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Sinus of Valsalva Aneurysm and Multiple Aortic Aneurysms Provoked by Viral Myocarditis

Kyoung-Woo Seo, MD, and Jin-Sun Park, MD, PhD

Department of Cardiology, Ajou University School of Medicine, Suwon, Korea

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Correspondence to
Jin-Sun Park, MD, PhD
Department of Cardiology, Ajou University School of Medicine, 164, World cup-ro, Yeongtong-gu, Suwon 16499, Korea.
E-mail: lavioli@hanmail.net

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ORCID iDs
Jin-Sun Park
https://orcid.org/0000-0002-7775-4092

Conflict of Interest
The authors have no financial conflicts of interest.

Author Contributions
Conceptualization: Park JS; Supervision: Park JS; Writing - original draft: Seo KW; Writing - review & editing: Park JS.

A 27-year-old male, who was cured from viral myocarditis 6 years ago, was admitted to our clinic with chest pain.

Echocardiography showed regional wall motion abnormalities in the territories of left anterior descending artery (LAD) and aneurismal dilatation of the left coronary sinus of Valsalva. Transesophageal echocardiography revealed that the outpouching structure with mural thrombus arose from the left coronary sinus of Valsalva. Distal to the right coronary ostium, the aorta formed 2 outpouching structures (**Figure 1A and B**, **Supplementary Movies 1** and **2**). To evaluate another aneurismal change, computed tomography (CT) was performed and revealed another outpouching structure at descending aorta (**Figure 1C and D**). The laboratory tests completely ruled out any evidence of current inflammatory disease or autoimmune disease. The history of prior myocarditis was thought to be the cause of multiple aneurysms, as multiple aneurysms were developed after prior myocarditis. CT revealed that the left coronary ostium was originated from the aneurismal wall (**Figure 1E and F**). The LAD was stenosed due to thrombus migrated from the thrombosed sinus of Valsalva aneurysm. Although we strongly recommended surgical treatment, the patient refused it.

Acquired forms of sinus of Valsalva aneurysms may be associated with the conditions affecting aortic wall, such as inflammation and degenerative change.[1)2)] In the present case, inflammatory reaction triggered by prior myocarditis may progress to aortitis and propagate the aneurysmal change of sinus of Valsalva and aortic wall. The present case implicated that in the patients with multiple aneurysms of aorta, the whole aorta should be evaluated for another aneurysm.

SUPPLEMENTARY MATERIALS

Supplementary Movie 1

Transesophageal echocardiography revealed that the outpouching structure with mural thrombus arose from the left coronary sinus of Valsalva.

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Supplementary Movie 2

Distal to the right coronary ostium, the aorta formed another 2 outpouching structures.

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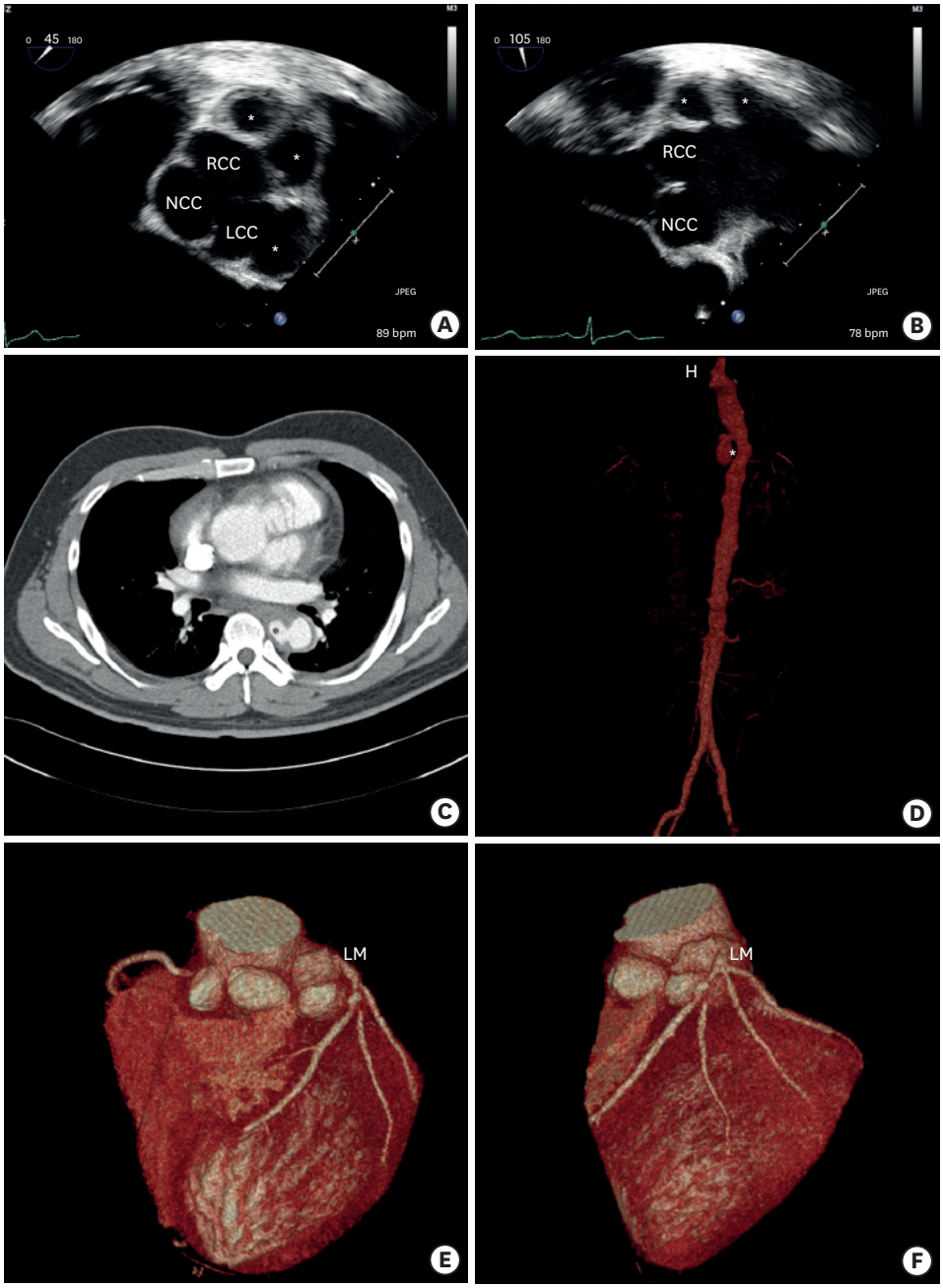

Figure 1. (A) Transesophageal echocardiography revealed that the outpouching structure with mural thrombus arose from the left coronary sinus of Valsalva. (A and B) Distal to the right coronary ostium, the aorta formed another 2 outpouching structures. (C and D) CT revealed another outpouching structure at descending aorta. (E and F) Cardiac multi-detector CT revealed that the left coronary ostium was originated from the aneurismal wall. CT = computed tomography; LCC = left coronary cusp; LM = left main artery; NCC = non-coronary cusp; RCC = right coronary cusp. *Aneurysm.

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