



Continued epicardial conduction after endocardial posterolateral mitral annular linear ablation for perimitral flutter revealed with high-density Rhythmia mapping

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A 66-year-old man with atypical atrial flutter after pulmonary vein (PV) isolation underwent ablation where entrainment and activation mapping confirmed perimitral flutter for which posterolateral mitral annular (MA) line was created which failed to terminate tachycardia. At repeat ablation, Rhythmia mapping confirmed clockwise perimitral flutter with slow propagation through the lateral mitral annular MA region (Fig. 1, Video 1). Linear ablation from the left inferior PV to the lateral MA had no effect on tachycardia cycle length. Addition of CS activation to the propagation map revealed that atrial activation at

the endocardial site of slowing at the ablation line continued uninterrupted through the CS epicardially, breaking out in the lateral LA with evidence of both clockwise and counterclockwise (back towards the line) wavefronts at the LA breakout site (Fig. 2, Video 2). Ablation from within the CS across from the endocardial posterolateral MA line resulted in slowing and termination of flutter with confirmation of bidirectional block across the MA line. High-density Rhythmia mapping can demonstrate epicardial conduction after endocardial MA ablation, via epicardial myocardial connections.

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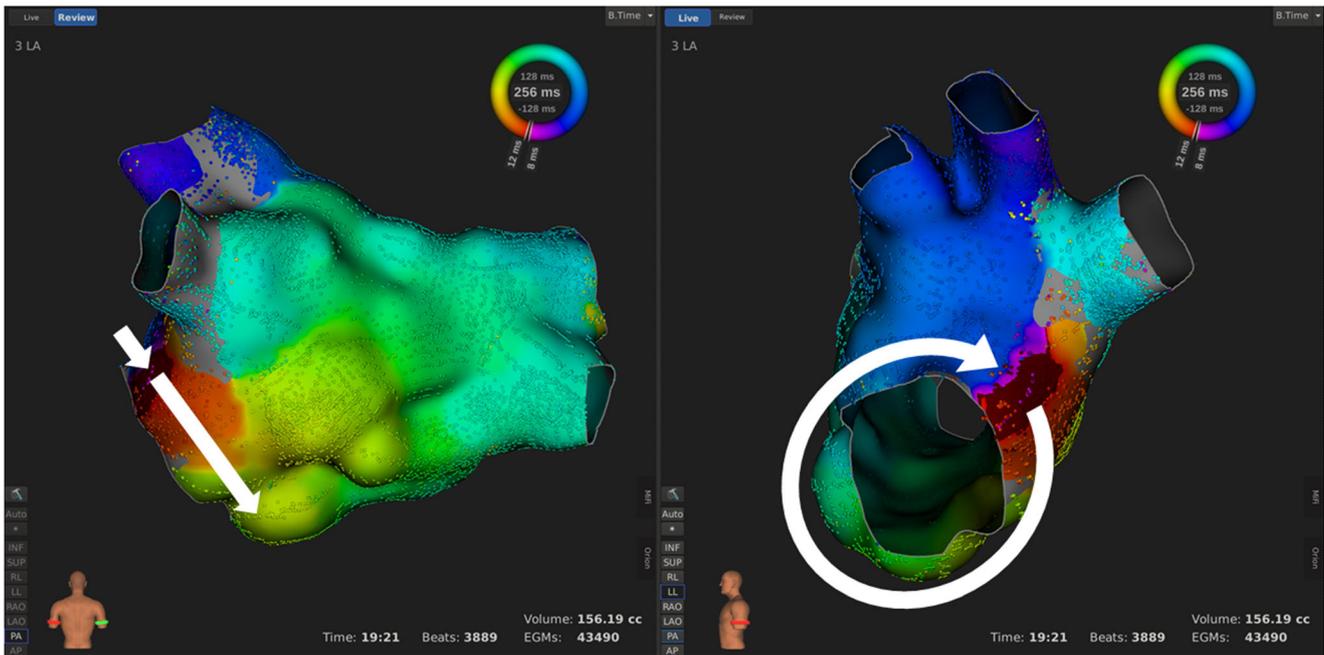


