



## LETTER TO THE EDITOR

### Reply to the letter “Radiofrequency ablation and predictors for faster recovery for tachycardia-induced cardiomyopathy in the pediatric population”



### Resposta à Carta ao Editor «Ablação de radiofrequência e os preditores para uma recuperação mais rápida para miocardiopatia induzida por taquicardia na população pediátrica»

We thank Gulgun et al. for their interesting comments regarding our case report of a 72-year-old woman with permanent junctional reciprocating tachycardia (PJRT).<sup>1</sup> Interestingly, although the majority of these types of accessory pathways (AP) are located in the posteroseptal zone, in our patient it was located in the left lateral region. Notably, as Gülgün et al. highlighted in their letter, due to the fact that this tachycardia tends to be incessant, it has the inherent risk of left ventricular dysfunction secondary to tachycardiomyopathy. We completely agree with the conclusions of their letter: (1) clinicians should consider tachycardia-induced cardiomyopathy due to PJRT in children and adults with low ejection fraction; (2) radiofrequency (RF) ablation might be a curative treatment for this tachycardia and left ventricular dysfunction.

Gülgün et al. also report an interesting and challenging case of a premature newborn with multi-drug resistant PJRT, which resulted in tachycardia-induced cardiomyopathy. Although the two cases share the same mechanism and both highlight the importance of this entity, their case has several differences from the one reported by our group. The most striking one is the age of presentation. As they stated, this type of tachycardia usually appears in young patients. By contrast, our patient was diagnosed at an older age. However, although we could have been mistaken, our hypothesis is that the incessant presentation

was precipitated by pacemaker stimulation. This was reproducibly mimicked during pacemaker interrogation, when induction of a narrow QRS complex tachycardia was provoked with a single extra beat (as shown in Figure 1 in our article). To the best of our knowledge, this is the first case reporting such a phenomenon. One argument supporting this hypothesis comes from the fact that previous to pacemaker implantation our patient had normal left ventricular ejection fraction, which decreased considerably after pacemaker implantation but recovered completely after RF ablation. Güldrün et al. referred to a study by Moore et al.<sup>3</sup> in which these authors listed the predictors of left ventricular systolic functional recovery. They identified baseline left ventricular end-diastolic diameter as the only predictor for normalization of left ventricular dimensions, as was the case of the patient we presented.

Importantly, both cases underline that PJRT is highly refractory to antiarrhythmic drug therapy, possibly because conduction intervals may be prolonged without creating a conduction block in either the antegrade AV node or the retrograde AP, thus failing to control the tachycardia.

Hence, in conclusion, from our point of view these case reports are very illustrative because they highlight that catheter ablation of AP in PJRT is an effective and preferable option in patients with tachycardia refractory to multiple pharmacologic treatments, and particularly when left ventricular dysfunction is present. As herein described, it can appear in a wide age range (a newborn<sup>1</sup> and an 72-year-old individual<sup>2</sup>). Finally, although in most cases of PJRT the AP is located in the right posteroseptal region around or just within the coronary sinus ostium,<sup>3</sup> other atypical locations such as the one reported in this case are also possible.

### Conflicts of interest

The authors have no conflicts of interest to declare.

### References

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