Letter by Jackson et al Regarding, “PR Interval Identifies Clinical Response in Patients With Non-Left Bundle Branch Block: A Multicenter Automatic Defibrillator Implantation Trial-Cardiac Resynchronization Therapy Substudy” by Kutyifa et al

Kutyifa et al\(^1\) present an interesting post hoc analysis of the Multicenter Automatic Defibrillator Implantation Trial-cardiac resynchronization therapy database where they determined that patients who had non-left bundle branch block (non-LBBB) pattern only benefitted from cardiac resynchronization therapy (CRT) if they had a prolonged PR interval at baseline. The authors postulate that this benefit may relate to improved atrio-ventricular timing and cited a small case series where patients with dilated cardiomyopathy may have benefitted from a shortened atrio-ventricular delay. Given that improved atrio-ventricular timing has not been shown to be critical for CRT response in patients with an LBBB pattern,\(^2\) it is not clear why improved atrio-ventricular synchrony alone would have such a profound effect on CRT response for non-LBBB patients.

The majority of evidence for CRT response comes from patients with left ventricular dyssynchrony because of LBBB.\(^3\) Therefore, it seems equally possible that the benefit derived from CRT by non-LBBB patients with a prolonged PR interval in this study was because of the presence of masked LBBB. A mean PR interval of 254 ms (range, 230–360 ms) in these patients, would allow room for significant conduction delay in the left bundle branches to still be masked by more significant conduction delay in the right bundle. The significantly increased left ventricular end diastolic volume indices in this subgroup of patients (mean, 115 mL/m\(^2\)) would also be consistent with delayed left ventricular basal and lateral activation. Confirming the presence of a masked LBBB in patients before CRT implantation would require a more invasive approach to map left ventricular activation with an electrophysiology study. This approach may, however, increase our understanding of CRT response in patients with non-LBBB QRS patterns.

Disclosures

None.

Nicholas Jackson, MD, FRACP
Andreu Porta-Sanchez, MD
Andrew C.T. Ha, MD, FRCPC
Cardiology Department
Toronto General Hospital
Toronto, Ontario, Canada

References


Letter by Jackson et al Regarding, "PR Interval Identifies Clinical Response in Patients With Non-Left Bundle Branch Block: A Multicenter Automatic Defibrillator Implantation Trial-Cardiac Resynchronization Therapy Substudy" by Kutyifa et al
Nicholas Jackson, Andreu Porta-Sanchez and Andrew C.T. Ha

Circ Arrhythm Electrophysiol. 2014;7:1279
doi: 10.1161/CIRCEP.114.002279

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circep.ahajournals.org/content/7/6/1279

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation: Arrhythmia and Electrophysiology can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation: Arrhythmia and Electrophysiology is online at:
http://circep.ahajournals.org/subscriptions/