

17. Ahmadi N, Chung SA, Gibbs A, Shapiro CM. The Berlin questionnaire for sleep apnea in a sleep clinic population: relationship to polysomnographic measurement of respiratory disturbance. *Sleep Breath* 2008;**12**: 39–45.
18. Chung F, Yegneswaran B, Liao P, Chung SA, Vairavanathan S, Islam S et al. Validation of the Berlin questionnaire and American Society of Anesthesiologists checklist as screening tools for obstructive sleep apnea in surgical patients. *Anesthesiology* 2008;**108**:822–30.

IMAGES IN ELECTROPHYSIOLOGY

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Intracardiac echocardiography for visualization of the Eustachian valve during radiofrequency ablation of typical atrial flutter

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We performed a conventional, fluoroscopy-guided ablation of ongoing typical atrial flutter at the preferred isthmus site. Despite 150 min of procedure time (using a 4 mm, irrigated tip catheter with settings of 43°C, 40 W and irrigation rate of 40 mL/min), block on the isthmus was not achieved. No atrial signals were left on the line of ablation. Through the left femoral vein, we introduced an intracardiac echocardiography probe and found a highly prominent Eustachian valve (EV; see *Figure 1* and Supplementary material online, *Movie S1*) with high-voltage atrial potential at the edge of the EV. After ablation at this point, the flutter was terminated and bidirectional block was confirmed.

Supplementary material

Supplementary material is available at *Europace* online.

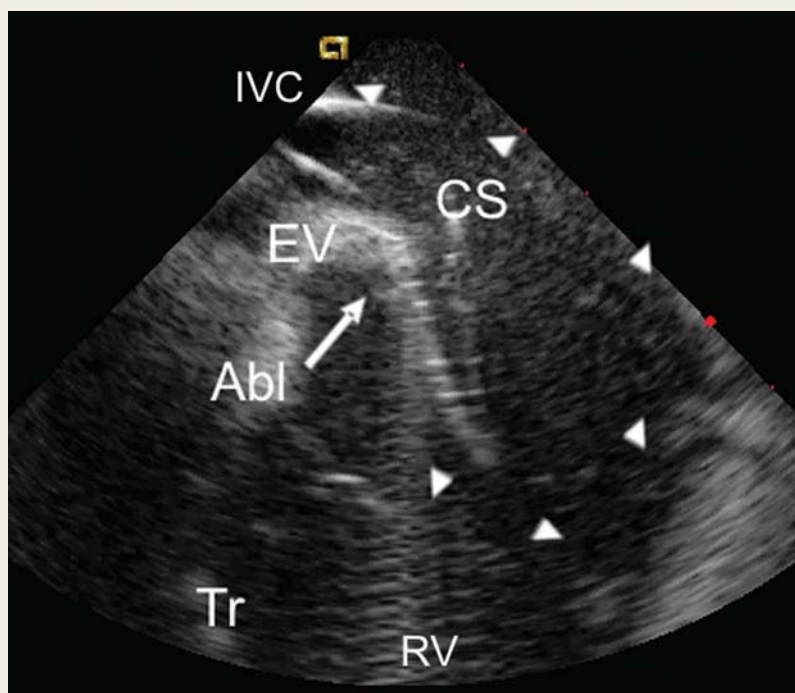


Figure 1 An intracardiac echocardiographic picture presenting a prominent, muscular, and actively contracting Eustachian valve (EV), which could only be engaged by curving the ablation catheter (Abl) into full circle (arrowheads) to touch the anterior surface of the valve. Muscle fibres running in the EV were likely responsible for resistant transisthmus conduction. CS, coronary sinus; Tr, tricuspid valve; IVC, inferior vena cava; RV, right ventricle.