CASE REPORTS

Isolated left atrial appendage ostial stenosis

Joshua D. Stern*, Adam H. Skolnick, Robin S. Freedberg, and Itzhak Kronzon

NYU Langone Medical Center Non-Invasive Cardiology Laboratory, 550 First Avenue, New York, NY 10016, USA

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A patient with atrial tachycardia presented with dyspnoea on exertion. Transoesophageal echocardiography revealed idiopathic left atrial appendage stenosis. The mouth of the atrial appendage was narrowed, and there was a high velocity to and fro jet between the left atrial body and the left atrial appendage. The study, therefore, suggested isolated left atrial appendage orifice stenosis.

KEYWORDS
Left atrial appendage; Stenosis; Thrombus; Transoesophageal echocardiography

An 83-year-old male was admitted to our institution complaining of a 1-week history of dyspnoea on exertion. On physical examination, his blood pressure was 120/70 mmHg, and heart rate was 100 beats per minute and regular. Auscultation of the lungs revealed a prolonged expiratory phase but no wheezes, rhonchi, or rales. Cardiac examination revealed a 2/6 holosystolic murmur best heard at the apex. ECG showed atrial tachycardia with 2:1 atrioventricular block.

A transthoracic echocardiogram revealed a normal ejection fraction, moderate mitral regurgitation, and a mildly dilated left atrium. A transoesophageal echocardiogram was performed in anticipation of DC cardioversion. This study revealed a dense spontaneous echocontrast within the left atrium but no thrombus. The ostium of the left atrial appendage was narrowed (0.5 cm) and was one-third the size of the body of the left atrial appendage (Figure 1). There was to and fro flow between the atrial appendage and the left atrial body (Figure 2). With each atrial systole, blood moved from the appendage into the left atrial body, and with each atrial diastole, blood moved from the atrium back into the appendage. The jet velocity reached 1.6 m/s in each direction (Figure 3).

Discussion

This patient had a narrowed left atrial appendage ostium with a haemodynamically significant stenosis. There was a 10 mmHg gradient between the left atrial appendage and the left atrium during atrial systole, and the same gradient existed between the atrial body and the appendage in atrial diastole. Although stenosis of the left atrial appendage ostium is a known complication after incomplete surgical ligation of the appendage,1 this patient had no previous surgical- or catheter-based intervention involving the left atrium or appendage. This condition has been described previously. Ha et al.2 reported a similar case of left atrial appendage stenosis of unclear aetiology. Coughlan et al.3 also reported a similar case of idiopathic atrial appendage stenosis in a patient with a transient ischaemic attack. They posited that the anomaly represents a congenital defect, possibly a form of cor triatriatum, in which a membranous shelf divides the left atrium above the atrial appendage into two chambers. Both of these cases, however, were

* Corresponding author. Fax: +1 646 365 2017.
E-mail address: sternj07@med.nyu.edu

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patients in normal sinus rhythm, whereas our patient presented with atrial tachycardia.

Left atrial appendage stenosis detected by transoesophageal echocardiography is a rare clinical entity, the aetiology of which remains unclear. Clinical sequelae are not known given the small number of cases reported. However, thrombus formation in the area of relative stasis behind the stenosis is possible. The patient presented by Coughlan et al. presented with a transient ischaemic attack, but whether the embolus was due to this phenomenon remains unclear. It is also possible that the high-velocity jet may strike the wall of the left atrium causing fibrosis and thrombus formation.

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

References