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Longstanding persistent accelerated idioatrial rhythm: Benign sinus node-like rhythm or insidious rhythm?

Hailei Liu

Nanjing Medical University, China

Detailed description of long-standing persistent accelerated idioatrial rhythm (AIAR) is lacking. This observational study investigated the clinical manifestations, electrophysiological characteristics, diagnosis, treatment and prognosis of this unusual arrhythmia. Fifteen patients (11 males; average age 25.9 ± 15.7 years) suspected with long-standing persistent AIAR were enrolled in our study. All patients had ECG, 24-hour Holter monitoring, isoproterenol provocation test, echocardiogram, and exercise treadmill test. Electrophysiological study (EPS) and catheter ablation were performed if necessary. The above noninvasive tests would be repeated during follow-up. Among them, ten were asymptomatic; five had concomitant paroxysmal atrial tachycardia. Two asymptomatic patients had impaired left ventricular function. AIAR was observed throughout 24-hour Holter monitoring, showing chronotropic profile similar to sinus rhythm. Such AIAR exhibited competitive property with sinus rhythm (SR) when provoked by isoproterenol or during treadmill test. Twelve patients had EPS and eight of them had successful ablation to eliminate AIAR. During a medium follow-up of 3.7 years, all patients were in well clinical course and preserved left ventricular dysfunction, and three patients spontaneously reverted to SR at 10 year's follow-up. Long-standing persistent AIAR is an unusual entity of atrial arrhythmias and in most situations a benign rhythm requiring no treatment. The clinical course will be worsened when AIAR develops rapid focal firing, is associated with focal atrial tachycardias or results in tachycardia-mediated cardiomyopathy, but can be resolved via catheter ablation.

liuhailei@njmu.edu.cn