Conclusion: Utilizing ICE and 3-dimensional mapping in the absence of fluoroscopy is an effective and safe technique for VA ablation.

PO-635-06
IMPACT OF PRIOR ABLATION STRATEGIES ON PROCEDURE EFFICIENCY AND ABLATION STRATEGY IN REPEAT PROCEDURES FOR ATRIAL FIBRILLATION
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Background: Many ablation strategies, such as box isolation and linear ablation, have been proposed to improve outcomes in atrial fibrillation (AF) ablation. While the ablation of non-pulmonary vein (PV) targets has gained considerable traction, whether these strategies should be incorporated at the index procedure remain to be addressed.

Objective: To examine the correlation between ablation strategies at index procedure and the need for creation of non-PV lesion sets at repeat procedure.

Methods: Data from patients who underwent a first repeat procedure for AF were prospectively collected between February to September of 2021. Where the history of index procedure was available, procedure characteristics and ablation strategies at repeat procedure were grouped and compared based on ablation strategies at index procedure.

Results: A total of 343 patients (Paroxysmal (PAF): 209, Persistent/PersAF): 134) were included in this analysis. Patients were grouped into PV, PV+ linear (including posterior wall isolation), and PV+other (including focal, rotor, alcohol ablation, and hybrid procedure) based on ablation strategy at index procedure. Non-PV lesion sets were delivered in 52.6% (n = 110) and 76.9% (n = 103) of the PAF and PersAF cases at repeat procedure. For PAF, elimination of non-PV triggers at the redo procedure was documented in 47.6%, 94.4%, and 83.3% of the PV, PV+linear, and PV+other group, respectively (P < 0.05). For PersAF, 73.1%, 83.3%, and 90.9% of the PV, PV+linear, and PV+other group received lesion sets beyond PV isolation at redo (Table 1). More non-PV lesions were delivered per patient at the repeat procedure in the index PV+linear group. At the end of the redo procedure, sinus rhythm was achieved in a similar (p > 0.05) proportion of patients across groups in both PAF and PersAF (Table 1).

Conclusion: Incorporation of non-PV lesions at index procedure was associated with a more extensive ablation strategy at subsequent repeat procedures. Although a higher percentage of the patients in the index PV+linear and PV+other groups achieved sinus rhythm at the end of the repeat procedure, it did not appear to correlate with the number of non-PV lesion sets created. A larger randomized study may be warranted to investigate long-term clinical outcomes following extensive ablation at index and repeat ablation.

PO-635-07
EVALUATION OF A 3-DIMENSIONAL SUBSTRATE WITH WIDE BIPOLAR ELECTRODE SPACING IN ISCHEMIC SCARS
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Background: Wide bipolar interelectrode spacing can aid in estimating a 3-dimension substrate due to far-field potential sensing.

Objective: This study investigated the relationship between electrograms and myocardial wall thickness collected by wide bipolar interelectrode spacing and identified a heterogeneous scar within a dense scar.

Methods: Three of twenty-four consecutive cases of ventricular tachycardia ablation that met the following criteria were analyzed: (1) old myocardial infarction patients with a dense scar with wall thickness ≤2 mm and (2) patients with voltage maps created using HD Grid Mapping Catheter (Abbott Laboratories, Abbott Park, IL) during sinus rhythm. Along with the usual 3 mm interelectrode bipolar spacing, voltage maps were made with 6 mm interelectrode spacing. Computed tomography images imported into the EnSite mapping system were merged with voltage maps (Figure 1A). Wall thickness was measured manually at each corresponding point in scar areas with wall thickness of 4 mm or less.

Results: Voltage amplitudes collected by 6 mm interelectrode spacing were more strongly correlated with wall thickness than those collected by 3 mm interelectrode spacing (r = 0.708, p < 0.01; vs r = 0.247, p < 0.01). The regression line is shown in Figure 1B. Four of the five induced ventricular tachycardias in the...