

SOVA in Takayasu arteritis: an unusual cause of coronary artery external obstruction

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Takayasu arteritis is a chronic, idiopathic, and granulomatous vasculitis primarily affecting large vessels, particularly the aorta and its major branches, occasionally involving the pulmonary arteries. Sinus of Valsalva aneurysm (SOVA), a rare manifestation of this condition characterized by dilation of the aortic sinuses, results from inflammatory destruction of elastic and muscular tissues within the sinus walls. Including all causes, SOVA presents in approximately 0.09% of the general population. Unruptured SOVAs are typically asymptomatic, with symptoms usually related to rupture. However, in rare cases, significant enlargement can lead to compression of adjacent structures, such as coronary arteries, resulting in ischemic symptoms. We present a case of exertional angina secondary to external compression of the left coronary artery by a large left SOVA. A 32-year-old woman with TA, who underwent bioprosthetic aortic valve replacement, aortic root repair, and ascending aorta repair in 2019, presented to the ED with chest pain. She had been lost to follow-up for 2 years and had discontinued all medications, including immunosuppressants. Two months prior, she developed exertional left-sided chest pain and was advised to undergo a CT chest angiogram. During the scan, she experienced continuous chest pain and dizziness, prompting the ED visit. On examination, she was hemodynamically stable with a heart murmur; the rest of the examination was unremarkable. Blood work revealed minimally elevated troponin levels (22 and 34 ng/l), with the remaining results within normal limits. CT chest angiography demonstrated severe active vasculitis, newly developed pseudoaneurysms involving all three sinuses of Valsalva, severe compression of the left main coronary artery between the newly formed left SOVA pseudoaneurysm and the pulmonary artery, and multiple breakdowns of surgical anastomotic lines. Given the high risk of sudden cardiac arrest, she was admitted to the cardiac ICU. Her inpatient course included disease control with steroids, followed by an uneventful redo-aortic root and aortic arch reconstruction surgery. She recovered well postoperatively and was discharged home 1 month later. This case highlights a rare but serious complication of Takayasu arteritis involving SOVA. Despite its rarity, such complications require our consideration in patients with vasculitis, necessitating timely imaging and intervention to prevent undesirable outcomes.

Keywords:

Takayasu arteritis, sinus of Valsalva aneurysm (SOVA), coronary artery external compression, exertional dyspnea.