

IMAGING VIGNETTE

ADVANCED

CLINICAL VIGNETTE

Spontaneous Resolution of Iatrogenic Aortic Dissection After Coronary Arterial Stenting



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ABSTRACT

Although rare, coronary arterial angiography carries a life-threatening risk of iatrogenic aortic dissection (AD). Given the paucity of data, an optimal treatment option for iatrogenic AD is a conundrum. In this report, we present our experience of spontaneous resolution of AD in a patient with catheter-driven iatrogenic AD during coronary arterial intervention. (**Level of Difficulty: Advanced.**) (J Am Coll Cardiol Case Rep 2022;4:470–472) © 2022 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

A 62-year-old man underwent coronary angiography for chest pain in a local hospital. After the left anterior descending artery was stented, angiography revealed newly developed acute Stanford type A aortic dissection (AD). An additional stent was quickly placed at the proximal left anterior descending artery to block entry tear, and the patient was transferred to our center (aorta surgery-dedicated center in Korea). Upon arrival, the patient was hemodynamically stable (systolic blood pressure: 120 mm Hg) and was not experiencing any back pain.

Computed tomography (CT) imaging was performed to confirm iatrogenic AD. Although the dissection flap was visible through the aorta on the CT scan, we surmised that the additional stent had closed the intimal defect for several reasons. First, there was enhancement in the arch in the nonenhanced CT image, which suggests that the dye injected during coronary angiography was trapped in the false lumen (**Figure 1A**). Also, a definite intimal tear was not seen in the enhanced phase of the CT scan, and the patient was not experiencing any chest pain.

The patient was admitted to the intensive care unit and medically treated with close blood pressure monitoring. Serial CT scans were performed. On the second day of hospitalization, a CT scan revealed that the false lumen diameter of the patient's aorta was decreased from 23 mm to 9 mm (**Figures 1B and 1C**). The patient did not report any pain during the hospital stay and was discharged on the sixth hospital day without surgical repair. One month after discharge, a follow-up CT scan revealed that the false lumen had completely disappeared (**Figure 1D**).

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DISCUSSION

Current practical guidelines offer a Class I recommendation for surgical repair for type A AD, regardless of the cause.¹ If the patient in the present report received surgical repair, replacement of the aortic root might be unavoidable. This may result in surgical pain and require lifelong anticoagulation, even after dealing with substantial surgical risks. Our experience supports the approach of swiftly placing a suitable stent without surgical replacement of the aorta to correct iatrogenic AD during coronary arterial intervention. Clinicians should carefully consider individual conditions to decide between surgical repair and optimal medical management to optimize results in patients with iatrogenic AD.

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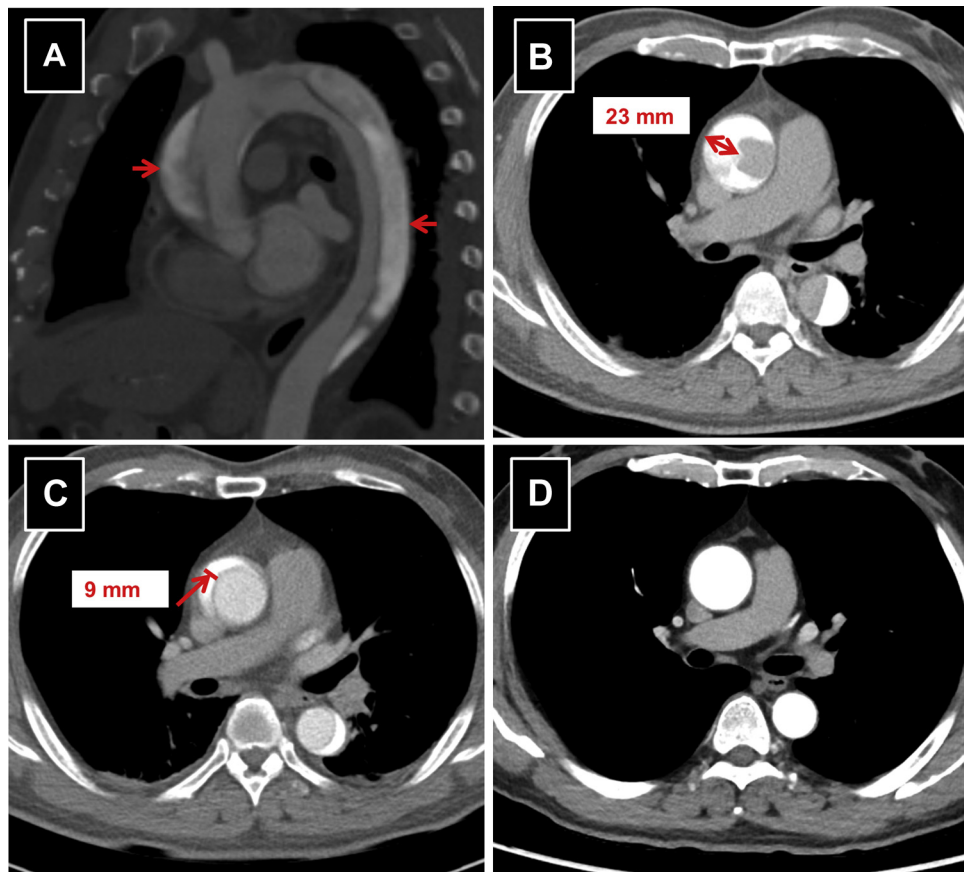
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ABBREVIATIONS AND ACRONYMS

AD = aortic dissection
CT = computed tomography

FIGURE 1 Serial Computed Tomography Scan in a Patient With Iatrogenic Aortic Dissection



(A) Injected dye during coronary angiography was visible in the non-enhanced computed tomography scan. (B) CT scan after 3 hours of coronary intervention. The false lumen diameter was 23 mm. (C) The false lumen diameter was 9 mm on the second hospital day. (D) Computed tomography scan showed that the dissected aorta was spontaneously resolved 1 month after discharge.

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