Electrocardiogram Quiz - Case 1

A 76-year-old patient with hypertension treated with atenolol and diuretic, came to the emergency clinic with palpitations and prosyncope lasting two hours, without having lost consciousness. Electrocardiogram is done in the figure.

1. Which is the basic rhythm?
2. Which medicines aren’t advisable for the treatment of this patient?

Comment

This rhythm represents tachycardia with a delta (δ) wave in I, aVL, V2–V6 leads. Normal conduction through the atrioventricular node is recognized in the 7th and 8th systole in I, II, III leads, 5th, 9th and 10th systole in V1–V3 leads and 1st, 2nd, 3rd, 4th and 9th systole in V4–V6 leads.

If there is an accessory conduction pathway, the use of drugs that delay the normal conduction through the A-V node is contraindicated, unless the additional conduction pathway is suppressed. The last one has shorter delay time than the A-V node and therefore does not suppress the rate of the rapid conduction of atrial flutter, which may be up to >400/min and may lead to hemodynamic instability due to reduced filling of the left ventricle.

Drugs that are contraindicated are digoxin, β-blockers, verapamil and tildazem that act through the A-V node.

The patient was treated with intravenous amiodarone, leading to suppression of the function of the additional conduction pathway.

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Diagnosis: Atrial fibrillation