

Implantable cardioverter-defibrillator in a patient with left ventricular non-compaction cardiomyopathy

Implantowany kardiowerter-defibrylator u pacjenta z niescaleniem mięśnia lewej komory

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Left ventricular non-compaction (LVNC) is an uncommon cardiomyopathy characterised by the persistence of foetal myocardium with excessive prominence of trabecular meshwork and deep intertrabecular recesses, systolic dysfunction, and left ventricular (LV) dilatation. Clinical manifestations are highly variable, ranging from no symptoms to a progressive deterioration in cardiac function that results in congestive heart failure. Outcomes and appropriate therapies remain poorly defined. We report the case of a patient with LVNC, non-sustained ventricular tachycardia (nsVT), and family history of sudden cardiac death (SCD). A 50-year-old female patient was admitted to hospital with dizziness and fainting of two years duration. Echocardiography revealed LV dilatation (end-diastolic volume 254 mL), normal wall thickening (interventricular septum 10 mm, posterior wall 9 mm), widespread LV hypokinesia with an ejection fraction of 31%, and restrictive type diastolic filling pattern with mitral E/E' ratio of 20. Hypertrabeculations were noted at the LV apical and lateral walls (Fig. 1A, B). Coronary angiography revealed normal coronary arteries. Cardiac magnetic resonance imaging confirmed the presence of hypertrabeculation with a two-layered structure of the endocardium with an increased noncompacted to compacted ratio (2.4–4.1) in the LV lateral wall and apical, as well as global hypokinesia and an increased LV volume, which were all compatible with LVNC (Fig. 1C, D). 24-hour Holter electrocardiogram revealed nsVT. A single-chamber implantable cardioverter-defibrillator (ICD) was prophylactically implanted because of the individual's high SCD risk. Follow-up at ten months revealed one episode of VT and ICD intervention. Life-threatening ventricular arrhythmias may occur in patients with LVNC. Its low prevalence and the limited data available in the literature do not allow us to draw a firm conclusion on the prognosis of these patients. The best therapeutic decision should be based on the patient's own clinical features. Experts recommend that an ICD may be considered in patients with LVNC in cases of aborted cardiac arrest, sustained VT, syncope related to ventricular arrhythmias, family history of SCD, or severely impaired LV ejection fraction.

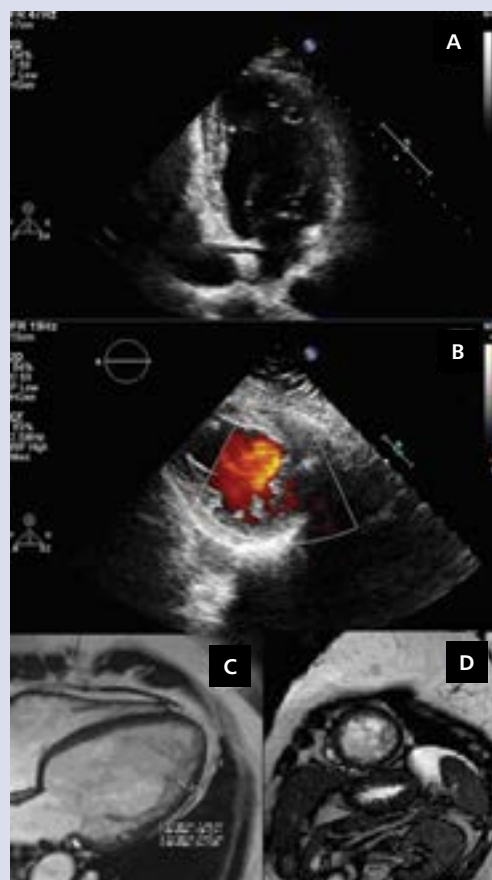


Figure 1. Left ventricle lateral wall hypertrabeculation; **A.** Transthoracic echocardiography (TTE), modified four-chamber view; **B.** TTE, long-axis view with colour flow Doppler; **C.** Cardiac magnetic resonance (CMR), SSFP image, four-chamber view; **D.** CMR, SSFP image, SA view

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