Transient ST segment elevation and accompanying intracardiac echocardiographic abnormalities of the inferior left ventricular wall during catheter ablation of atrial fibrillation

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Received: 20 January 2013 / Accepted: 20 March 2013 / Published online: 9 July 2013
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Keywords Intracardiac echocardiography · Air embolism · Atrial fibrillation · Catheter ablation

Transient ST segment elevation during left-sided catheter ablation procedures has been previously reported; however, accompanying intracardiac echocardiographic (ICE) abnormalities have not yet been described. We present two patients with transient inferior ST segment elevation during atrial fibrillation ablation (Fig 1, panels A and B, black stars), with ICE showing hypokinesis (supplementary video 1) and hyperechoic appearance of the basal inferior left ventricular wall (panels C and D, white arrows). The first event occurred while ablating the anterior ridge between the left superior pulmonary vein and left atrial appendage, using an open-irrigated, radiofrequency ablation catheter. The second patient's event occurred following pulmonary vein isolation, during isoproterenol infusion to induce non-pulmonary vein triggers.

Neither patient had preexisting coronary artery disease nor echocardiographic wall motion abnormalities. ICE abnormalities resolved within 2 min (panels E and F and supplementary video 2), followed shortly by resolution of

electrocardiographic abnormalities. Neither patient had lasting sequelae. One underwent cardiac magnetic resonance imaging several months following ablation, which revealed no ventricular myocardial scar. Air embolism to the right coronary artery is the most likely mechanism.

Fig. 1 **a, b** Twelve-lead electrocardiogram in both patients records ST segment elevation in limb leads 2, 3, and aVF (black stars). **c, d** Intracardiac echocardiogram in both patients demonstrates hyperechoic appearance of the basal inferior wall of the left ventricle (white arrows). **e, f** The hyperechoic appearance of the basal inferior wall resolves within several minutes in both patients (white arrows). RV right ventricle, LV left ventricle

Electronic supplementary material The online version of this article (doi:10.1007/s10840-013-9806-6) contains supplementary material, which is available to authorized users.

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Conflict of interest None