Letter to the Editor

Three-dimensional speckle-tracking echocardiography for spatial evaluation of pulmonary vein (from the MAGYAR-Path Study)

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Evaluation of pulmonary veins (PVs) has a significant role in the modern electrophysiology (1). Three-dimensional speckle-tracking echocardiography (3DSTE) is a new clinical tool for ventricular and atrial chamber quantifications (2). We present a 25-year-old female patient with hereditary Long QT syndrome who was examined by 3DSTE. She was recruited into the MAGYAR-Path Study (Motion Analysis of the heart and Great vessels by three-dimensional speckle-tracking echocardiography in Pathological cases). For creation of a 3D model of PV, several adjustments were performed during 3DSTE. Firstly, left lower PV (LLPV) was looked for in apical 4-chamber and 2-chamber views. Later, longitudinal sectional planes were optimized to the LLPV (*Figure 1A,B*). Then cross-sectional views were chosen at different sites of the

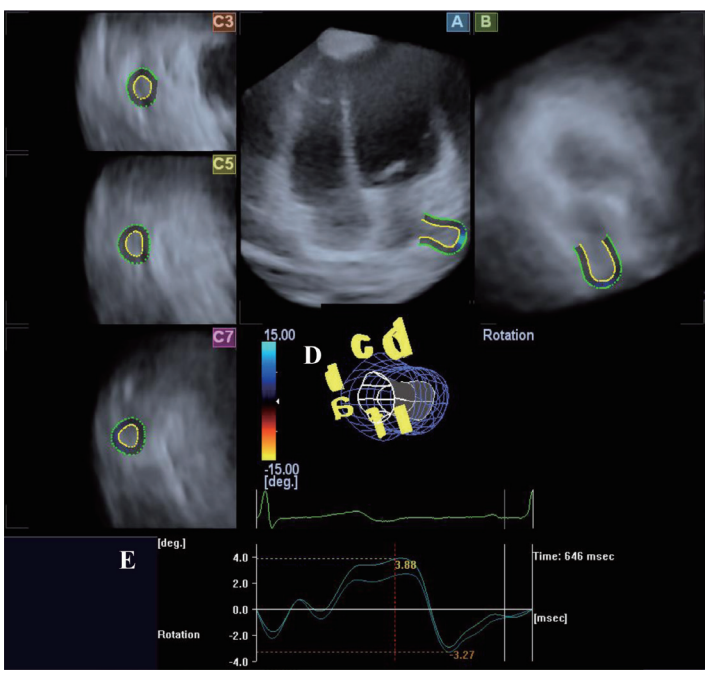

Figure 1 Longitudinal planes were optimized to the longitudinal axis of the left lower pulmonary vein in apical 4-chamber (A) and 2-chamber (B) views. Cross-sectional views were chosen at different levels of this vein (C3, C5, C7). A three-dimensional cast of the vein is also presented (D), of which 'base' was excluded from the evaluations. Segmental rotational mechanics of the vein is also presented (E).

LLPV in perpendicular planes (*Figure 1C3*, *C5*, *C7*). Following manual corrections, a 3D cast of the LLPV was created (*Figure 1D*). Rotational characteristics of LLPV are demonstrated in *Figure 1E*. To the best of authors' knowledge this is the first case in which 3DSTE is presented for the assessment of a PV. Clinical studies are warranted in larger series of patients with different arrhythmias to clarify diagnostic and prognostic value of 3DSTE-derived parameters of LLPV.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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