Appending Thrombus on Ulceration of the Ascending Aorta
A Rare Cause of Acute ST-Elevation Myocardial Infarction

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A 61-year-old man presented to the emergency department with typical acute chest pain of <4 hours duration. ECG showed 2-mm ST-segment elevations in inferior leads, and the cardiac catheterization team was called for primary percutaneous coronary intervention. Angiography of the right dominant coronary artery did not show significant lesion but distal embolization and slow flow (Figure 1). Angiography of the left coronary artery showed a moderate lesion in the left anterior descending artery with a normal circumflex artery. Right anterior oblique ventriculography showed a severe posterobasal hypokinesia compatible with an acute inferior myocardial infarction. Left anterior oblique ventriculography showed moderate-severe inferior hypokinesia, and unexpectedly a large moving filling defect was visible in the ascending aorta just above the right coronary ostium (Figure 2 and online-only Data Supplement Movie). Urgent operation was carried out, and a segment of the aorta with the appending mass (Figure 3) was removed and replaced by a Dacron prosthesis. Microscopic examination showed an ulcerated intimal atheromatous plaque with adherent acute fibrinous thrombus (Figure 4A). Admixed leukocytes were present within the thrombus, but no granulation tissue or hemosiderin pigment was seen (Figure 4B). Staining for microorganisms was negative. No medial cystic degeneration or sign of aortitis was found. The patient made an uneventful recovery.

In acute coronary syndrome, coronary embolization is sometimes suspected when no significant coronary stenosis can be found in the culprit artery. Our case illustrates that, in rare cases, myocardial infarction can be caused by embolization of thrombotic material originating from aortic ulceration.

Disclosures
None.

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e227
Figure 1. Angiography of the right coronary artery showed no significant lesion but slow flow and images consistent with distal embolization (arrows).

Figure 2. Left anterior oblique view of the left ventricle and aorta. Thrombus appending to the ascending aorta appears as a large filling defect. See online-only Data Supplement Movie for animated images.

Figure 3. Macroscopic views of the ulcerated aorta and 2-cm long thrombus.
Figure 4. Microscopic views of the ulceration of the aorta with attached fresh thrombus. Hematoxylin and eosin, 40× (A) and 200× (B).
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