IMAGE FOCUS

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Atrial tachycardia from aneurysmatic left atrial appendage

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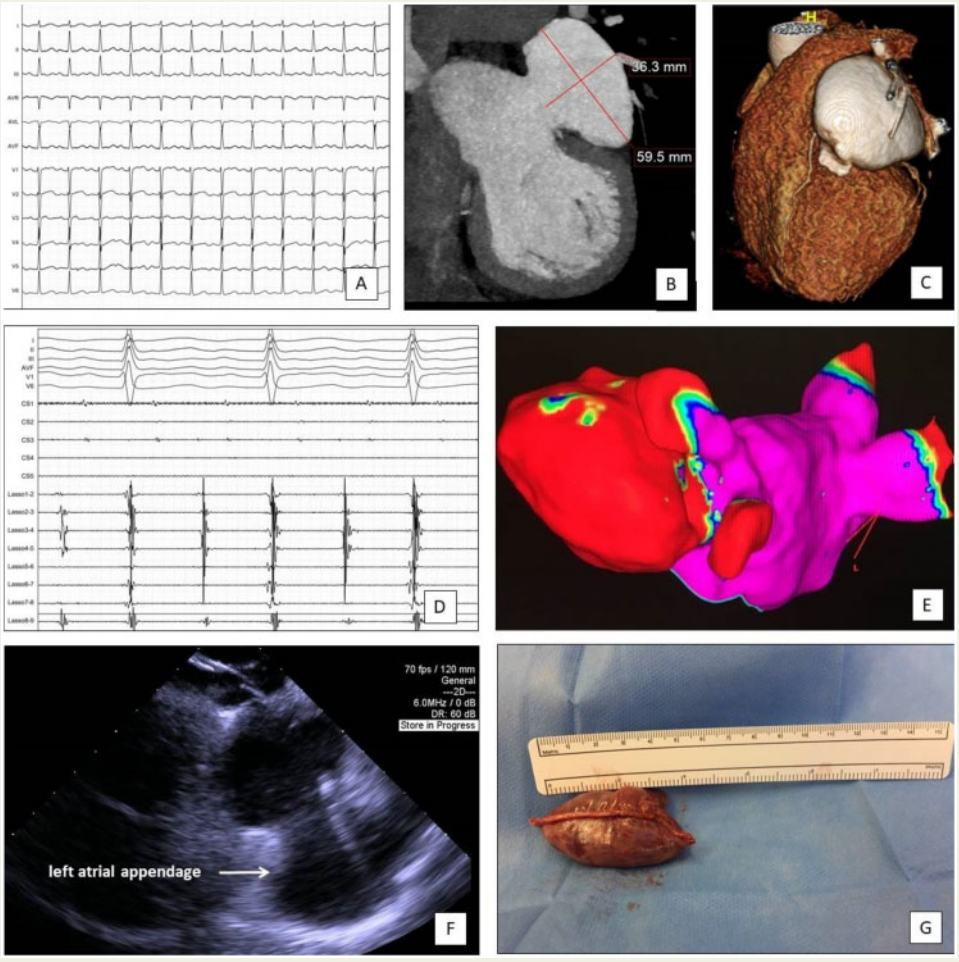

A 45-year-old woman with no significant past medical history was referred to our centre due to a recurrent symptomatic atrial tachycardia (AT) with 2:1 atrioventricular conduction (*Panel A*), refractory to antiarrhythmics. Transthoracic echocardiogram was unremarkable with normal atrial dimensions. She was referred for electrophysiological study (EPS) aiming AT mapping and ablation. Before the procedure, she underwent cardiac 128-slice multi-detector computed tomography that showed the presence of a giant left atrial appendage (LAA) with an estimated volume of 77 mL (*Panels B* and *C*). During EPS, an AT (cycle length of 320 ms) was induced (*Panel D*) and activation map using a multipolar catheter identified a focal origin at LAA base. After few radiofrequency applications with an irrigated-tip ablation catheter, AT terminated and was no longer inducible. Three-dimensional electroanatomical voltage map (CARTO3, BiosenseWebster) showed a normal left atrium with no voltage in LAA (*Panel E*). Absence of LAA thrombus was confirmed by intracardiac echocardiography (AcuNav, Siemens Medical Solutions) (*Panel F*). Due to thromboembolic risk of such a giant and electrically silent LAA, she successfully underwent LAA resection by video-assisted thoracoscopic surgery (*Panel G*). Her post-operative period was uneventful. Histologic examination of the resected LAA tissue revealed thinning of the LAA wall with subendocardial and interstitial fibrosis. One year after surgery, the patient remains asymptomatic and in sinus rhythm.

Aneurysmatic LAA is a rare cardiac anomaly that could be associated with atrial arrhythmias and systemic thromboembolic events. This case shows the importance of multidisciplinary approach with sequential electrophysiology and cardiac surgery interventions.