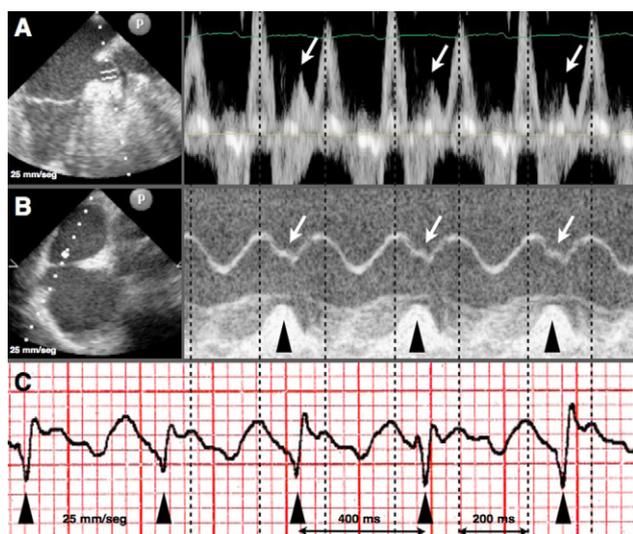


## Letter to the Editor

**Echocardiographic Demonstration of Atrioventricular Mechanical Contraction in Atrial Flutter****Demostración ecocardiográfica de la contracción mecánica auriculoventricular en el flutter auricular común****To the Editor,**

We present the case of a 54-year-old patient with no history of heart disease who underwent transesophageal echocardiography (TEE) to rule out the presence of thrombus in the left atrial appendage (LAA) prior to programmed electrical cardioversion for common counterclockwise atrial flutter with 2:1 ventricular response at 150 bpm.

The TEE confirmed good biventricular function, no thrombus in LAA, and slight dilatation of both atria. In the mid-esophageal plane we obtained pulsed-wave Doppler echocardiograms of the LAA at 60° (Fig. 1A) showing organized flow with waves 200 ms



**Figure 1.** A: Transesophageal echocardiography (TEE) image (60°), pulsed Doppler of left atrial appendage flow. B: TEE (90°), M-mode images of interatrial septum and tricuspid annulus. C: ECG lead III detail.

apart (broken lines) and peak velocities of 0.6 m/s. Rotating to 90° to visualize the interatrial septum (IAS), we obtained M-mode recordings of IAS and tricuspid annulus (Fig. 1B), simultaneously visualizing the IAS swirling motion at 300 bpm (atrial frequency) and tricuspid annular systolic motion (TAPSE, black triangles) at 150 bpm (ventricular frequency). The lower part of the image (Fig. 1C) shows a detail of ECG lead III for this patient: triangles indicate QRS at 140–150 bpm; broken lines indicate F waves at 300 bpm.

Echocardiography is capable of diagnosing supraventricular arrhythmias from IAS or free atrium wall motion.<sup>1,2</sup> The LAA flow velocity and organization recorded by pulsed Doppler diminish with atrial flutter. This reduction is even greater in atrial fibrillation than in sinus rhythm—facilitating diagnosis of the arrhythmia—and has been associated with states of hypercoagulability.<sup>3</sup> Our case shows electromechanical correlation in atrial flutter and demonstrates how M-mode and pulsed Doppler echocardiography can diagnose atrial flutter. Furthermore, we discovered some physiopathological details of notes: the repercussion of ventricular contraction (black triangles, Fig. 1A) on mechanical LAA contraction (note a small wave of LAA emptying: white arrowheads, Fig. 1A) and the atria (note a small notch in IAS descending motion at the time of ventricular contraction, corresponding to venous pulse V wave: white arrowheads, Fig. 1A).

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**Entrapment of Circular Mapping Catheter in the Mitral Subvalvular Apparatus During Segmental Isolation of Pulmonary Veins****Atrapamiento de catéter circular en el aparato subvalvular mitral durante aislamiento segmentario ostial de venas pulmonares****To the Editor,**

The entrapment of a circular catheter in the mitral subvalvular apparatus is a rare but serious complication. We report here a case

study about the maneuvers that can be performed to help release it as well as the frequent need for surgical treatment.

The subject is a 46-year-old male athlete with recurrent episodes symptomatic of paroxysmal atrial fibrillation (AF) despite antiarrhythmic therapy. An electrophysiological study was requested, to be performed using a transeptal approach with Mullins sheath and Brockenbrough needle (electrophysiological guide and single puncture). A 20-mm circular catheter (LassoNav®, Biosense Webster) and an irrigated-tip ablation catheter (Navistar®) were used. Using a non-fluoroscopic navigation system (CARTO V.10), an electroanatomic reconstruction of the left atrium and pulmonary veins (PV) was performed. After isolating both the left PV and the right superior PV, the 20-mm circular catheter was