A 69-year-old man was admitted to hospital because of sustained ventricular tachycardia with right bundle branch block morphology. After abolition of ventricular tachycardia, an electrocardiogram showed atrial fibrillation, complete right bundle block, abnormal Q wave in III, and ST-depression in V4–V6. Cardiac catheterization disclosed extensive replacement of the myocardium with fibro-adipose tissue, replacing preexisting myocardium (hematoxylin-eosin stain), which are features supporting the diagnosis of ARVC.

Multislice computed tomography (CT) was performed with a 64-slice scanner (Aquilion 64, Toshiba Medical Systems) after an intravenous injection of contrast medium. Axial CT images demonstrated low-density areas (~120 to ~50 HU) indicative of focal fatty infiltration in the anterior wall of right ventricular outflow tract and along the right ventricular side of interventricular septum. In addition, conspicuous trabeculations with low attenuation (~10 HU) and a wedge-shaped low-density areas (~50 to ~60 HU) in the left ventricular myocardium were observed. Cinematic display of basal short axis images reconstructed from the same CT data set revealed marked wall thinning and wall motion abnormalities in the inferior wall of left ventricle and interventricular septum. Of note, a localized right ventricular aneurysm was noted in the inferior wall of right ventricle (Panel A–C).

An endomyocardial biopsy specimen from right ventricle disclosed extensive replacement of the myocardium with fibro-adipose tissue (Panel D) and the patient was diagnosed with arrhythmogenic right ventricular dysplasia/cardiomyopathy (ARVD/C). The presence of normal coronary angiograms suggested left ventricular involvement. Multislice CT has demonstrated morphological and functional changes in ARVD/C. And multislice CT can be used in patients with an implantable cardioverter-defibrillator. Therefore, multislice CT may have a significant role in the assessment and follow-up of ARVD/C.

Panels A–C. Contrast-enhanced multislice CT images in ventricular short-axis (Panel A) and long axis (Panel B and C) plane also reconstructed showed the ventricular septal aneurysm. Multislice CT images showed fatty replacement of the RV and LV myocardium (black arrows).

Panel D. Microscopic examination of myocardial biopsy specimen demonstrated extensive fatty infiltration composed of mature adipose tissue, replacing preexisting myocardium (hematoxylin-eosin stain), which are features supporting the diagnosis of ARVC.