DIAGNOSTIC CRITERIA FOR NON-DILATED LEFT VENTRICULAR CARDIOMYOPATHY WITH PROGNOSTIC SIGNIFICANCE

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Background: Non-dilated left ventricular cardiomyopathy (NDLV) is a novel diagnostic entity defined as non-ischemic LV scarring or fatty replacement regardless of the presence of global or regional wall motion abnormalities, or isolated global LV hypokinesia without scarring. While the absence of LV dilation and systolic dysfunction are implicit, no cut-offs were proposed.

Methods: All patients undergoing cardiac magnetic resonance (CMR) examination at a tertiary referral center from 2012 to 2022 and meeting the definition of NDLV were evaluated. The primary endpoint was a composite of cardiac death, sustained ventricular tachycardia (VT) or ventricular fibrillation, appropriate defibrillator intervention; the secondary endpoint included also non-sustained VT.

Results: The cohort included 262 patients, with 176 men (67%) and a median age of 55 years (interquartile range 44-64 years). Patients without moderate (n=243, 93%) or severe LV dilation (n=249, 95%) had a longer survival free from both endpoints. The 50% LVEF threshold identified patients with different outcomes, whereas the 55% and 60% cut-offs did not. LVEF ≥50% and no severe LV dilation predicted a better outcome independent of percent LGE in the LV, the number of LV segments with LGE, LV fibro-fatty replacement, or right ventricular involvement. LVEF ≥50% and no severe LV dilation retained an independent prognostic value even in patients with LV LGE (80% of the whole cohort).

Conclusions: Excluding severe LV dilation (LVEDVi >129 mL/m² in men and >116 mL/m² in women) and LV dysfunction (LVEF <50%) could enhance the prognostic utility of the NDLV definition.