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Uncovering a Windsock Aneurysm of the Interventricular Septum: An Incidental Structural Abnormality

MULTIMODALITY
MUSEUM IMAGE

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ABSTRACT

We present a case of a 75-year-old female with a history of idiopathic small fiber neuropathy, essential hypertension, and heterozygous familial hypercholesterolemia who was evaluated for exertional dyspnea and fatigue. Coronary computed tomography angiography demonstrated a 16-mm wide-neck windsock aneurysm of the interventricular septum along with a patent foramen ovale and left-to-right shunting. This case underscores the role of advanced cardiac imaging in detecting rare structural abnormalities.

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KEYWORDS:
aneurysmal interventricular septum; Windsock aneurysm; coronary computed tomography angiography; CTA; structural heart disease

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A 75-year-old female with a past medical history of idiopathic small-fiber neuropathy, essential hypertension, and heterozygous familial hypercholesterolemia was evaluated by her cardiologist for fatigue and shortness of breath on exertion.

Electrocardiography showed normal sinus rhythm with first-degree atrioventricular block. To assess for possible ischemic etiology, the patient underwent coronary computed tomography angiography (CTA), which showed a left-dominant coronary system without significant stenosis but with mild atherosclerosis. Notably, a 16-mm wide-neck Windsock aneurysm of the interventricular septum was identified, along with a patent foramen ovale and left-to-right shunting (Figures 1, 2).

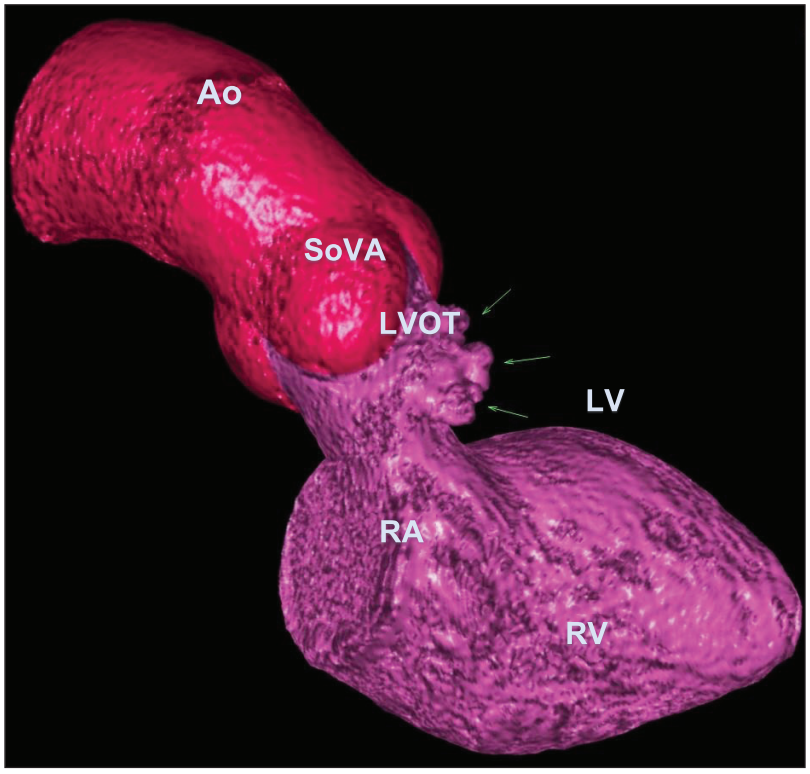

Figure 1 3D cardiac computed tomography angiography showing interventricular septal aneurysm (arrows). Ao: aorto; SoVA: sinuses of Valsalva; LVOT: left ventricular outflow trac; RV: right ventricle; LV: left ventricle; RA: right atrium

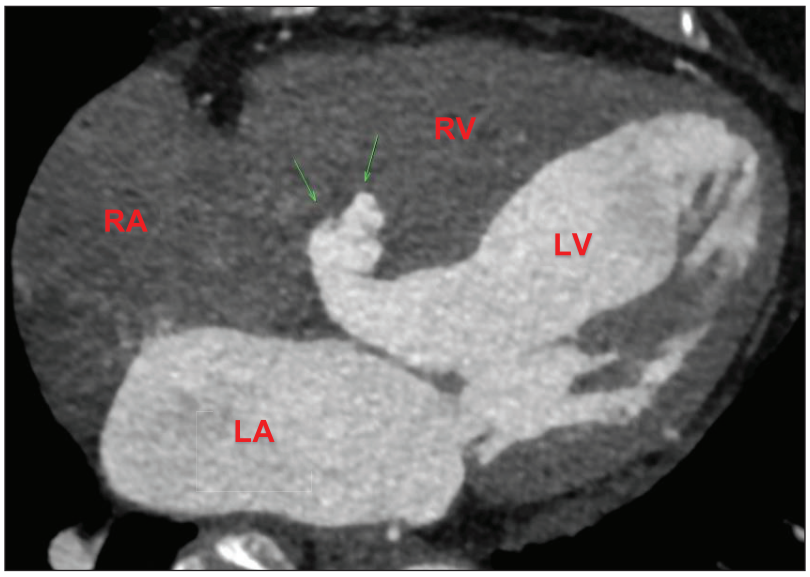

Figure 2 Cardiac computed tomography angiography showing interventricular septal aneurysm (arrows). LA: left atrium; LV: left ventricle; RA: right atrium; RV: right ventricle

Membranous interventricular septal aneurysms are rare congenital anomalies often discovered incidentally during evaluation for unrelated symptoms.[1] Our patient underwent CTA for ischemic evaluation and was found to have an aneurysm. It is important to assess for associated structural abnormalities, such as sinus of Valsalva aneurysms, ventricular septal defects, or outflow tract anomalies such as transposition of the great arteries.[2-4]

While typically asymptomatic, these aneurysms can be a nidus for thrombus formation, increase the risk of arrhythmias, or cause right ventricular outflow tract obstruction if they protrude significantly.[1,5] Although our patient was symptomatic, her symptoms were deemed unrelated to the aneurysm, and she did not have a thrombus or evidence of arrhythmia. Transthoracic echocardiography can aid in detection, but cardiac computed tomography imaging provides superior anatomical detail, allowing for better visualization and assessment of associated cardiac pathology.

Given the absence of significant coronary artery disease, the patient was managed conservatively with risk factor optimization for atherosclerosis and close follow-up for potential embolic risk assessment.

COMPETING INTERESTS

The authors have no competing interests to declare.

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