

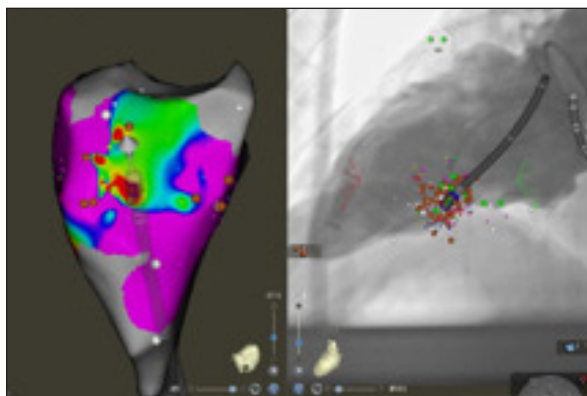
# Preprocedural, Noninvasive Localization of a Papillary Muscle PVC

## VIVO™ Case Review

### Case History

A 44-year-old male with a PVC burden of 40% was referred from another center after remaining refractory to antiarrhythmic medications and having two previous failed ablations. He remained highly symptomatic with palpitations and fatigue.

An MRI scan showed LV impairment and scar from a previous MI. Previous Carto images from patient notes indicate that previous ablations occurred on the posteromedial papillary muscle.



Previous procedure Carto map ablation on posteromedial papillary muscle

### Pre-procedural Non-invasive Mapping Protocol

The patient underwent a standard cardiac MRI routinely obtained for PVC. The MRI was then uploaded to the VIVO™ system and segmented the day before the scheduled ablation procedure to create a patient specific heart and torso model.

The patient was brought to the lab in preparation for an ablation procedure with the 12-lead ECG stickers in place and a 3D photograph was taken using the VIVO camera. This was then merged with the segmented MRI image of the patient to determine the spatial relationship between the patient specific model and the 12-lead electrode placement. The patient's ECG was recorded, and the PVC was uploaded and analyzed in the VIVO system to localize the exact location of the PVC from the 12 lead ECG. An activation map showing the PVC origin as the anterolateral papillary muscle was created using all data imputed into VIVO.



### PHYSICIAN

Tamas Szil Torok, MD

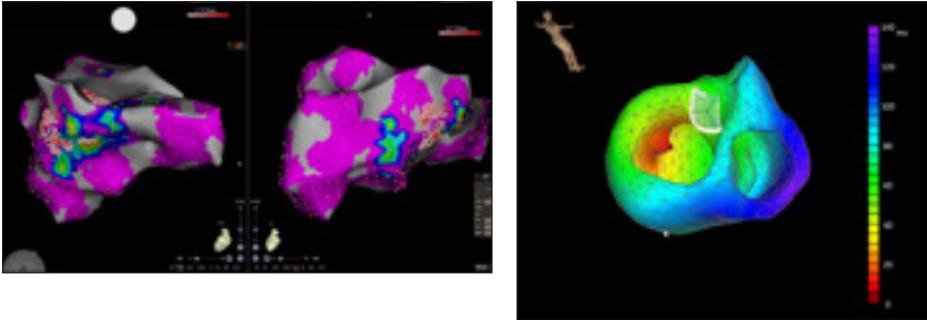
### FACILITY DETAILS

Erasmus Medical  
Centre Rotterdam, NL

### TECHNOLOGY

- Carto V6,  
Biosense-Webster
- Niobe® Robotic  
Magnetic Navigation,  
Stereotaxis
- Claris™ EP Recording  
System, Abbott

## Ablation Procedure



### Carto and VIVO location on anterolateral papillary

The ablation catheter was placed via standard of care into the left ventricle where a map of the ventricle was created using an ablation catheter and Carto EAM. The ablation catheter was placed on the anterolateral pap, as indicated by VIVO. Mapping on the anterolateral papillary muscle confirmed the PVC origin and RF energy was delivered. The ablation resulted in the termination of the PVC's as confirmed by programmed stimulation post RF delivery.

## Results/Conclusions

- A high-risk patient had undergone two previous ablations in a different center where therapy was delivered to the posteromedial papillary muscle and reduction in the PVC burden was unsuccessful.
- In advance of the procedure, VIVO located to the anterolateral papillary muscle.
- Ablation of the anterolateral papillary muscle identified by VIVO, resulted in a successful termination of the PVC.

“Following two previous unsuccessful ablations, VIVO accurately identified the location of the PVC which resulted in a reduction in procedure time, reduced patient risk and increased procedure success”

-Tamas Szili Török, MD

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