BIATRIAL FLUTTER CIRCUIT INVOLVING AN ANOMALOUS INSERTION OF BACHMANN’S BUNDLE INTO THE SUPERIOR VENA CAVA

Poster Contributions
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Background: Atypical atrial flutters with clockwise mitral activation usually originate in the left atrium (LA). However, in patients with prior linear ablation for atrial fibrillation (AF), this can be misleading.

Case: A 62-year-old female who underwent 3 prior AF ablations, presents for ablation of recurrent atrial flutter. Prior procedures included pulmonary vein isolation and linear ablation of the cavotricuspid isthmus, LA roof, LA posterior wall, and anterior mitral isthmus, all with bidirectional block. At last procedure, she was incidentally found to have an anomalous insertion of Bachmann’s Bundle (BB) into the superior vena cava (SVC). She is found to be in an atypical atrial flutter with clockwise rotation around the mitral annulus. Entrainment confirmed involvement of the distal and proximal coronary sinus and anterior LA septum. However, right atrial (RA) entrainment also confirmed involvement of the RA lateral wall and SVC.

Decision-making: Activation map confirmed a biatrial flutter circuit, with activation crossing the fossa ovalis to the posterior and lateral RA, to the SVC, and back to the septal LA via the anomalous SVC to BB connection. The atrial flutter was successfully ablated with SVC isolation.

Conclusion: This case highlights an atypical atrial flutter that initially appears to originate in the LA, but involves both atria, and is successfully ablated from the RA.

Figure 1: Activation map of the right and left atria in LAO projection demonstrates a biatrial flutter circuit. The dotted line delineates conduction through the posterior and lateral RA. The asterisk denotes an anomalous connection between the SVC and Bachmann’s Bundle. By isolating the SVC the flutter was successfully treated.