Cholesterol Embolism as a Complication of Aortic Dissection

Shota Nakamura, MD; Ikuo Misumi, MD; Shunichi Koide, MD

A 73-year-old man was admitted to the hospital because of severe back pain. CT and MRI (Figure 1) revealed aortic dissection. Transesophageal echocardiography (Figure 2) showed a thickened intimal tear of the thoracic aorta. The patient was treated with calcium blockers (cilnidipine and diltiazem) and a β-blocker (metoprolol).

One month later, the patient complained of left leg pain. Physical examination showed left toe necrosis (Figure 3) and transient left leg livedo reticularis. The necrotic area gradually extended proximally, and the patient’s leg was amputated. Histopathological study confirmed the diagnosis of cholesterol embolism exhibiting cholesterol crystals in the lumen of the small arteries (Figure 4).

The patient did not have catheterization studies or fibrinolytic therapy. We believe that the aortic dissection liberated cholesterol crystals into the arterial circulation.

Figure 1. CT of chest shows aortic dissection in descending aorta, where thickened intima was observed (left). MRI shows dissection originating distal to left subclavian artery (right).

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Circulation encourages readers to submit cardiovascular images to Dr Hugh A. McAllister, Jr, St Luke’s Episcopal Hospital and Texas Heart Institute, 6720 Bertner Ave, MC1-267, Houston, TX 77030.

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Figure 2. Transesophageal echocardiogram shows aortic dissection at thickened intima.

Figure 3. Digital tip of left toe was necrotic.
Figure 4. Histopathology of amputated leg shows cholesterol crystals in lumen of small arteries, confirming cholesterol embolism.
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