CASE REPORTS: DIVIDED ATRIA

Remnant of the common pulmonary vein mistaken for a left atrial mass: clarification by transoesophageal echocardiography

Warren J Manning, Carol A Waksmonski, Marilyn F Riley

Abstract

Faulty incorporation of the common pulmonary vein leaves it as a distinct structure posteriorly, into which the pulmonary veins empty. This "chamber" is separated from the anterior "fetal" left atrium (containing the left atrial appendage and communicating with the mitral valve) by a diaphragm, and is known as cor triatriatum, one of the rarest of cardiac malformations. Less pronounced but still incomplete regression of this vein would result in the persistence of a portion of the common pulmonary vein appearing as a mass along the lateral wall of the left atrium at the junction of the left atrial appendage and left upper pulmonary vein. In two patients, both referred for evaluation of a left atrial mass, transoesophageal echocardiography identified the "mass" as a remnant of the common pulmonary vein.

Cardiologists need to be aware of this structural remnant and its possible variants so as to avoid misdiagnosis of this prominence as an atrial tumour or mass.

Transthoracic cross sectional echocardiography has revolutionised the antemortem examination of the heart for tumours and thrombi. Limitations of the transthoracic examination, however, include the dependence on transducer position and angulation¹ and the frequent inability to image adequately the left atrial appendage and pulmonary veins.² More recently transoesophageal echocardiography has been shown to provide superior visualisation of the left atrium, left atrial appendage, and pulmonary veins.² We report the cases of two patients who were referred to our hospital for further evaluation of left atrial "tumours" identified by transthoracic echocardiographic study. In both instances, transoesophageal echocardiographic examination showed a prominent confluence of the left atrial appendage and left upper pulmonary vein.

Case reports

CASE 1

A 60 year old white woman with a history of a

remote myocardial infarction, mild aortic stenosis, and mild aortic insufficiency was admitted for evaluation of acute onset right-sided hemiparesis and dysarthria. A computed tomogram of the head without contrast was normal. Transthoracic echocardiography, to exclude a cardiac source of emboli, showed normal chamber sizes and left ventricular systolic function. An elongated left atrial mass was noted originating at the base of the left atrial appendage (fig 1A). She was transferred for further evaluation. Transoesophageal echocardiography showed normal chamber sizes with a prominent confluence of the left atrial appendage and left upper pulmonary vein extending 2.5 cm into the body of the left

(A)

(B)

Figure 1 (A) Apical four chamber view showing an elongated echodensity/mass (arrow) originating near the base of the left atrial appendage. LA, left atrium; LV, left ventricle. (B) Transoesophageal study of the patient shown in (A), showing prominence (arrow) of the confluence of the left atrial appendage (LAA) and left upper pulmonary vein (UPV).

Charles A Dana
Research Institute and
the Harvard-
Thorndike Laboratory
of the Department of
Medicine,
Cardiovascular
Division, Beth Israel
Hospital and Harvard
Medical School,
Boston,
Massachusetts, USA
W J Manning
C A Waksmonski
M F Riley

Correspondence to
Dr Warren J Manning,
Cardiovascular Division,
Beth Israel Hospital 330
Brookline Avenue, Boston,
MA, USA.