

IMAGING VIGNETTE

ADVANCED

CLINICAL VIGNETTE

Hematoma in Epicardial Fat From Sinus of Valsalva Aneurysm



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ABSTRACT

Hematoma in epicardial fat is a rare finding on noncontrast computed tomography imaging. We describe a case with hematoma in epicardial fat that helped to diagnose an oozing, ruptured mycotic sinus of Valsalva aneurysm. (**Level of Difficulty: Advanced.**) (J Am Coll Cardiol Case Rep 2022;4:688-689) © 2022 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

An 87-year-old woman with diabetes mellitus and hypertension was admitted with sepsis secondary to *Escherichia coli* bacteremia caused by a urinary tract infection and pneumonia. After 1 week of antibiotic therapy, noncontrast computed tomography (CT) scanning for reevaluation of pneumonia revealed hematoma in epicardial fat (**Figure 1A**). However, her electrocardiogram was normal, and troponin levels were not elevated. Vital signs were 128/59 mm Hg blood pressure, 74 beats/min heart rate, and 95% oxygen saturation on room air. Contrast-enhanced CT coronary angiography revealed a 21 × 14 mm sinus of Valsalva aneurysm (SVA) alongside the ostium of the right coronary artery (RCA) and bloody nature of the pericardial effusion (**Figures 1B and 1C**). Transthoracic echocardiography showed no cardiac tamponade or shunting to cardiac chambers (**Video 1**).¹⁻³

SVA was diagnosed, and an oozing from it was suspected. The SVA and ostial RCA were resected urgently (**Figure 1D**), and the wound was repaired with a bovine pericardial patch. Coronary artery bypass grafting with a saphenous vein was performed from the ascending aorta to the RCA.

Bacterial culture of the SVA subsequently verified *E coli* infection. Pathologic specimen analysis confirmed active infection with numerous segmental neutrophils in the intima, absence of elastic lamina, and material oozing from the SVA rupture, which were red blood cells and fibrin (**Figures 1E and 1F**). We therefore diagnosed a mycotic SVA, followed by an oozing rupture after its natural expansion. Owing to the oozing (absence of direct connection) between the SVA and pericardial space, the patient was hemodynamically stable and had no symptoms of the rupture. Hematoma in epicardial fat on noncontrast CT imaging is a rare finding, and in this case, it was related to an oozing, ruptured mycotic SVA.

EDUCATIONAL VALUE

Hematoma in epicardial fat on noncontrast CT imaging may be an important finding to diagnose a ruptured SVA.

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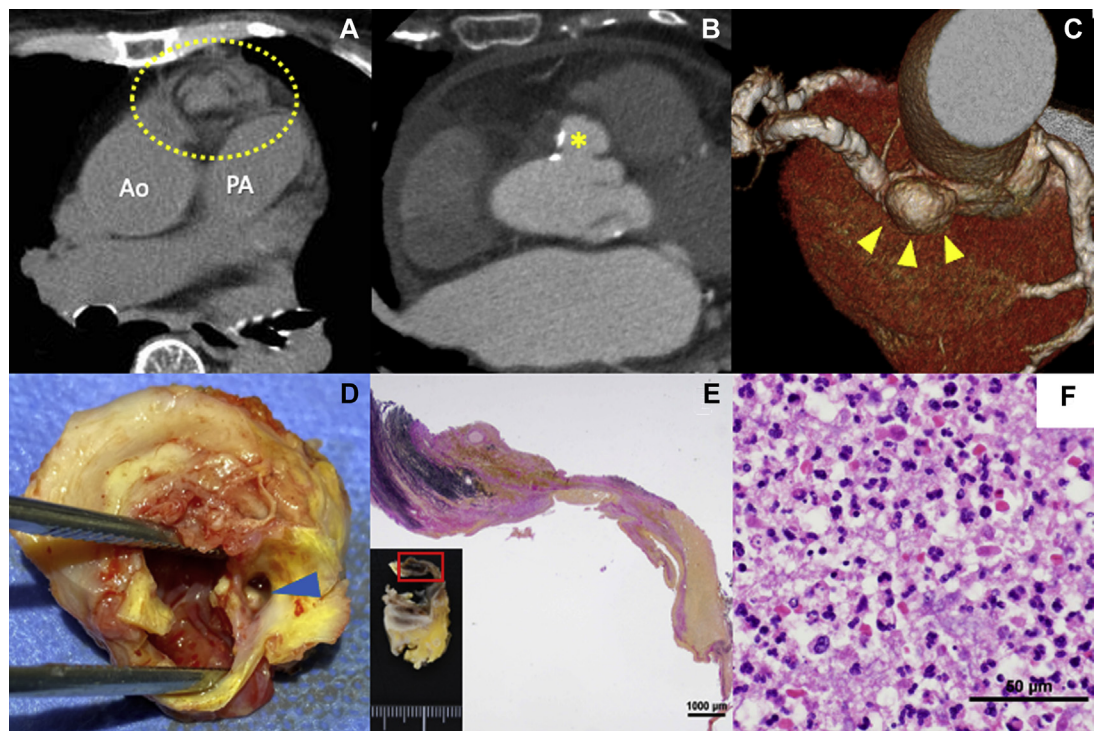
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ABBREVIATIONS AND ACRONYMS

CT = computed tomography
RCA = right coronary artery
SVA = sinus of Valsalva aneurysm

FIGURE 1 CT Images and Pathologic Analysis in an Oozing, Ruptured Mycotic SVA



(A) The hematoma in epicardial fat by noncontrast computed tomography (CT) imaging (yellow dotted circle). (B) The sinus of Valsalva aneurysm (SVA) (asterisk) and pericardial effusion by contrast-enhanced CT coronary angiography. (C) SVA alongside the right coronary artery by 3-dimensional CT coronary angiography (yellow arrows). (D) SVA and the ostial RCA (blue arrow) that were resected by surgery. (E) Pathology confirmed absence of elastic lamina in the SVA. (F) Intima of the SVA included segmental neutrophils, red blood cells, and fibrin. Ao = aorta; PA = pulmonary artery.

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APPENDIX For a supplemental video, please see the online version of this paper.

KEY WORDS cardiovascular disease, computed tomography, pericardial effusion