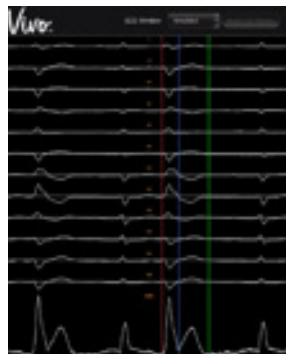


Pre-procedural, Non-invasive Localization of a Papillary Muscle PVC

VIVO™ Case Review

Case History

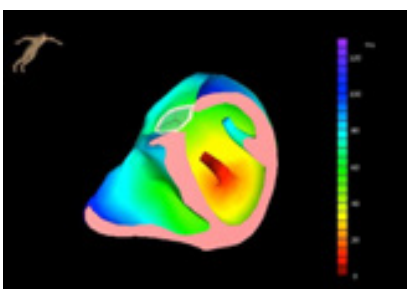
After no success with medication, a 58-year-old male was referred for ablation with PVC burden of 7% and symptoms of palpitation and fatigue. An MRI scan showed a LV impairment, but was otherwise normal (no scar, no fibrosis, no previous infarct).



Pre-procedural Non-invasive Mapping Protocol

The patient underwent a standard cardiac MRI routinely obtained for Ventricular Tachycardia. 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. The camera image was then merged with the segmented MRI image of the patient to create a patient specific model of the heart. 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 posterior medial papillary muscle was created using all data inputted into VIVO.



PHYSICIAN
Professor André Ng

FACILITY DETAILS
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Leicester

TECHNOLOGY

- ENSITE PRECISION™
Cardiac Mapping
System, Abbott
- LABSYSTEM™ PRO
EP Recording System,
Boston Scientific

Ablation Procedure

The ablation catheter was introduced via the right femoral vein, into the right atrium, across the septum and into the left atrium and down into the left ventricle, where a map of the ventricle was created using a HD Grid mapping catheter and Precision Electro Anatomical Map (EAM). The ablation catheter was placed in the area that VIVO localized the PVC. RF delivery was delivered to the area localized by VIVO and the PVC was terminated successfully.

Results/Conclusions

- VIVO accurately identified the onset of the PVC to the papillary muscle in advance of the procedure.
- Ablation of the location identified by VIVO resulted in successful termination of the PVC.
- The VIVO map was successfully imported into the Precision system for accuracy comparison.
- The VIVO map and the Precision map both showed the same site of PVC ablation and termination.

“We have established a workflow to incorporate non-invasive mapping to help the localization of the site of origin of ventricular arrhythmias in patients undergoing catheter ablation procedures. Our experiences with VIVO have shown that prior non-invasive localization of the ablation target can result in better procedure success, a reduction in procedure time, and in some cases potentially reducing patient risks.”

-André Ng, MD

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