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Superior Mesenteric Artery Embolism Complicating Transcatheter Aortic Valve Replacement

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An 83-year-old male was scheduled for transcatheter aortic valve replacement for severe aortic valve stenosis. Although preprocedural computed tomography demonstrated atherosclerotic plaques protruding into the descending aortic lumen (Figure 1), we concluded a transfemoral approach was feasible. However, while advancing the valve system through the descending aorta, the echocardiographer detected a fragment detached from the protruding plaque on transesophageal echocardiography (not recorded). A 26-mm Sapien 3 (Edwards Lifesciences, Irvine, California) was successfully implanted (Figure 2) while transesophageal echocardiography delineated a contrasting configuration of the plaque (Figure 3a and b, Supplemental Video 1). Emergency superior mesenteric artery angiography demonstrated an embolic partial obstruction (Figure 4a), and an intravascular aspiration procedure, using an Export Advance catheter (Medtronic, Minneapolis, Minnesota), restored blood flow to the ileocolic territory (Figure 4b). His post-transcatheter aortic valve replacement course

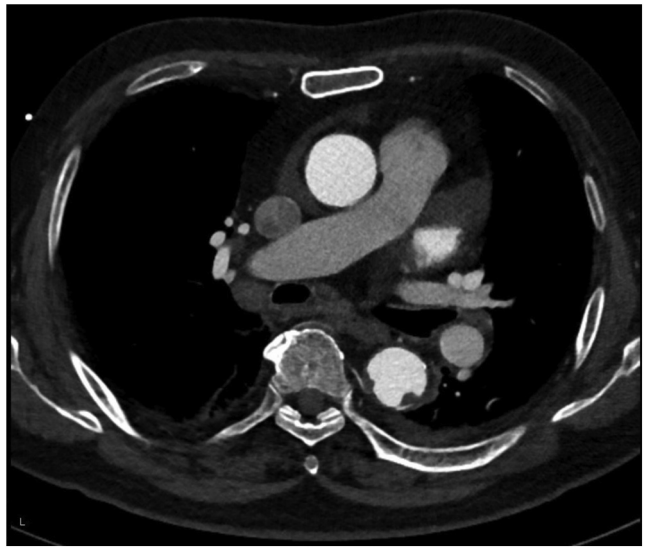

Figure 1. Preprocedural computed tomography showing protruding plaques into the descending aortic lumen.

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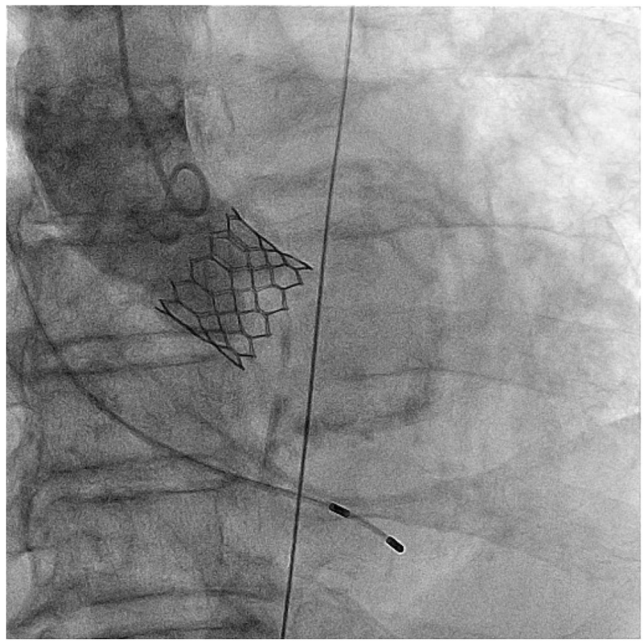