Fig. 1 Supplemental video 1. Left atrial endocardial perimitral flutter propagation after endocardial left atrial posterolateral lateral linear ablation. Rhythmia activation map (posterior view on left; left lateral

view on right) during clockwise perimitral flutter showing propagation of wavefront with slow conduction at the lateral mitral annulus after linear posterolateral endocardial LA ablation

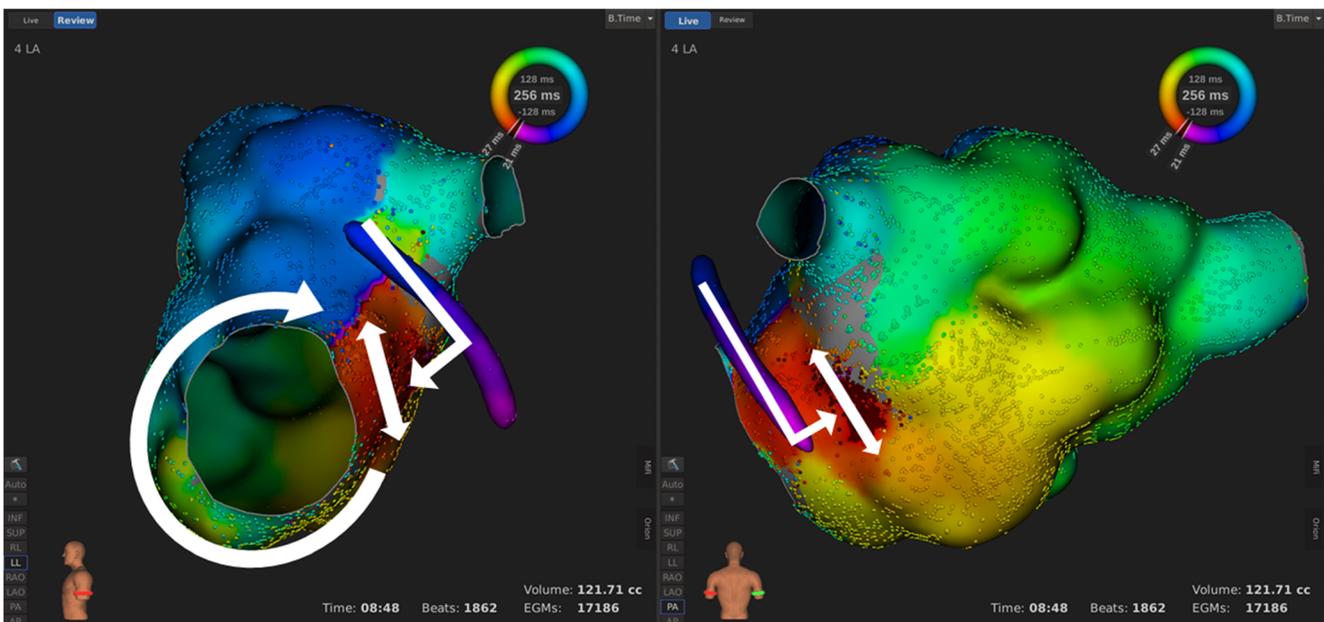


Fig. 2 Supplemental video 2. Perimitral flutter propagation including coronary sinus activation after endocardial left atrial posterolateral lateral linear ablation. Rhythmia activation map (left lateral view on left; posterior view on right) during clockwise perimitral showing propagation of wavefront with slow conduction at the lateral mitral annulus after linear posterolateral endocardial LA ablation with

evidence of more rapid conduction through the CS, breaking out more laterally across the endocardial posterolateral line and continuing in both clockwise and counterclockwise (back towards the line) directions at the LA breakout site, suggesting the presence of epicardial conduction across where the endocardial line was created