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IMAGES IN INTERVENTION

Digital Gangrene Following Transradial Coronary Angiogram

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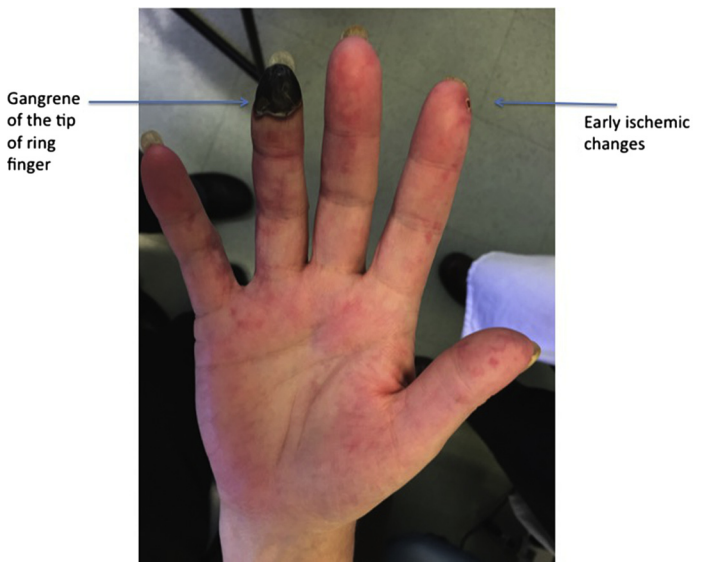
A 60-year-old woman who received thrombolytic treatment for inferoposterior myocardial infarction in a peripheral hospital was referred for rescue angioplasty for ongoing chest pain. Her relevant past history included active smoking, diabetes, and reversible cerebral vasoconstrictive syndrome. At the time of myocardial infarction, she was being investigated for symptoms suggestive of possible Raynaud's phenomenon. Because of administration of thrombolytic medication, a right radial artery (RA) approach for coronary angiography (CA) was decided to avoid femoral artery-related bleeding complications. Allen's test

FIGURE 1 Palmar Aspect of the Right Hand



Digital gangrene of the right ring finger. Early ischemic changes secondary to embolism can be seen on the other fingers.

FIGURE 2 Dorsal Aspect of the Right Hand

Right ring finger digital gangrene.

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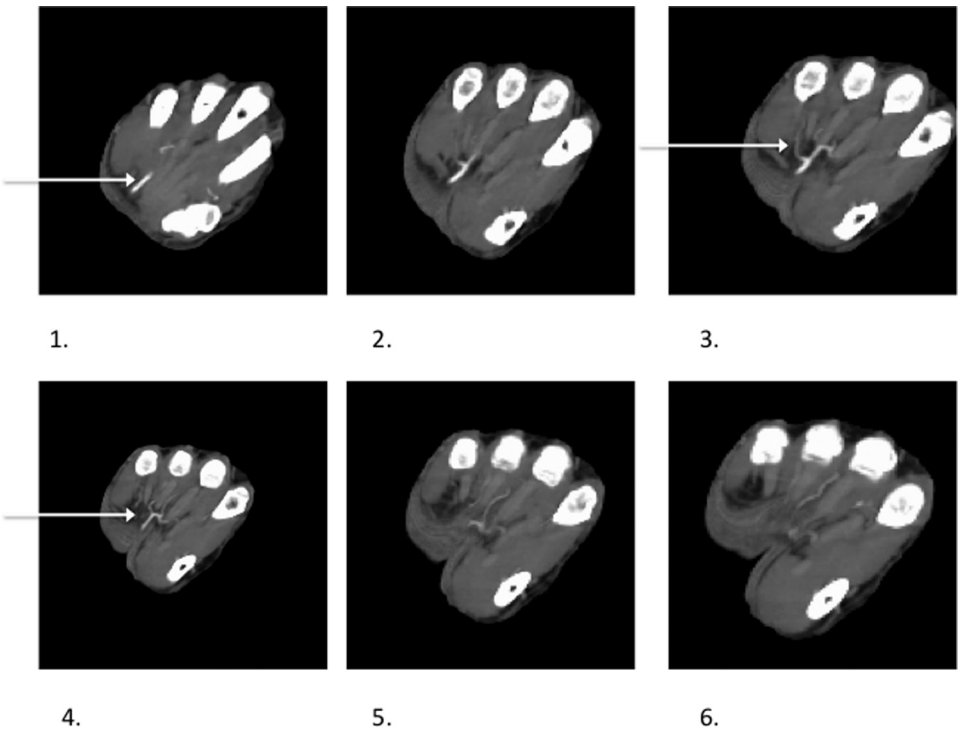
FIGURE 3 CT Vascular Run of the Right Upper Limb



Computed tomography (CT) scan images showing the ulnar artery, common palmar digital arteries, and proper palmar digital arteries (shown by **arrows**). The radial artery cannot be seen because of occlusion. On CT scan, there was occlusion of the proximal second proper palmar digital artery with collateral flow noted distally in the artery.

was "positive" (normal), and pre-procedure, 2.5 mg of verapamil and 200 μg of glyceryl trinitrate was administered in the RA. During the procedure, the patient developed severe spasm of the RA, and the procedure was completed using 5-F guide catheters. We administered further intraradial glyceryl trinitrate and verapamil to relieve the spasm along with intravenous midazolam and fentanyl. Acute lesions were noticed in both the right and left circumflex coronary arteries, which were treated with drug-eluting stents. Within the first 24 h after CA, the patient developed pain, numbness, and pallor of the distal right ring finger. The ischemic changes gradually transformed to dry gangrene of the distal phalanx of the ring finger (Figures 1 and 2). Patient underwent urgent vascular surgery consultation and unfractionated heparin was commenced. Transthoracic echocardiography and bilateral carotid ultrasound were used to rule out any obvious cause of embolization. Contrast computed tomography demonstrated occlusion of the distal right radial and proximal second proper palmar digital arteries (Figure 3). It was decided to manage the patient conservatively with anticoagulation as any further intervention in the radial artery during the acute period could lead to further embolization. The digital ischemia was thought to be secondary to microembolization during right radial instrumentation, that was exacerbated by severe radial artery spasm. Management of the dry gangrene required partial amputation of the distal phalanx.

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