Ventricular tachycardia with frequent retrograde P waves

Fujun Shang · Jiepin Wang · Bin Wang · Zhili Li ·
Yusheng Xue

© Springer Media / Bohn Stafleu van Loghum 2012

Answer to the rhythm puzzle

The answer is ventricular tachycardia with frequent retrograde P waves.

The 12-lead onset ECG showed the QRS complex morphology in lead V1 where prominent R waves are seen, similar to the pattern of right bundle branch block. It was evident that there were notched waves following most of QRS complexes (Fig. 2, arrow). The notched wave was irregular in itself and related to the QRS complex. The above patterns were supportive of ventricular tachycardia with frequent retrograde atrioventricular conduction. Invasive electrophysiological study was undertaken to confirm

the relationship between the atrium and ventricle. Intracardiac recording of coronary sinus electrodes more clearly showed the retrograde atrioventricular conduction. The missing retrograde P wave was probably due to sinus node interference (Fig. 3, arrow). So, the diagnosis is ventricular tachycardia with frequent retrograde atrioventricular conduction, which was further confirmed by successful ablation with radiofrequency post-medially of left ventricular septum. The tachycardia origin is near the left posterior fascicle of the left bundle branch, which explains why the QRS complex duration is not overtly wide. The patient is asymptomatic after 1 year of follow-up.

F. Shang · B. Wang · Z. Li · Y. Xue (✉)
Department of cardiology, Tangdu hospital, Fourth Military
Medical University,
Xi'an 710038, People's Republic of China
e-mail: xueys@hotmail.com

F. Shang
e-mail: shangfujun4@163.com

B. Wang
e-mail: binwang@163.com

Z. Li
e-mail: zhili_li@fmmu.edu.cn

J. Wang
Department of pharmaceutics, Tangdu hospital, Fourth Military
Medical University,
Xi'an 710038, People's Republic of China
e-mail: wangjp@fmmu.edu.cn

Fig. 2 The 12-lead surface ECG during onset of palpitation. *Arrow* denotes retrograde P wave

Fig. 3 Intracardiac recording in invasive electrophysiological study. *Arrow* denotes missing retrograde P wave due to sinus node interference. CS = coronary sinus, RVA = right ventricular apex