Calcified amorphous tumor in the aortic valve identified by computed tomography

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Cross-sectional image by multidetector computed tomography and resected specimen of CAT in the aortic valve.

Central Message

Careful interpretation via multidetector computed tomography is recommended, and caution should be exercised because of possible existence of CAT in the aortic valve that can mimic degenerative aortic valve stenosis when considering TAVR.

See Commentary on page e165.

Video clip is available online.

An 83-year-old woman was referred to Nagoya Heart Center for symptomatic aortic valve stenosis. Transthoracic echocardiography revealed severe aortic valve stenosis without other abnormal findings (Figure 1, A). Considering the patient's advanced age, our cardiology team decided that she would be a candidate for transcatheter aortic valve replacement (TAVR). However, prescreening multidetector computed tomography showed an unusual image with an encapsulated mass between the noncoronary cusp (NCC)

and the left coronary cusp (Figure 1, B, Video 1). Although this mass could not be diagnosed accurately, it appeared to be a possible cause for systemic embolization due to compression by the transcatheter heart valve. Therefore, we switched to a surgical approach. Surgical inspection

FIGURE 1. A, Transthoracic echocardiography finding showed leaflet thickening (red arrow) in the aortic valves. B, Cross-sectional image of the aortic valve by multidetector computed tomography identified encapsulated mass. C, Surgical finding of the aortic valve (red asterisk: NCC). D, Viscous contents (blue arrow) ruptured from inside the NCC. E, Resected specimen of the aortic valve (red arrow: encapsulated mass in the NCC). F, Histopathology of amorphous mass showing calcified caseous necrosis with no cellular components.

CAT in the aortic valve is a rare non-neoplastic intracardiac tumor¹⁻³ and a mobile mass that may protrude as several caseous nodules after TAVR. To avoid systemic distal embolism, complete surgical excision, and not TAVR, is recommended for patients with this condition. Careful interpretation via multidetector computed tomography will help diagnose CAT with

isolated and “capsulized” image. When considering TAVR, caution should be exercised because of possible existence of CAT in the aortic valve.

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