

IMAGES IN INTERVENTION

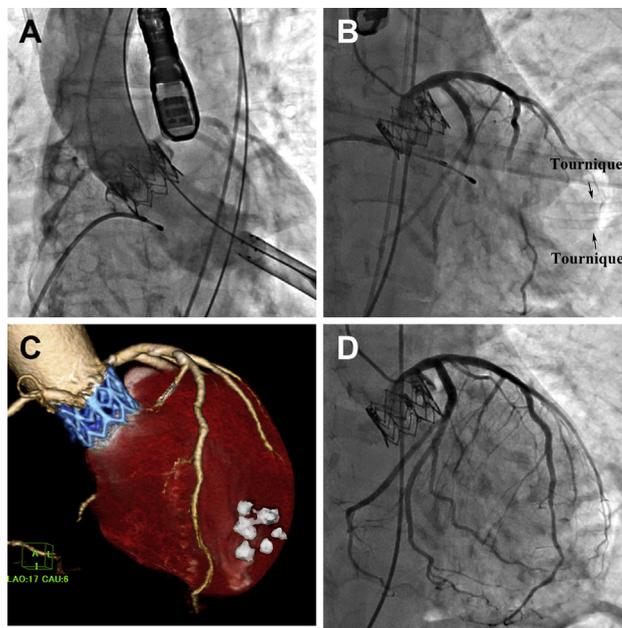
Left Anterior Descending Coronary Artery Obstruction Associated With an Apical Suture After Transcatheter Aortic Valve Replacement



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An 88-year-old woman with symptomatic severe aortic stenosis was referred to our center. She was considered to be at high risk for surgical aortic valve replacement due to comorbidities and advanced age. Our heart team opted for transcatheter aortic valve replacement via transapical

FIGURE 1 Angiography and Post-Procedural Computed Tomography



Aortography shows the target position of the prosthetic valve and the patency of the left coronary orifice (A). Left coronary angiography shows narrowing of the left anterior descending artery (LAD) after the sheath is removed and the apical sutures are snared with tourniquets (B). Post-procedural computed tomography shows that the apical sutures are away from the LAD (C). Angiography shows complete recovery of LAD flow after infusion of a vasodilator (D).

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access because of issues with the peripheral artery. A pair of pledgeted purse-string sutures was placed around the apex via left anterolateral thoracotomy at the sixth intercostal space. A 23-mm SAPIEN-XT prosthesis (Edwards Lifesciences, Irvine, California) was successfully implanted in the target position. However, the recovery of blood pressure was poor, and hypokinetic motion of the apex was noted in the surgical view. Aortography showed trivial aortic regurgitation without obstruction of the left coronary artery orifice (Figure 1A). Additionally, selective angiography of the left coronary artery revealed obstruction of the middle part of left anterior descending artery (LAD) (Figure 1B), whereas previous coronary angiography did not show significant stenosis. The sutures were over 10 mm away from the LAD in direct vision, which was confirmed in post-procedural computed tomography (Figure 1C). After removing 1 of the sutures, which was relatively close to the LAD, the obstruction of

the LAD improved slightly but remained significant. Therefore, a vasodilator was repeatedly infused into the LAD, and the flow of the LAD completely recovered (Figure 1D). The obstruction of the LAD in the present case was induced by muscle tension and deformation around the apical sutures. In addition to the removal of the apical suture, selective vasodilator infusion for the obstructed LAD might be effective. The present unique case revealed 1 of the potential etiologies of LAD obstruction after transapical transcatheter aortic valve replacement.

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