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CASE REPORT

Permanent junctional reciprocating tachycardia in a patient with an atypically located accessory pathway in the left lateral mitral annulus

Moisés Rodríguez-Mañero*, Xesús A. Fernández-López, Laila González-Melchor, Javier García-Seara, Jose Luis Martínez-Sande, José Ramón González-Juanatey

Arrhythmias Unit, Cardiology Department, University Hospital of Santiago de Compostela, Galicia, Spain

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KEYWORDS
Permanent junctional reciprocating tachycardia;
Catheter ablation;
Accessory pathway;
Paroxysmal supraventricular tachycardia

Abstract Permanent junctional reciprocating tachycardia (PJRT) is an uncommon form of atrioventricular reentrant tachycardia due to an accessory pathway characterized by slow and decremental retrograde conduction. The majority of accessory pathways in PJRT are located in the posteroseptal zone. Few cases of atypical location have been described. We report a case of PJRT in a 72-year-old woman in whom the accessory pathway was located in the left lateral region and treated by radiofrequency catheter ablation.

PALAVRAS-CHAVE
Taquicardia permanente juncional reciprocante;
Ablação por cateter;
Via de acesso;
Taquicardia supraventricular paroxística

Taquicardia juncional permanente reciprocante numa doente com via acessória de localização atípica no anel mitral lateral esquerdo

Resumo A forma permanente de taquicardia juncional reciprocante é uma modalidade incomum de taquicardia auriculoventricular reentrante devida a via de acesso caracterizada por condução retrógada lenta e gradual. A maioria das vias acessórias na forma permanente da taquicardia juncional reciprocante está localizada na zona posterosseptal. Foram apresentados poucos casos de localização atípica1-4. Apresentamos o caso de forma permanente da taquicardia junctional reciprocante numa mulher de 72 anos na qual a via acessória foi colocada na região lateral esquerda sendo a ablação efetuada por cateter de radiofrequência.

* Corresponding author.
E-mail address: moirmanero@gmail.com (M. Rodríguez-Mañero).

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Introduction

Permanent junctional reciprocating tachycardia (PJRT) is an uncommon form of atrioventricular (AV) reentrant tachycardia due to the presence of an accessory pathway (AP) characterized by slow and decremental retrograde conduction, and usually occurs in children and young adults. The hallmark ECG feature is an incessant narrow complex tachycardia with inverted P waves in leads II, III and aVF, as well as the left lateral leads, and an RP interval longer than the PR interval. Although most APs in PJRT are located in the posteroseptal zone, other locations have been described. It should be noted that this tachycardia is generally incessant and slower than common supraventricular tachycardias, hence correct diagnosis is very important due to the inherent risk of left ventricular dysfunction secondary to tachycardiomyopathy.

Case report

A 72-year-old woman with a history of frequent episodes of palpitations since childhood had been diagnosed as having 'bradycardia-tachycardia syndrome' (sick sinus syndrome) followed by pacemaker implantation five years previously. She complained of dyspnea with minimal exertion and permanent fast heart rate. The patient stated that she had actually felt worse since the pacemaker implantation. During the pacemaker interrogation repetitive induction of a narrow QRS tachycardia was seen during measurement of the ventricular threshold, with a single extra beat (Figure 1). The ECG showed a narrow QRS tachycardia of 125 bpm, negative P waves in the inferior leads, I and aVL, positive in V1, and long RP intervals. Moreover, multiple episodes of incessant narrow QRS tachycardia were also documented by the pacemaker, frequently initiated after a pacing beat. The echocardiogram showed impaired left ventricular ejection fraction. With the suspicion of tachycardiomyopathy (the percentage of ventricular pacing was less than 1%, ruling out right ventricular apical pacing-related heart failure), the patient was referred for electrophysiology study.

