Double-chambered left ventricle plus left ventricular non-compaction: report of an abnormal association

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Case report
A 57-year-old asymptomatic woman with no significant medical history was referred for routine cardiac evaluation of hypertension. A transthoracic echocardiogram showed normal cardiac chamber dimensions, preserved biventricular systolic function, and prominent trabeculation mainly in the apical region (Panel A; see Supplementary data online, Video S1). Colour Doppler demonstrated flows in the intertrabecular recesses (Panel B; see Supplementary data online, Video S2), compatible with the diagnosis of left ventricular non-compaction (fulfilling Stöllberger and Chin criteria). Three-dimensional (3D) echocardiography (Panel C; see Supplementary data online, Video S3) additionally showed left ventricle (LV) subdivision into two distinct contractile chambers by an anomalous muscle band (asterisk: accessory LV chamber). Cardiac magnetic resonance confirmed these findings (Panels D–F; see Supplementary data online, Video S4). We believe that this case might represent a non-compaction of the LV with an abnormal muscle band dividing the LV cavity. This abnormal muscle band is in continuity with the posteromedial papillary muscle (see Supplementary data online, Video S1) which is in concordance with previous clinicopathological studies that described that the papillary muscle may be in relation to the accessory chamber. To our knowledge, the overlap of these two abnormalities has never been described. This case presents the first description of double-chambered LV with 3D echocardiography that clearly helped to better characterize LV complex morphology.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.

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