckebach point calculated at 500 ms. The effective refractory period of the atrioventricular node was reached at 450 ms with a baseline pacing train at 650 ms of cycle length. The carotid sinus massage was negative.

The patient received a miniaturized implantable loop recorder, and came back after 8 months, at our outpatient clinic for a recurrent syncope. Several bradycardic episodes were recorded (Fig. 2). Below is represented the tracing during one episode of syncope. The episode in Panel A lasted 3 seconds. A second episode is shown in Panel B (duration 6 seconds).

A.



B.

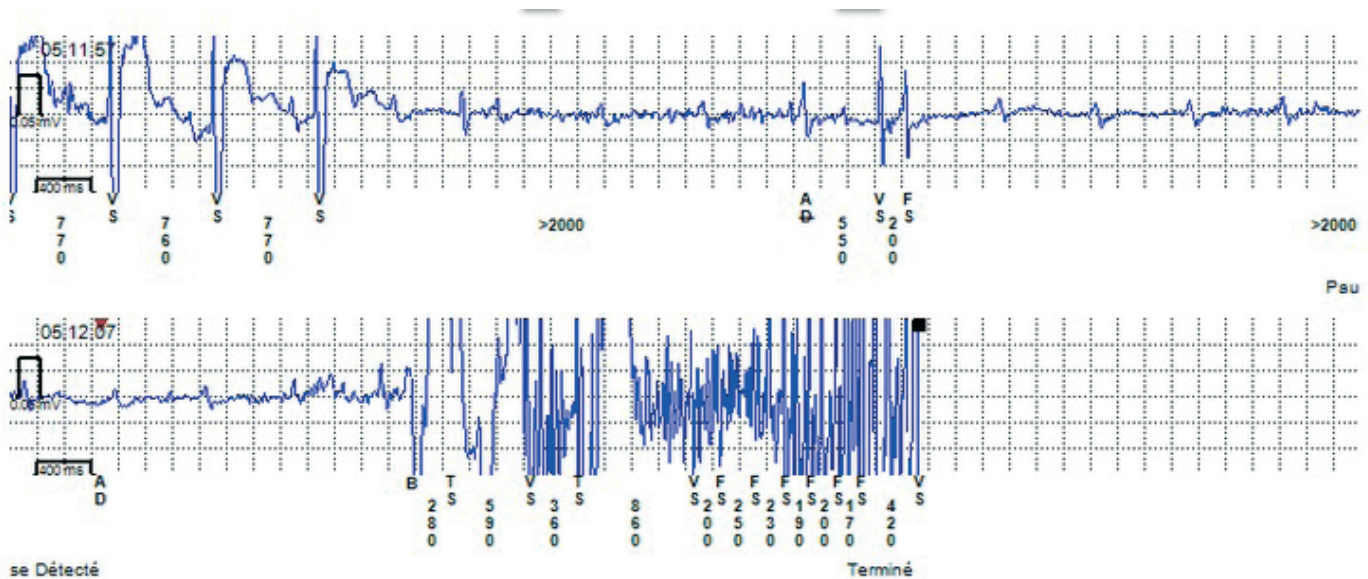


Figure 2. Implantable loop recordings of bradycardia episodes (A, B)

What are the correct answers?

1. The most likely diagnosis is a vagally-induced complete atrioventricular block
2. The most likely diagnosis is a phase 4 atrioventricular block in panel A.
3. The episode of complete atrioventricular block is initiated by a premature ventricular contraction in panel A.
4. Panel B may represent an episode of Torsades de Pointes
5. The patient should be proposed a definitive pacemaker implantation

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