After written informed consent was obtained, the ablation procedure was performed under deep sedation in a fasting and drug-free state. The patient had been in incessant tachycardia since her arrival in the electrophysiology laboratory. Three standard diagnostic catheters were introduced via the femoral veins and placed in the His bundle, right ventricle and coronary sinus. Long RP tachycardia was confirmed (Figure 2A), with a distal to proximal atrial activation sequence in the coronary sinus (CS) (earliest atrial activation being located at the distal electrode pair of the CS catheter), 1:1 AV relationship, AV interval of

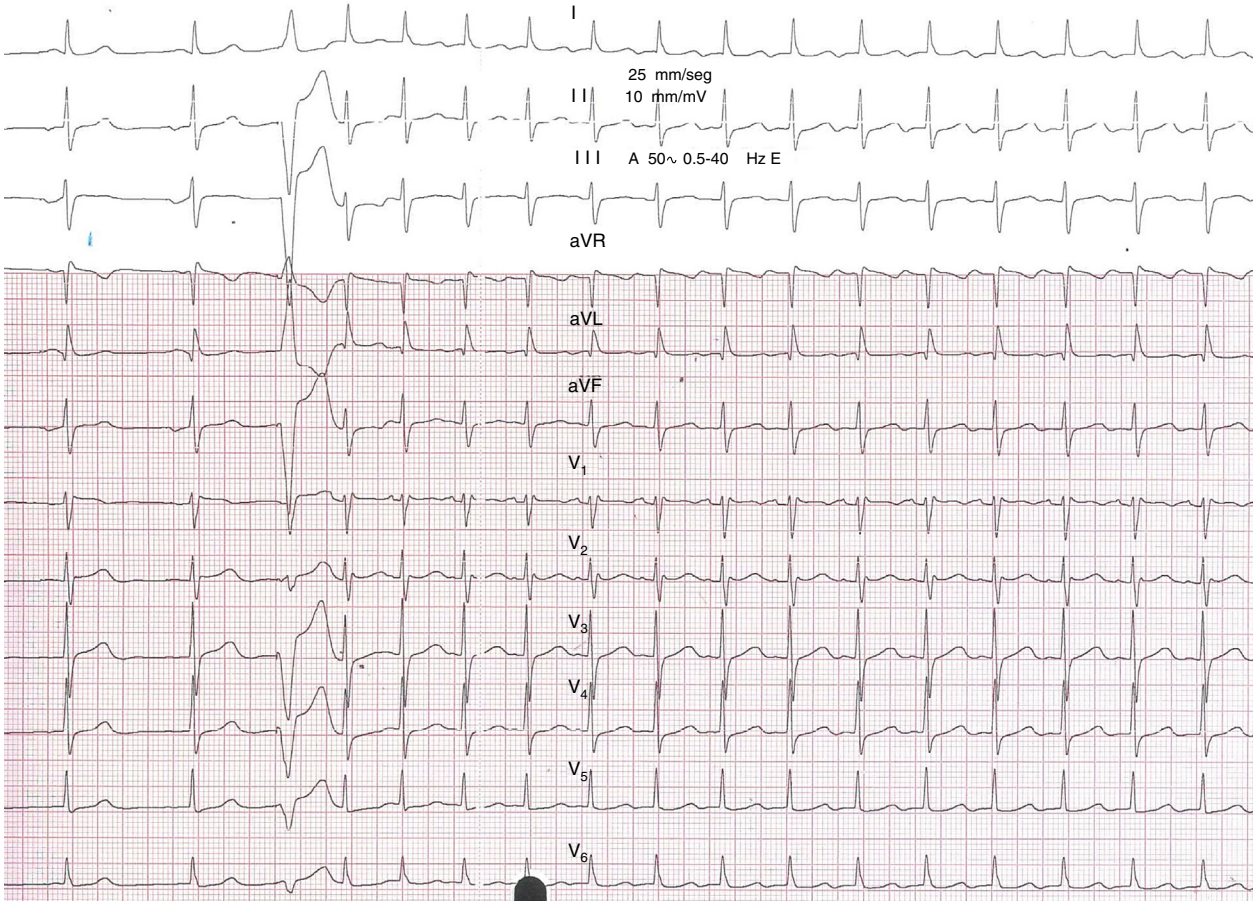

Figure 1 12-lead ECG obtained during sinus rhythm, showing a normal PR interval with no delta waves. Tachycardia is then induced with a single extra beat from the right ventricular apex, exhibiting narrow QRS complexes, long RP intervals, and inverted P waves in the inferior leads, I and aVL and positive in V1.