A Young Case of IntraFascicular Ventricular Tachycardia with Narrow QRS Complex

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Introduction: Some previous reports demonstrated that ventricular tachycardia may rarely show narrow QRS complex. We experienced a young boy who had past history of Kawasaki disease with such a pattern of ventricular tachycardia. Case Presentation: A 14 year-old boy was transferred to our emergency department in a hemodynamically collapsed state. On 12-lead electrocardiograms, narrow QRS tachycardia with left posterior hemiblock morphology was recorded. We tried to terminate the tachycardia by intravenous infusion of medicine. At first, ATP was injected rapidly, the tachycardia was not terminated. We subsequently injected procainamide. The tachycardia was terminated. QRS complexes during sinus rhythm were similar to those during the tachycardia. Imaging examinations did not reveal structural heart disease on him. We performed electrophysiological study for diagnosis of the tachycardia. The tachycardia was easily induced by atrial extra stimulus and terminated by atrial burst pacing. The interval of His-right fascicular potentials was shorter than that of normal sinus rhythm. Therefore, the mechanism of the tachycardia was assumed to be microreentry rotating around proximal site of purkinje network, which means intrafascicular ventricular tachycardia. In other day, we tried catheter ablation, but the tachycardia was no more induced by any stimuli, so we could not have the procedure. The young patient was treated with oral administration of procainamide and remained asymptomatic.

Keywords: ventricular tachycardia, microreentry, intrafascicular reentry