

Common ostium of inferior pulmonary veins: An extremely rare variant described by preprocedural computerized tomography angiography

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A 51-year-old male patient with non-ischemic cardiomyopathy underwent catheter ablation for paroxysmal atrial fibrillation (AF). Echocardiography revealed left ventricular ejection fraction (LVEF) of 40% and left atrium (LA) diameter of 36 mm with moderate mitral regurgitation. Preprocedural computerized tomography angiography (CTA) demonstrated that both left and right inferior pulmonary veins (PVs) were originated from a common ostium (Figure 1A-B). Because of the variant PV anatomy, we preferred to perform a point-by-point radiofrequency (RF) AF ablation. Electroanatomic mapping (EAM) (EnSite Precision, Abbott, St. Paul, Minnesota) was performed using an Advisor™ FL circular mapping catheter and TactiCath™ Quartz contact force RF ablation catheter (Abbott). No LA scar was detected. Only segmental PV isolation has been performed for both left superior PV, right superior PV, and common left and right inferior PVs (Figure 1C). The procedure was completed without any complications.

A common ostium of the left PVs and right middle PV are well-known anatomic variants, but common ostium of left and right inferior PVs (CIPVs) is an extremely rare variant which was only reported in 16 cases undergoing catheter ablation. Thus, electrophysiologists should be careful about such an extremely rare PV variants for the safety and efficacy of ablation. Preprocedural CTA is a valuable tool to decide on the ablation strategy in patients with such a very rare PV anomaly. During circumferential ablation of each ipsilateral PVs in patients with CIPVs, it was difficult to stabilize on the ridge between two inferior PVs particularly at the posterior wall. Thus, "tricle" ablation strategy is suggested as a suitable method under the guidance of CTA image integration in these patients with a ~90% success rate.

CONFLICT OF INTEREST

H.Y. and K.A.: Proctoring and Lecturer for Abbott, Biosense Webster and Medtronic. Other authors: None.

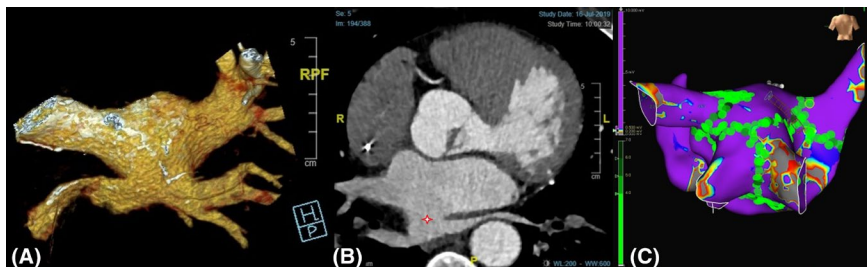


FIGURE 1 (A) Volume-rendered three dimensional CTA image of the common ostium of left and right inferior PVs. (B) CTA projection in the oblique axial view representing the inferior PVs entering the LA via a common ostium. (C) EAM showing no LA scar and segmental ablation of PVs

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