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Complex Clinical Cases

# ADVANCED IMAGING ENHANCED MAPPING OF COMPLEX LEFT VENTRICULAR ANEURYSM FOR VENTRICULAR TACHYCARDIA ABLATION PROCEDURAL PLANNING

Moderated Poster Contributions
Moderated Poster Theater 11
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Session Title: ACC Complex Clinical Cases: Cardiac Arrhythmias (Session 1)
Abstract Category: Cardiac Arrhythmias
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**Background:** Late iodine enhanced CT with artificial intelligence (AI) enabled 3D modeling can allow superior visualization of complex LV anatomy and improve patient outcomes.

**Case:** 67 year old male with apical variant HCM, VT arrest, previous negative EP study, dual chamber ICD, paroxysmal AF presented in VT storm. He had multiple ATP terminated episodes and received several shocks despite sotalol and metoprolol. He was admitted for urgent VT ablation.

**Decision-making:** Prior EP study in 2021 was non-inducible for VT with normal endocardial voltage throughout the mapped LV. After ruling out reversible causes of VT we obtained a late iodine enhanced cardiac CT and used AI enabled 3D modeling of the heart (inHEART Medical, Pessac, France) and integrated this with the 3D mapping system. This showed an LV apical aneurysm with a very narrow apical neck not visualized on TTE. Electroanatomic 3D mapping integrated with cardiac CT demonstrated significant scar within the aneurysm. VT was easily inducible emanating from within the aneurysm. Ablation was performed, targeting complex fractionated electrograms. Following ablation he had no further VT and was discharged on post-operative day 2. He has been seen in follow up and remains free of VT.

**Conclusion:** We were previously unable to visualize and access the LV aneurysm despite fluoroscopy, 3D mapping and ICE. Utilizing an AI enhanced 3D model integrated with our existing 3D mapping system allowed visualization of a narrow-necked LV aneurysm and successful ablation.

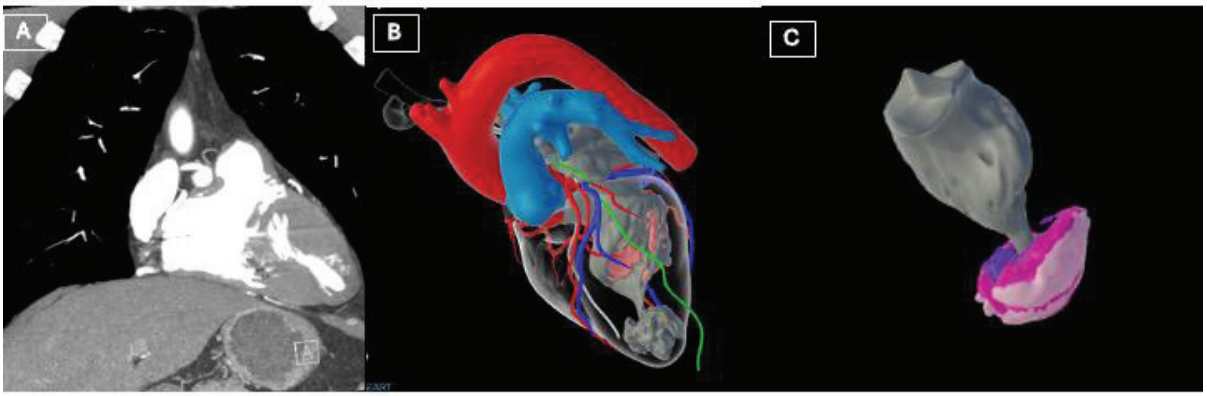


Figure 1 (A) Contrasted CT showing LV aneurysm. (B) inHheart CT image showing LV aneurysm with associated cardiac and vascular structure. (C) LV endocardium demonstrating aneurysm with associated endocardial and mid myocardial scar.