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Medical Imagery

Unilateral Torso Cyanosis in Aortic Dissection

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A 65-year-old man with hypertension presented to the emergency department with a 10-hour history of pain in the right shoulder that extended to the right upper back. The pain was sharp and occurred without any exertion. His blood pressure was 150/80 mmHg and heart rate was 66 beats per minute. Physical examination revealed a well-demarcated purple skin discoloration over his right chest, measuring approximately 27 cm × 18 cm (Figure 1A). Laboratory testing revealed a D-dimer level of more than 100,000 ng/mL. Computed tomography (CT) of the chest revealed a Stanford type A aortic dissection extending to the aortic hiatus of the diaphragm and involving the brachiocephalic artery (Figure 1B). The patient was referred for ascending aortic grafting, and the skin over the torso returned to its normal color after the surgery. Even after 2 years, his chest wall skin remained normal (Figure 1C). Follow-up CT revealed patent brachiocephalic artery without residual false lumen (Figure 1D).

Malperfusion refers to end-organ ischemia secondary to dissection-mediated obstruction of the aorta and its branches. Approximately 33% of patients with acute type A aortic dissection develop malperfusion;[1] however, an optimal management strategy is unavailable for this condition.[2] The diverse clinical manifestations of malperfusion correspond to the affected vascular distribution, which commonly involves the carotid, renal, and mesenteric vessels, and also those in the lower extremities.[3] Changes in skin color, including a bluish/purple appearance or pallor in the extremities, often indicate a deterioration of the vascular status. In our patient, cyanosis over the right anterior chest wall was caused by malperfusion of the regions supplied by the thoracic aorta and right internal thoracic artery, a branch of the right subclavian artery originating from the brachiocephalic artery. Torso skin discoloration is rarely treated as ischemia due to the abundant collateral circulation present in this region, unless major vessels are involved.[4] This case report describes unilateral torso cyanosis, a rare clinical manifestation of aortic dissection. Clinicians should consider aortic dissection in the differential diagnosis of cases that present with ischemia of the chest wall.

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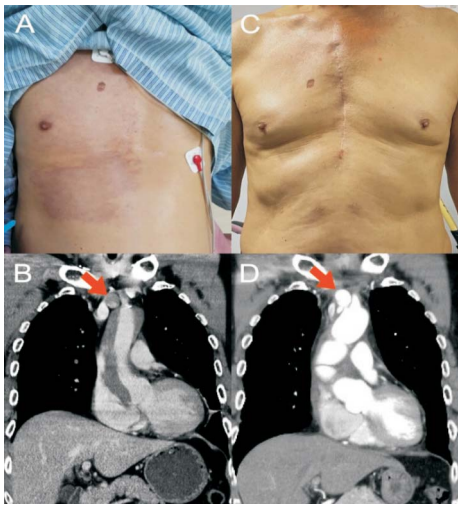

Figure 1. (A) Painless purple skin discoloration over the right anterior chest wall. (B) Computed tomography reveals a type A aortic dissection involving the brachiocephalic artery, resulting in the true lumen appearing as a slit-like channel at its origin (arrow). (C) The normal appearance of the chest wall at the 2-year follow-up visit. (D) Follow-up CT reveals good contrast enhancement of brachiocephalic artery (arrow).

Declarations of conflicts of interest

None.

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