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ARCHIVES OF HELLENIC MEDICINE: ISSN 11-05-3992

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ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

ARCHIVES OF HELLENIC MEDICINE 2014, 31(2):248–249
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2014, 31(2):248–249

Electrocardiogram Quiz – Case 16

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A 74-year-old man with a history consistent with arterial hypertension under treatment was referred for palpitations of a few weeks duration. The 12-lead surface ECG demonstrated normal sinus rhythm with a first degree atrioventricular block and no other pathology. A 24-hours Holter monitor recording is depicted in figure 1.

Questions

a. What is your diagnosis of the rhythm depicted in figure 1?
b. What further investigations and treatment would you suggest?

Comment

Paroxysmal atrial tachycardia with atrioventricular block (PAT with AV block) has been recognized since Lown and Levine clarified its diagnostic criteria and emphasized its important relation to digitalis excess.

In PAT with AV block, atrial rate is usually between 150 and 250 beats/min but may also be as low as 110 beats/min. Furthermore, every P wave is not followed by a QRS complex. Block is generally 2:1 or 3:1. Wenkebach type block may also be observed, while complete AV block, as in the present case, is seen very infrequently. Since the impulse originates from an ectopic focus, the P wave shape may be different than that of the sinus P wave. Moreover, since the impulse originates in the atrium, QRS complexes are expected to be narrow (<120 ms). Finally, an isoelectric baseline is observed between P waves.

The principal arrhythmias with which PAT with AV block may be confused are atrial flutter, atrial tachycardia, sinus tachycardia, and rarely atrial fibrillation. The absence of a constantly undulating baseline, the presence of upright P waves in leads II, III, and aVF, and an atrial rate less than 250 are features that help to distinguish PAT with AV block from atrial flutter. Occasionally, there may be confusion when the atrial rate in flutter is slowed by quinidine therapy. In this instance, however, the previous records and the clinical history will be of diagnostic importance. Careful examination of the ECGs will reveal the evidences of AV block that separate the disorder under discussion from paroxysmal atrial tachycardia or sinus tachycardia. Changed configuration of the P waves will also help to differentiate this entity from sinus tachycardia with AV block. Finally, PAT with varying degrees of AV block is expected to show regularly irregular QRS complexes, while atrial fibrillation is an inconstantly irregular rhythm.

Our patient denied any further investigation and treatment, while he promised to inform our team on any changes in his medical condition.

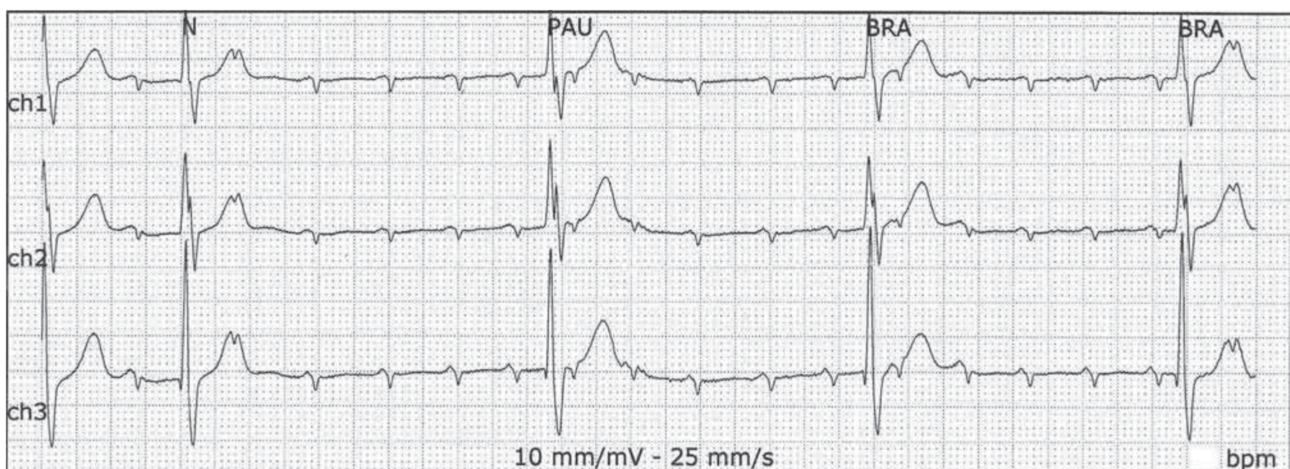

Figure 1

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Diagnosis: *Paroxysmal atrial tachycardia with complete atrioventricular block*