

Letter to the Editor

Interatrial block, supraventricular arrhythmias and myotonic dystrophy

Dear Editor,

I take delight in reading the research by Russo et al¹. They focused on P-wave parameters in myotonic dystrophy type 1 patients aiming to investigate the relationship between derangement of cardiac conduction system – distinguishing trait of Steinert disease – and pathophysiology of supraventricular arrhythmias. Their careful electrocardiographic analysis offers a good opportunity to investigate the role of interatrial conduction velocity in the development of such arrhythmias. Indeed, patients with left atrial enlargement – a possible cause of increased P-wave duration – have been excluded. As a result, P-wave enlargement only stands for slowing of interatrial conduction velocity². It should be noted that – although authors did not mention it – increased P-wave duration is the hallmark of interatrial block³ and – as they correctly stated – it could play a main role in determinism of atrial fibrillation.

In my opinion, they could improve their remarkable findings. Aiming to in-depth investigate the relationship between interatrial conduction velocity and supraventricular arrhythmias it should also be analyzed P-wave morphology in inferior leads. Biphasic (+/-) P-wave in leads II, III and aVF suggests left atrial caudal-cranial depolarization that is the feature of advanced interatrial block^{3,4}. In different clinical scenario^{3,5-8}, the latter has shown a stronger relationship with supraventricular arrhythmias, specifically atrial fibrillation and flutter, than partial interatrial block (defined as increased P-wave duration with normal morphology). Severe derangement of conduction velocity along Bachmann's bundle can lead to ring-shaped depolarization of the atria. In the right atrium, depolarization wave runs downwards followed by left atrium upwards activation producing the substrate for re-entry arrhythmias.

Therefore, the Authors should also analyze P-wave morphology in inferior leads in their patients with and without paroxysmal atrial fibrillation looking for stronger non-invasive electrocardiographic predictors of arrhythmic risk in myotonic dystrophy.

Conflict of Interest

The Authors declare no financial support and no conflict of interest.

References

- 1) RUSSO V, DI MEO F, RAGO A, PAPA AA, MOLINO A, MOSELLA M, POLITANO L, RUSSO MG, NIGRO G. Paroxysmal atrial fibrillation in myotonic dystrophy type 1 patients: P wave duration and dispersion analysis. *Eur Rev Med Pharmacol Sci* 2015; 19: 1241-1248.
- 2) CHHABRA L, DEVADOSS R, CHAUBEY VK, SPODICK DH. Interatrial block in the modern era. *Curr Cardiol Rev* 2014; 10: 181-189.
- 3) BAYÉS DE LUNA A, PLATONOV P, COSIO FG, CYGANKIEWICZ I, PASTORE C, BARANOWSKI R, BAYÉS-GENIS A, GUINDO J, VIÑOLAS X, GARCIA-NIEBLA J, BARBOSA R, STERN S, SPODICK D. Interatrial blocks. A separate entity from left atrial enlargement: a consensus report. *J Electrocardiol* 2012; 45: 445-451.
- 4) MARANO M, D'AMATO A, BAYÉS DE LUNA A. Electrocardiographic diagnosis of interatrial block. *G Ital Cardiol (Rome)* 2015; 16: 190-191.
- 5) BAYÉS DE LUNA A, CLADELLAS M, OTER R, TORNER P, GUINDO J, MARTÍ V, RIVERA I, ITURRALDE P. Interatrial conduction block and retrograde activation of the left atrium and paroxysmal supraventricular tachyarrhythmia. *Eur Heart J* 1988; 9: 1112-1118.

- 6) CONDE D, BARANCHUK A, BAYÉS DE LUNA A. Advanced interatrial block as a substrate of supraventricular tachyarrhythmias: a well recognized syndrome. *J Electrocardiol* 2015; 48: 135-140.
- 7) SADIO ALI F, ENRIQUEZ A, CONDE D, REDFEARN D, MICHAEL K, SIMPSON C, ABDOLLAH H, BAYÉS DE LUNA A, HOPMAN W, BARANCHUK A. advanced interatrial block predicts new onset atrial fibrillation in patients with severe heart failure and cardiac resynchronization therapy. *Ann Noninvasive Electrocardiol* 2015 Feb 2. doi: 10.1111/anec.12258. [Epub ahead of print].
- 8) ENRIQUEZ A, SARRIAS A, VILLUENDAS R, ALI FS, CONDE D, HOPMAN WM, REDFEARN DP, MICHAEL K, SIMPSON C, DE LUNA AB, BAYÉS-GENÍS A, BARANCHUK A. New-onset atrial fibrillation after cavotricuspid isthmus ablation: identification of advanced interatrial block is key. *Europace* 2015 Feb 10. pii: euu379. [Epub ahead of print].

M. Marano

Hemodialysis Unit, Maria Rosaria Clinic, Pompeii, Italy