

# Accidental Discovery of Isolated Left Ventricular Non-compaction Using Contrast Echocardiography

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## Abstract

We describe a case of accidental discovery of isolated left ventricular non-compaction using contrast echocardiography

## CASE REPORT

A 46-year-old woman presented with a 10-year history of dyspnea. In 1996, she had been diagnosed with non-obstructive hypertrophic cardiomyopathy with normal systolic function by transthoracic echocardiography (TTE). This was confirmed in 2000 by repeat TTE. In 2004, she developed repeated syncopal attacks and was diagnosed with non-sustained ventricular tachycardia and treated with amiodarone. Repeated TTE revealed no change from the previous studies. Subsequently, the patient symptoms worsened with severe progressive dyspnea (NYHA functional class = III/IV), palpitations and repeated syncope. Physical examination uncovered elevated jugular venous pressure with paradoxical S2 by auscultation. Her ECG demonstrated first degree heart block and left bundle branch block. Repeat TTE using second harmonic mode was technically difficult and probably showed concentric left ventricular (LV) hypertrophy with mild impairment of systolic function (Video 1). Multiple boluses of 0.1 to 0.2 mL of perflutren (Definity™, Bristol-Myers Squibb Medical Imaging, North Billerica, MA, USA) were administered intravenously to obtain a more detailed evaluation of these findings. This technique surprisingly revealed several prominent trabeculations and deep intertrabecular recesses which had a synchronous movement of contraction with ventricular myocardium. It also clearly

showed the direct communication between the interventricular spaces and LV cavity (Video 2). These findings are pathognomonic for left ventricular non-compaction (LVNC).

In this report, CE allowed for the diagnosis of LVNC that was missed for a decade. With CE, the LV endocardial borders are sharply demarcated allowing an optimal visualization of the prominent myocardial trabecular recesses, an intertrabecular flow from the LV cavity and an accurate diagnosis of LVNC.

## VIDEOS

Video 1: Technically difficult TTE in apical 4-chamber view without CE probably showing concentric LV hypertrophy and mildly impaired LV systolic function.

Video 2: TTE in apical 4-chamber view with CE clearly showing excessive and prominent trabeculations of the LV

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## References

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