HNS Ablation of PVC from Ventricular inferoseptal region

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In 2016 Santangeli et al. described a novel site of origin of VE from the basal LV infero-septum, an area referred to as the posterior-superior process’ of the LV.

This area is an uncommon source of idiopathic ventricular arrhythmias (VA), which can arise from its endocardial or epicardial (crux) aspect.

Santangeli P, Hutchinson MD, Supple GE, Callans DJ, Marchlinski FE, Garcia FC. Right atrial approach for ablation of ventricular arrhythmias arising from the left posterior-superior process of the left ventricle. Circ Arrhythm Electrophysiol 2016;9.

Male 53 Y.O

- SOB in last 4 years. Palpitation (+) > 5 years, Coronary angiography: NORMAL coroner, Echo: All chamber dilatation (EF=19% Simpson’s)
- Holter: PVC >11% with bigeminy, couplet and non sustained VT
ENDOCARDIAL ABLATION OF VENTRICULAR ECTOPIC BEATS
ARISING FROM THE BASAL INFERO-SEPTAL PROCESS OF THE
LEFT VENTRICLE

Short title: Ventricular ectopics from the LV infero-septal process

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Catheter Position

RAO

LAO
Earliest PVC (EA 33 ms)
Pace Mapping
During Ablation # 5
Ablation #17 (Power 40 w)
Several minutes after ablation
Ablation Points
Prospective Multicenter Experience With Cooled Radiofrequency Ablation Using High Impedance Irrigant to Target Deep Myocardial Substrate Refractory to Standard Ablation

Duy T. Nguyen, MD, a, n Wendy S. Tzou, MD, a, n Amneet Sandhu, MD, a Carola Gianni, MD, b Elad Anter, MD, c Roderick Tung, MD, d Miguel Valderrábano, MD, e Patrick Hranitzky, MD, f-g Kyoko Saeijma, MD, PhD, h Luis Saenz, MD, h Fermin C. Garcia, MD, i Usha B. Tedrow, MD, i John M. Miller, MD, k Edward P. Gerstenfeld, MD, l J. David Burkhardt, MD, b Andrea Natale, MD, b William H. Sauer, MD n

LVS = left ventricular summit.
Ablation # 18
(Power 40 W + Half Normal Saline)
Several minutes..
How to Use the 12-lead ECG to Predict the Site of Origin of Idiopathic Ventricular Arrhythmias

Andres Enriquez MD, Adrian Baranchuk MD, David Briceno MD, Luis Saenz MD, Fermin Garcia MD
Basal LV Infero-Septum or The Posterior-Superior Process’ of the LV

Right Atrial Approach for Ablation of Ventricular Arrhythmias Arising From the Left Posterior-Superior Process of the Left Ventricle.
Pasquale Santangeli, Mathew D. Hutchinson, Gregory E. Supple, David J. Callans, Francis E. Marchlinski, Fermin C. Garcia

Electrocardiographic and Electrophysiologic Characteristics of Idiopathic Ventricular Arrhythmias Originating From the Basal Inferoseptal Left Ventricle

Jackson J. Liang DO, Yasuhiro Shirai MD, David F. Briceño MD, Daniele Muser MD, Andres Enríquez MD, Aung Lin MD, Matthew C. Hyman MD, PhD, Ramanan Kumareswaran MD, Jeffrey S. Arkles MD, Pasquale Santangeli MD, PhD, Robert D. Schaller DO, Gregory E. Supple MD, David S. Frankel MD, Rajat Deo MD, Andrew E. Epstein MD, Fermin C. Garcia MD, Michael P. Riley MD, PhD, Saman Nazarian MD, PhD ... Sanjay Dixit MD
MDI: 147/258: 0.56
PVC from Inferior Posteroseptal region could be from endocardial or epicardial (crux), determining which is which is very important

- We try to “muscle our way” using HNS with high power RF current resulted in acute suppression of targeted PVC, but..
  - HNS is not yet for every myocardial region
  - Majority sites for HNS ablation is ventricular septum and LV summit
Thank You