Figure 2. **Aortography after Sapien 3 implantation.**

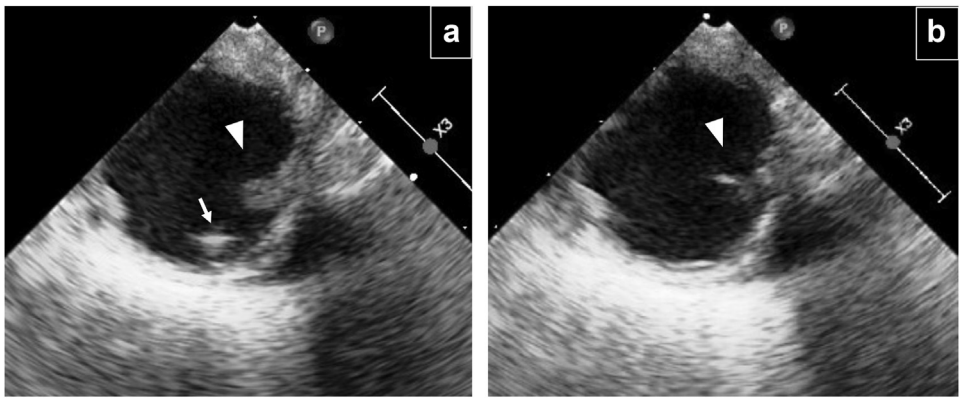

Figure 3. Transesophageal echocardiography (TEE) showing a guidewire (arrow) with the protruding plaque (arrowhead) before (a) and after (b) device advancement.

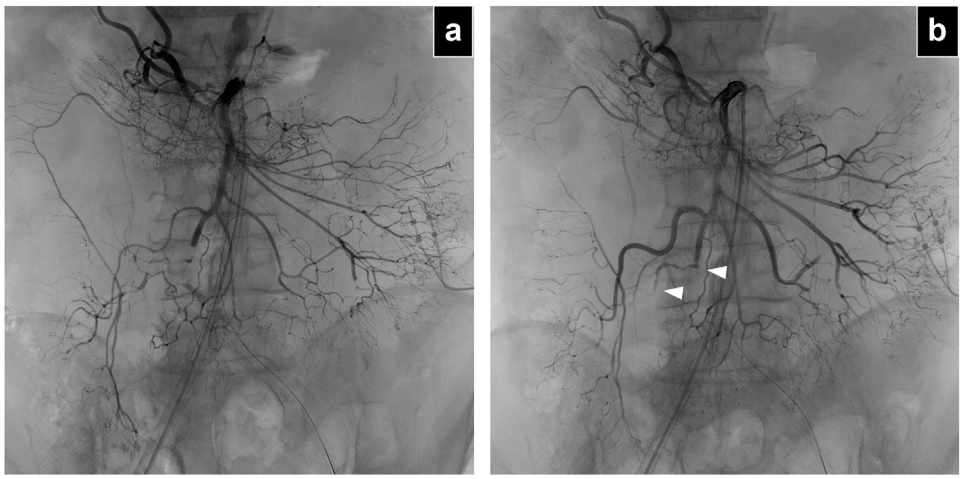

Figure 4. Superior mesenteric artery angiography showing embolic partial obstruction of the mid portion before the aspiration procedure (a) and restoration of blood flow to ileocolic territory after the procedure (b). Arrow heads indicate partially improved blood flow to iliocolic territory.

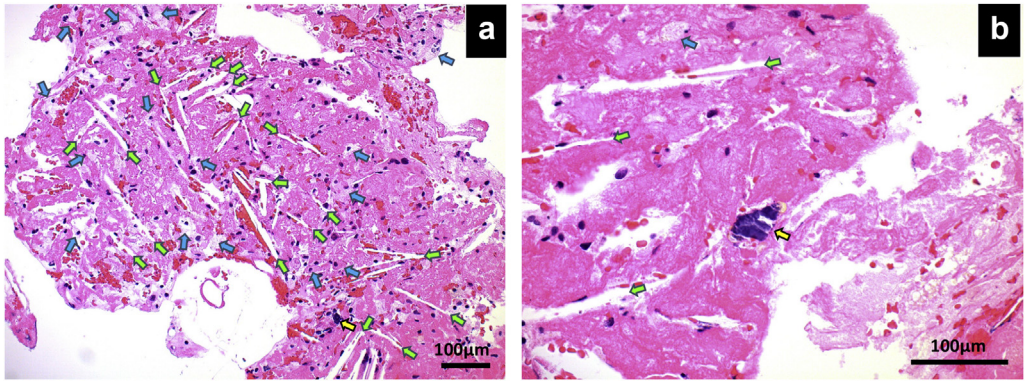

Figure 5. Pathology of the aspirate showing cholesterol clefts (green arrows), foamy macrophages (blue arrows), and calcification (yellow arrow) in low (a) and high (b) magnifications.

was uneventful with no signs of bowel ischemia. Pathology showed the retrieved material was a fragment of atherosclerotic plaque with typical cholesterol clefts and foamy macrophages (Figure 5a and b).

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Supplementary Material

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