

## Cardiac Imaging

# Isolation of a Pulmonary Vein Originating from the Roof of the Left Atrium

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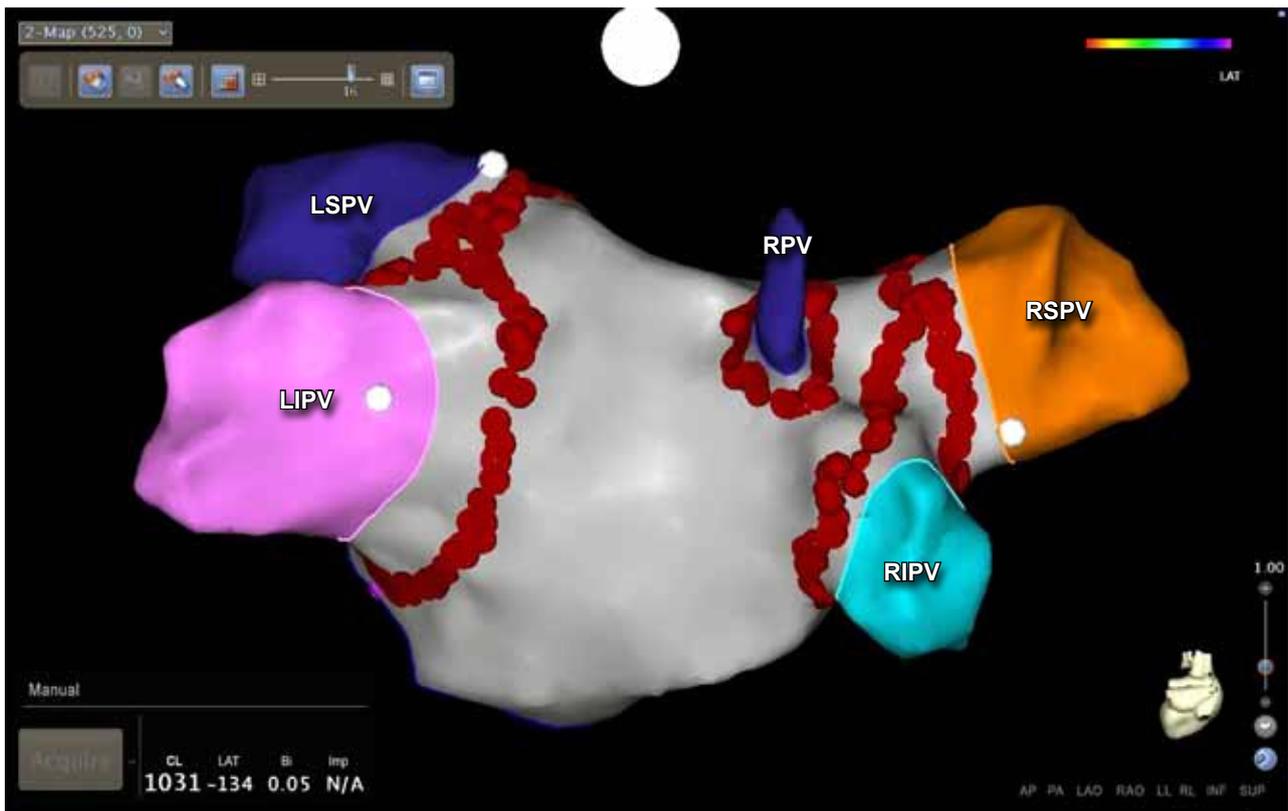
**A** 56-year-old man with an 8-year history of symptomatic paroxysmal atrial fibrillation (AF) that was refractory to sotalol and propafenone was referred for radiofrequency catheter ablation. Echocardiography showed a structurally and functionally normal heart with a left atrial diameter of 38 mm. Following a single transeptal puncture, the three-dimensional geometry of the left atrium was reconstructed using the CARTO 3 system (Biosense Webster, Inc., Diamond Bar CA, USA). In this patient the pulmonary vein (PV) anatomy consisted of a left superior, a left inferior, a right superior, a right inferior and a pulmonary vein arising from the roof of the left atrium (Figure 1). Isolation of large atrial areas around both ipsilateral PVs and around the ostium of the roof pulmonary vein was achieved using a 3.5 mm tip ablation catheter (Thermo Cool Navi-Star, Biosense Webster, Inc., Diamond Bar CA, USA).

The pulmonary veins have been shown to play a major role in the initiation of AF. Percutaneous catheter ablation by isolating the ostia of the pulmonary veins is effective in maintaining sinus rhythm in pa-

tients with paroxysmal atrial fibrillation.<sup>1</sup> There are previous reports of an incidence of typical PV branching pattern from 40% to 81%, suggesting a high incidence of PV branching pattern variants.<sup>2,3</sup> Within the variants depicted, the two most common PV branching patterns were a common left trunk and the presence of a right middle PV. In this setting, precise PV anatomy visualization is mandatory so that variant branches requiring isolation should not be overlooked during the transcatheter AF ablation procedure.

## References

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**Figure 1.** Postero-anterior view of the left atrium and pulmonary veins obtained with the CARTO-3 system. Pulmonary veins: LIPV – left inferior; LSPV – left superior; RIPV – right inferior; RSPV – right superior; RPV – an accessory pulmonary vein originating from the roof of the left atrium.