Contrast echocardiography in the non-invasive diagnosis of giant aneurysm of the right atrial appendage

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A 57-year-old male patient was admitted to our echocardiography laboratory to rule out thrombus in left atrium before electrical cardioversion of atrial fibrillation. Transoesophageal echocardiography (TEE) demonstrated in the bicaval view, the right atrial appendage measured $10 \times 5$ cm, area: 42 cm$^2$, volume: 229 mL (Figure, left). A quick injection of 15 cc of echo-contrast fluid (shaken saline/1 cc air), delivered via an antecubital vein, showed filling the right atrial appendage aneurysm (Figure, right). Idiopathic giant congenital aneurysm of the right atrium appendage is a very rare malformation. TEE with contrast echocardiography is very useful in the non-invasive diagnosis of giant right atrial appendage aneurysm.

**Keywords**
Contrast echocardiography • Non-invasive diagnosis • Giant aneurysm of the right atrial appendage

A 57-year-old male patient was admitted to our echocardiography laboratory to rule out thrombus in the left atrium before electrical cardioversion of atrial fibrillation. The physical examination was within the normal range. Transthoracic echocardiography was suggestive of an extracardiac mass compressing the right atrium and, partly, the right ventricle (Panel A, see Supplementary data online, Video 1). Transoesophageal echocardiography (TEE) demonstrated, in the horizontal view, a giant intrapericardial aneurysm of the right atrial appendage with intense spontaneous echo contrast, but without thrombi (Panel B, see Supplementary data online, Video 2). In the bicaval view, the right atrial appendage measured $10 \times 5$ cm$^2$, area: 42 cm$^2$, volume: 229 mL (Panel C, see Supplementary data online, Video 3). Contrast echocardiography was used in our echocardiography laboratory for routine echocardiographic assessment.1,2 A quick injection of 15 cc of echo-contrast fluid (shaken saline/1 cc air), delivered via an antecubital vein, showed filling of the right atrial appendage aneurysm (Panel D, see Supplementary data online, Video 4). Due to the potential risk of intra-atrial thrombus formation, recurrent pulmonary embolism, rupture of the dilated right atrial appendage, and sudden death, surgical treatment was indicated, but the patient refused to undergo surgery, and therefore has been kept on medical treatment with amiodarone and oral anticoagulant. Currently, the patient is asymptomatic and free from morbid event in 2 years of follow-up. Idiopathic giant congenital aneurysm of the right atrium appendage is a very rare malformation. There is not report in the literature about the utility of TEE with contrast echocardiography in the non-invasive diagnosis of right atrial appendage aneurysm.

RA, right atrium; RAA, right atrium appendage; SVC, superior vena cava; RV, right ventricle; LA, left atrium; LV, left ventricle.

**Supplementary data**
Supplementary data are available at European Journal of Echocardiography online.

**Conflict of interest:** none declared.

**References**

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