



Silent Massive Valsalva Thrombosis Identified on Contrast-Enhanced Multislice Computed Tomography Following Transcatheter Aortic Valve Replacement

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A 78-year-old man was hospitalized for heart failure with severe aortic stenosis. He had a history of cardiac surgery with coronary artery bypass surgery and mitral annuloplasty. Our heart team decided that he was a candidate for transcatheter aortic valve replacement (TAVR) on the basis of his background. A 29-mm CoreValve (Medtronic, Minneapolis, Minnesota) was implanted via the femoral artery without any significant complications (**Figure 1A**). Contrast-enhanced multidetector computed tomography (MDCT) using a 256-slice scanner (Brilliance iCT, Philips Medical Systems, Eindhoven, the Netherlands) was performed to examine the interference between a previously sutured mitral ring and CoreValve 7 days after the TAVR procedure. Surprisingly, the MDCT findings showed a large thrombus formation in the noncoronary cusp (NCC) corresponding to the NCC leaflet (**Figure 1B**). On cross-sectional MDCT, a partial thrombus was identified in both the NCC and commissure of the NCC leaflet (**Figure 1C**). This thrombus was fully occupied from the middle to the bottom of the NCC valsalva (**Figure 1D**). The patient received the dual antiplatelet

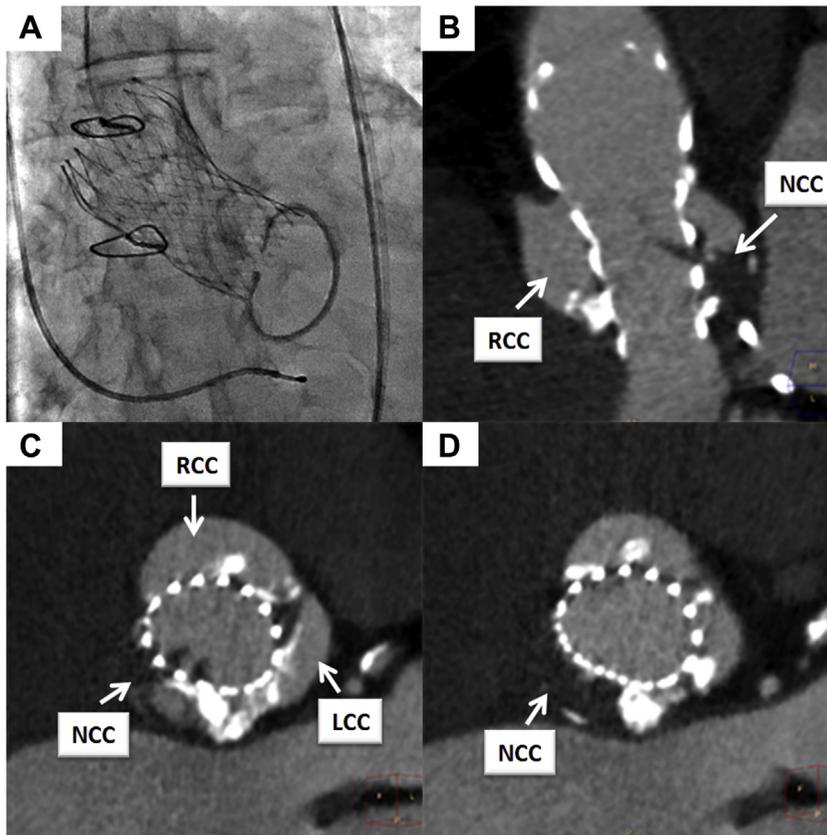
therapy immediately after the TAVR and continued until the MDCT examination. In this case, any clinical event, including stroke, was not found during 30-day short term follow-up period. A phenomenon of valve thrombosis after TAVR was reported recently, whereas thrombi were mainly observed on the leaflets. This is a unique case of a relatively large thrombus formation in the NCC of the sinus of valsalva. Although most of the valve leaflet thrombi were considered subclinical and the patient was free from stroke, the subsequent risk of stroke should be warranted in cases with such large thrombi. The possible cause of valve thrombosis still remains uncertain, and attention should be paid to potential occurrence of valsalva thrombosis after TAVR.

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FIGURE 1 Post-Procedural Image on Angiogram and Multidetector Computed Tomography



(A) A 29-mm CoreValve (Medtronic, Minneapolis, Minnesota) was implanted within 4 mm below the annulus without attachment of previous mitral ring. **(B)** Contrast-enhanced multidetector computed tomography showed a low-density area highly suspected the evidence of thrombus in the part of noncoronary cusp (NCC), not in the right coronary cusp (RCC). **(C)** A partial thrombus was identified in NCC, whereas a thrombus could not be identified in the other RCC and left coronary cusp (LCC). **(D)** From the middle to bottom part of valsalva, this thrombus was fully occupied in the NCC valsalva.