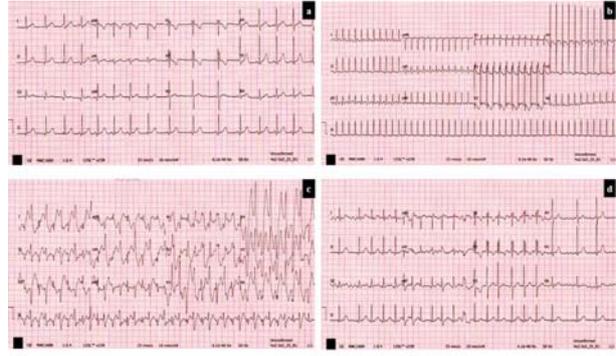


Different Arrhythmic Faces of Catecholaminergic Polymorphic Ventricular Tachycardia during Epinephrine Challenge Test in a Six Years Old Child

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Introduction: Catecholaminergic polymorphic ventricular tachycardia (CPVT) is an inherited arrhythmic disorder characterized by exercise-induced ventricular arrhythmias and risk for sudden cardiac death. The heart is structurally normal and the resting electrocardiogram (ECG) is normal. Maximal exercise stress test is a standart method in diagnosis of CPVT, because arrhythmias can be detected only during exercise. In patients, not suitable for exercise stress test due to young age, or where the exercise test is inconclusive, epinehrine challenge test can be used in the diagnosis. Atrial arrhythmias in CPVT patients during exercise testing have been reported already in the literature. But to our best knowledge, this is the first pediatric case, where atrial tachycardias were induced during an epinephrine challenge test.

Case Report: Six years old male patient admitted with syncope, recurring in the last three years, especially when he was excited. Twelve lead surface ECG, echocardiography and ambulatory ECG were found normal. Treadmill exercise stress test was found inconclusive for CPVT due to non-cooperation for the test. So, adrenalin stress test was performed according to Ackerman protocole. Basal ECG was consistent with normal sinus rhythm (Figure 1a). During 0,25 mcg/kg/min infusion first a supraventricular tachycardia with narrow QRS complex was induced (Figure 1b). Next, a bidirectional polymorphic ventricular tachycardia developed (Figure 1c), and at least atrial flutter with varying degrees of AV block was induced. Medical therapy with dideral and flecainid was initiated. The patient is still under control and asymphtomatic with medical therapy.

Conclusion: Not only bidirectional polymorphic ventricular tachycardia, but also several types of atrial tachycardias can be induced during the adrenalin stres test fort he diagnosis of CPVT.