Coexistence of arrhythmogenic right ventricular cardiomyopathy and coronary artery disease in a patient with ventricular tachycardia: a highly unusual combination

A middle-aged patient with arterial hypertension and dyslipidaemia presented with a 10-year history of recurrent sustained monomorphic ventricular tachycardia (VT) provoked by exertion or emotional affect (figure 1A). He had been treated with propafenone and amiodarone. Four years before, the standard 12-lead and modified Fontaine ECG in sinus rhythm were normal, as was the echocardiogram. VT of different morphology was reproducibly induced and terminated with programmed right ventricular (RV) pacing (figure 1B). Coronary angiography showed three-vessel coronary artery disease (figure 2A,B). The operator thought this was the cause of the VT and implanted three intracoronary stents. RV angiography was not performed. Treatment with amiodarone was continued.

Three years later, after the drug had been stopped because of corneal deposits, the patient had VT recurrences. Cardiac MRI investigation showed a normal left ventricle, severely dilated RV with fibro-fatty infiltration and thinning of the wall, large RV free wall aneurism, and smaller RV outflow tract aneurism.

**Figure 1** (A) The clinical ventricular tachycardia (VT). Note that the morphology is right bundle branch block and is unusual for a VT of right ventricular origin. (B) Induction of sustained monomorphic VT of left bundle branch block morphology, left superior axis, typical of a VT associated with arrhythmogenic right ventricular cardiomyopathy. (C) Epsilon waves (arrows) on modified Fontaine ECG leads.
A new modified ECG showed epsilon waves (figure 1C). The diagnosis of arrhythmogenic RV cardiomyopathy was accepted as definite. A new coronary angiography did not show in-stent restenosis or new coronary lesions (figure 2G, H). The RV angiography confirmed the MRI findings and found a small apical aneurism as well (see online supplementary videos 1 and 2). A cardioverter-defibrillator was implanted.

This case underscores the importance of cardiac imaging in patients with VT and shows that the combination of two heart conditions that could cause VT is not impossible.
Tchavdar N Shalganov,¹ Milko K Stoyanov,¹ Kamelia Z Genova²,³
¹Cardiology Department, National Heart Hospital, Sofia, Bulgaria
²Department for Cardiovascular Imaging and Radiology, National Heart Hospital, Sofia, Bulgaria
³Medical Diagnostic Laboratory M-Tech, Sofia, Bulgaria

Correspondence to Professor Tchavdar Shalganov, Cardiology Department, National Heart Hospital, 65 Koniovitsa Street, Sofia 1309, Bulgaria; t_shalganov@yahoo.com

Contributors  TNS conceived the idea and drafted the final version of the manuscript. MKS cared for the patient and drafted the manuscript. KZG prepared the figures. All revised the manuscript and approved it.

Competing interests  None.

Provenance and peer review  Not commissioned; internally peer reviewed.

▸ Additional material is published online only. To view please visit the journal online (http://dx.doi.org/10.1136/heartasia-2013-010274).

To cite  Shalganov TN, Stoyanov MK, Genova KZ. Heart Asia Published Online First: [please include Day Month Year] doi:10.1136/heartasia-2013-010274

Heart Asia 2013;0:49–51. doi:10.1136/heartasia-2013-010274

REFERENCE