LETTER TO THE EDITOR

Differentiation of Narrow Complex Tachycardia - Authors' Response

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Dear Editor:

Thank you for allowing us to comment on the letter from Dr's Ali and Veenhuyzen (1) in connection to our recent case report of inducible long RP tachycardia during electrophysiology study in a 43-year-old male with apparent ventricular pre-excitation (characterized by a delta wave) consistent with a left sided postero-lateral accessory pathway (AP) (not a left free wall AP since the delta wave is positive in I and AVL and negative in AVF, III and II) on a baseline12 lead electrocardiogram (ECG) and symptomatic as well as documented recurrent Long RP supraventricular tachycardia (SVT) (2), in which the interval between the onset of the QRS complex and the P-wave exceeds half of the R-R interval (3). Since we could not cannulate the coronary sinus, at the beginning of the case, After inducing SVT, the intra-cardiac electrocardiogram "EGM" from right ventricule (RV) to high right atrium (HRA) showed long RP SVT since the P wave was not seen well on the ECG.

After coronary sinus cannulation, The RP was short, with the shortest VA interval was at 80 ms This is usually consistent with all narrow QRS complex SVT's except for typical atrioventricular nodal re-entrant tachycardia (AVNRT), which has specific VA < 70 ms (4). Orthodromic reciprocating tachycardia (ORT) must be included in the differential diagnosis. While mechanistically paroxysmal (or persistent) junctional reciprocating tachycardia is a specific type of ORT, its unique clinical characteristics warrant its listing as a separate diagnosis in the differential (5).

Although there is some overlap, the post-pacing interval (PPI) - tachycardia cycle length (TCL) is longer in

atypical AVNRT than ORT utilizing a left lateral accessory pathway, even when pacing from the right ventricular apex (6,7). Calculating the corrected PPI – TCL is an excellent suggestion. In our case the corrected PPI - TCL is 90 ms, which supports the diagnosis of ORT (6).

Entrainment from the basal left ventricle was not performed, so we can only speculate what the results of this maneuver would have been. His-synchronous premature ventricular contractions (PVC) failed to pre-excite the atrium or terminate the tachycardia. This usually excludes a septal AP but not a left sided AP. Termination of tachycardia is rare, occurring in only 10% of patients with an ORT, but it is diagnostic of ORT and worth attempting (8).

We agree with the clarification that shortening of the VA interval with the resolution of bundle branch block is analogous to lengthening of the VA interval with the development of bundle branch block and that both are diagnostic of an ORT utilizing and accessory pathway.

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