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Intermittent wide QRS complex sinus bradycardia in a 72-year-old woman

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A 72-year-old woman without previous medical history was admitted to the emergency department for episodes of dizziness and blurred vision without syncope. The performed electrocardiogram (ECG) showed sinus bradycardia at 45 bpm with pauses measuring two times the preceding P-P cycle, compatible with a type 2 second-degree sinoatrial block (Fig. 1). There was also a widening of QRS complexes coinciding with sinoatrial block pauses were also noticeable (Fig. 1). In this phenomenon, known as bradycardia-dependent aberrancy, conduction delay occurs when the heart rate drops below a critical level due to depolarization of Purkinje fibres during phase 4 of the action potential, remaining hypopolarized (also named 'spontaneous diastolic depolarization'). Thus, the next impulse coming through the atrioventricular pathway results in an aberrant conduction. Due to shorter critical cycle lengths, phase 4 block occurs more frequently in the left bundle branch (as it was seen in this case) than in the right one, coexisting in both morphologies in few cases. After detecting pauses longer than 8 seconds in continuous ECG monitoring, a dual chamber pacemaker was implanted in the patient.

Conflict of interest: None declared

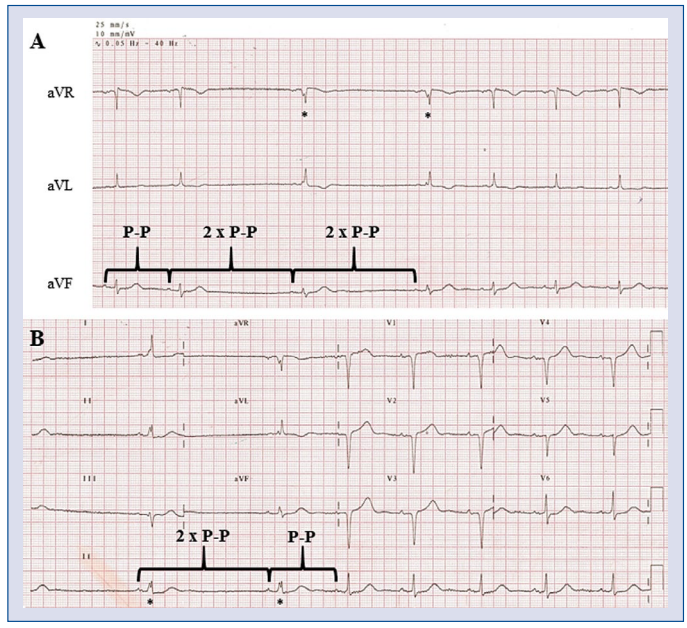

Figure 1. Electrocardiograms at admission showing sinus bradycardia. Pauses have a duration which is double the previous P-P cycle (**A**). An asterisk points out the widening of QRS complexes concurrently with the pause (**A**, **B**).

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