A CASE OF CORONARY ARTERY VASOSPASM; A RARE COMPLICATION OF VEIN OF MARSHALL ETHANOL INFUSION FOR ATRIAL FIBRILLATION

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Background: The vein of Marshall (VOM) has been increasingly recognized to be a potential target site during atrial fibrillation (AF) ablation for targeting non-PV triggers.

Objective: Recent papers reports no major complications including coronary artery abnormalities during VOM ethanol ablation.

Methods: N/A

Results: A 75 year-old male was admitted for repeat catheter ablation for AF. All 4 pulmonary veins were chronically isolated, recurrent premature atrial contractions (PACs) were seen which occasionally triggered AF during isoproterenol infusion. Detailed activation mapping identified the site of origin of this PAC to be from the left atrium (LA) endocardial aspect of the VOM. Therefore, a VOM ethanol ablation was performed to target non-PV triggers. An occlusive balloon venography of coronary sinus showed the short length of the VOM (11 mm, Fig. A). A total of 3.5ml of 98% ethanol was infused in a slow fashion over 90 seconds. 30 minutes after the ethanol infusion, the 12-lead electrocardiogram demonstrated ST elevation in the inferior leads with unstable hemodynamics (B). Urgent coronary angiography revealed focal coronary vasospasm of the distal left circumflex coronary artery (LCx, C). Using CARTO Merge software, the endocardial LA low-voltage area which resulted from VOM ethanol ablation overlapped with the anatomic location of the spastic distal LCx artery (D). Intravenous infusion of a vasodilator was administered, which resulted in resolution of ST elevations and hemodynamic stability.

Figure. (A) ECG with fascicular ectopic complexes and blocked P wave (asterisk). (B) Fascicular ectopic complex (arrow) with retrograde penetration to the atrium (asterisk) but antegrade block to the ventricle. (C) Earliest fascicular signal (arrow) mapped and successfully ablated in right aortic sinus of Valsalva. (D) Right and left anterior oblique fluoroscopic location of the mapping/ablation catheter (arrow) at successful ablation site.
Conclusion: Our case is the first clinical report to describe coronary arterial vasospasm after VOM ethanol ablation during AF ablation. Operators should be cognizant of the potential complications, including coronary vasospasm.

PC-577-03

SUCCESSFUL MAPPING AND ABLATION OF VENTRICULAR FIBRILLATION USING STORED ELECTROGRAMS RECORDED FROM A SUBCUTANEOUS IMPLANTABLE CARDIAC DEFIBRILLATOR

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Background: Unifocal premature ventricular contractions (PVCs) can be a common trigger of ventricular fibrillation (VF); However, reliable documentation for clinical PVCs triggering VF is often unavailable. Stored intracardiac electrograms (EGMs) from an implantable cardiac defibrillator (ICD) can provide valuable information and have been shown to successfully guide PMVT/VF ablation. We describe a case of successful VF ablation using a similar, but previously unreported strategy examining stored EGMs from a subcutaneous ICD.

Objective: To describe the utility of stored SICD EGMs to guide ablation of VF.

Methods: n/a

Results: A 29 year old man with non-ischemic dilated cardiomyopathy, history of sudden cardiac death with a secondary prevention SICD presented with frequent (11) appropriate therapies for VF while on guideline directed medical therapy. An analysis of the subcutaneous EGM (sensing electrode proximal ring electrode to can - Primary Vector) demonstrated unifocal morphology PVC preceding each episode (Figure 1, Panel A). There was no 12 lead EKG documentation of clinical PVC available to guide ablation but given his high VF burden we proceeded with ablation. Dobutamine infusion during EP study induced 2 PVC morphologies, one of which matched the clinical PVC using simultaneous real time SICD EGM recordings (Figure 1, Panel B-C). The PVC was pace-mapped at posteromedial papillary muscle of the LV and RF application in this region triggered VF and eventually elimination of the PVC at the end of case. Although the patient had an excellent short-term result, a repeat ablation targeting the same PVC using the same strategy was required leading to successful control of PVCs and VF.

Conclusion: Utilization of stored EGMs from an SICD can successfully guide VF ablation.

PC-577-04

ANTEROSEPTAL ACCESSORY PATHWAY: KILLING ONE BIRD WITH TWO STONES

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Background: 21 year old healthcare worker with frequent palpitations leading to frequent hospitalizations with elevated heart rates up to 210 bpm noted on her watch with pre-excitation on ECG consistent with anteroseptal accessory pathway (AS AP).

Objective: Describe a case of achieving antegrade conduction block in the AS AP with retrograde ablation approach and achieving retrograde conduction block with antegrade ablation approach.

Methods: N/A

Results: Electrophysiological maneuvers were performed including parahisian pacing, apical/basal pacing confirming an AS AP with antegrade and retrograde conduction. Orthodromic tachycardia (ORT) was easily inducible with burst pacing. Due to close proximity of the earliest site to the HIS using antegrade approach, decision was made to use the retrograde approach which showed an early site without HIS signal in the non coronary cusp (NCC). Ablation in the NCC resulted in antegrade conduction block after 1.4 seconds and was no longer seen until the end of the case (Fig A&B). Repeating the prior maneuvers showed persistent retrograde conduction and patient was still easily inducible for ORT. Additional ablation in the NCC did not terminate retrograde conduction. Antegrade approach was used for further ablation opposite the NCC at the earliest retrograde A during ORT which resulted in termination of ORT after 0.5 seconds (Figure D). Repeat maneuvers showed no evidence of pathway conduction and the patient was non inducible for ORT. No events at six month follow up.

Conclusion: AS AP with successful ablation of antegrade conduction from a retrograde approach and successful ablation of retrograde conduction from an antegrade approach.

ABSTRACT CA-533:
Investigations into Stereotactic Body Radiation Therapy for Ventricular Tachycardia

Saturday, April 30, 2022
2:15 PM - 3:15 PM

CA-533-01

MULTIMODALITY PLANNING OF STEREOTACTIC RADIO-ABLATION FOR VENTRICULAR TACHYCARDIA: RESULTS FROM THE INTERNATIONAL MUSIC CONSORTIUM

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