provided the best discrimination (C-statistic 0.75). PVS inducibility had a 76% sensitivity and 68% specificity (log-likelihood ratios of 2.4 and 0.42 for inducible and non-inducible pts). In pts with a calculator-predicted risk of VA < 25% over 5 years (i.e., low/intermediate subgroup), inducible VT was associated with a 40.9% positive predictive value and a 93.0% negative predictive value. **Conclusion:** Sustained VT inducibility by PVS significantly improved risk stratification above and beyond the calculator-predicted risk of VA in a primary prevention cohort of pts with ARVC.

**PE-565-03**

**NON-INVASIVE IDENTIFICATION OF SLOW CONDUCTING ANATOMICAL ISTMUSES IN PATIENTS WITH TETRALOGY OF FALLOT BY 3-DIMENSIONAL LATE GADOLINIUM ENHANCEMENT CARDIOVASCULAR MAGNETIC RESONANCE IMAGING**
Yoshitaka Kimura MD, PhD; Justin Wallet MD; Nico A. Blom MD, PhD; Hildo J.J. Lamb and Katja Zeppenfeld MD, PhD

**Background:** Patients with repaired tetralogy of Fallot (rTOF) remain at risk of sudden cardiac death due to sustained monomorphic ventricular tachycardia (SMVT). The majority of SMVTs are related to slow conducting anatomical ishmuses (SCAI) in particular to SCAI3 at the outlet septum, bordered by the pulmonary annulus and the ventricular septal defect patch. Electroanatomical mapping (EAM) is the invasive gold standard to identify SCALs; non-invasive characterization of SCALs has not been established. **Objective:** The study aims to evaluate whether 3D late gadolinium enhancement cardiovascular magnetic resonance (3D LGE-CMR) can identify SCALs. **Methods:** Consecutive patients with rTOF who underwent right ventricular (RV) EAM and 3D LGE-CMR were included. LGE-CMR-derived 3D RV reconstructions were created (ADAS 3D) and merged with RV EAM data. Mapping points were superimposed on the CMR-derived 3D reconstruction allowing for direct comparison of EAM data and local signal intensity (SI). The optimal SI cut-off to identify low bipolar voltage (LBV, BV < 1.76mV) was determined. An abnormal AI on LGE-CMR was defined as AI with continuous high SI connecting AI borders. **Results:** Forty-six rTOF patients (34±16 years, 57% male) were included. At EAM, 20 patients had normal AI, and 19 and 7 had a SCAI (< 0.5m/s) or blocked AI, which was AI 3 in all. In 11 patients, 14 SMVTs could be induced, which were all related to SCAI3. A total of 8979 points were analyzed, showing a significant correlation between BV and SI (R = 0.39, P < 0.001). The optimal SI cut-off to identify LBV was 42% of the maximal SI (MSI) (AUC 0.79; sensitivity, 74%; specificity, 78%). Using this cut-off a SCAI or blocked AI3 could be correctly identified by LGE-CMR in all 26 patients and a normal AI3 could be confirmed in 13/20 patients with normal EAM findings (Figure). The sensitivity and specificity of 3D LGE-CMR for identifying SCAI or blocked AI3 were 100% and 65%, respectively. Of note, among patients with normal EAM findings, those with abnormal AI3 on LGE-CMR had lower BV of AI3 than those with normal AI3 on LGE-CMR. (2.06 [Range, 1.62-2.60] vs. 3.53 [2.22-5.67] mV, P < 0.01).

**PE-565-02**

**PILOT HOLE ASSISTED TRANSEPTAL PACING TO AVOID DYSSYNCHRONY: THE PHAT PAD TECHNIQUE**
Steven B. Fishberger MD, CEPS-P; Charles C. Anderson MD, CEPS-P and Richard Jensen MD

**Background:** It is recognized that right ventricular pacing results in left ventricular dysfunction, heart failure, and decreased quality of life. Biventricular pacing via the coronary sinus and His bundle pacing have been beneficial, though these methods have significant limitations. Left bundle branch pacing has emerged as an alternative for physiologic pacing, however achieving this is challenging in some patients. **Objective:** The PHAT PAD technique describes a method to reliably pace the left bundle branch. This technique provides access to the left bundle via a transseptal approach. **Methods:** A deflectable sheath is positioned along the midportion of the right ventricular septum. Under fluoroscopic and transesophageal guidance, a radiofrequency wire is advanced through the septum into the left ventricle. A dilator is advanced over the wire into the septum, creating a pilot hole, and removed. The wire is retained across the septum in the sheath, and a Medtronic 3830 lead is advanced through the sheath along the wire into the pilot hole. PACing is performed to confirm left bundle pacing by the demonstration of right bundle branch block on the surface ECG. Repeat echocardiographic imaging is used to evaluate function and determine if there is any ventricular level shunt. **Results:** The PHAT PAD technique was used to attempt left bundle transvenous pacing in 2 patients, ages 18 and 76 years. Both achieved right bundle branch block (RBBB) on surface ECG with a QRS duration of 120 and 125 ms. By transesophageal imaging, patients had normal left ventricular function and there was no evidence of a ventricular septal defect. At 5 month follow up for both patients, RBBB was still present and capture thresholds where < 1.0 volt at 0.4 ms. **Conclusion:** This proof of concept study describes a technique that enhances the ability to achieve physiologic left bundle pacing. Intermediate results are encouraging, however long term follow up and a larger patient cohort is necessary.