Teaching NeuroImages: Acute bilateral hand weakness from anterior spinal artery territory cord ischemia

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A 58-year-old man with a history of diabetes, hypertension, and smoking developed sudden bilateral hand weakness. Examination revealed power 0/5 in intrinsic hand muscles, 2/5 hand grip, and bilateral pinprick sensory loss in C8-T1 distribution. Upper limbs were areflexic and leg reflexes were brisk. He developed urinary retention and neck pain. Cervical MRI showed ischemia in the anterior horn cell region (figure). Magnetic resonance angiography, Doppler, and echocardiography were normal. Glucose and cholesterol were elevated.

Acute bilateral hand weakness represents a poorly recognized consequence of partial anterior spinal artery territory infarction. The anterior horn cell region is in the most distally perfused part of the anterior spinal artery territory and is vulnerable to hypoperfusion.1 Disabling hand wasting and weakness may result.2

REFERENCES

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