

Erich Fogg, PA-C, MMSc, DEPARTMENT EDITOR

Celestino Vega, MD, FAAFP;
Angela Austin-Leyva, PA-C

CASE

The patient is a 67-year-old white man presenting with a 3-day history of difficulty moving his right wrist to full extension; he also cannot extend his fingers of the same hand. He admits no other neurologic deficits. He denies any significant injury or trauma to the neck, shoulder, elbow, or wrist, but he has had right shoulder and elbow pain secondary to physical labor performed after recent hurricanes. He takes indomethacin (Indocin SR), 75 mg twice a day as needed for the pain. He reports no aggravating or alleviating factors.

History The patient's medical history is significant for chronic obstructive pulmonary disease (COPD) and hypertension, which is well controlled on atenolol/chlorthalidone (Tenoretic), 50/25 mg daily. He also has a history of gout. He has smoked two packs of cigarettes per day for approximately 50 years.

Physical examination The patient is well nourished, well developed, and in no acute distress. BP is 120/80 mm Hg; pulse, 80 beats per minute; respiration, 18 breaths per minute; temperature, 98.2°F (36.8°C); and weight, 198 lb.

The heart rate and rhythm are regular, and there are no murmurs, rubs, or gallops. Auscultation of the lungs reveals expiratory wheezing with good airway exchange. Results of the head and face examination are normal. Pupils are equal, round, and reactive to light, and extraocular muscles are intact. The assessment of the cranial nerves is normal.

The musculoskeletal examination reveals mild wasting of the extensor muscle group of the right forearm, as well as some mild wasting of the intrinsic musculature of the hand and forearm. No point tenderness or sensory loss is noted. There is no evidence of resting tremors. Active range of motion reveals wrist extension with radial deviation. Notably, the patient is unable to extend the metacarpophalangeal (MCP) joints or the thumb of the right hand. Flexion of the MCP joints and wrist are uncompromised. Active range of motion of the right elbow and shoulder are within normal limits.

Testing A chest film is consistent with mild COPD. Radiographs of the right shoulder, elbow, and wrist reveal mild degenerative changes. The clinical findings support referral to orthopedics (hand and wrist) and neurology for consultation. Electromyography and nerve conduction studies are obtained, but a specific diagnosis cannot be made. Based on the results of the electrical studies and the patient's clinical presentation, MRI of the cervical spine is ordered (see Figure 1).

The authors practice family medicine at Haines City Family Health Centers, Haines City, Fla. They have indicated no relationships to disclose relating to the content of this article. Erich Fogg is Assistant Professor in and Program Director of the Physician Assistant Program at the College of Health Professions, University of New England, Portland, Me.

FIGURE 1

MRI of the cervical spine



WHAT IS YOUR DIAGNOSIS?

- Brachial plexus nerve palsy
- Cubital tunnel syndrome
- Carpal tunnel syndrome
- Cervical spondylosis

DISCUSSION

The MRI reveals severe, diffuse cervical spondylosis causing multilevel canal stenosis from C4 to C5 and from C6 to C7. Cervical spondylotic myelopathy (nerve injury secondary to cord compression)^{1,2} results from degenerative changes that are normally present in older patients. Some, surprisingly, may be asymptomatic, whereas others may have symptoms that are considered mild (for example, intermittent neck and arm pain). Spondylotic myelopathy is considered to be severe once the patient begins to have deterioration of fine motor movements, sensory changes, and muscle wasting.^{1,3}

Patients with radiologic findings of myelopathy but no clinical findings generally are monitored over time for symptoms. Those with symptoms are usually candidates for surgery to prevent further neurologic deterioration. Factors such as the severity of clinical symptoms, the number of involved compressed levels, and the degree of cord instability are used to determine the type of laminectomy that is performed on the patient.¹

This unique presentation should alert the clinician to explore more than local etiologies for unilateral weakness. Although clinicians may routinely consider only local anatomy related to a patient's chief complaint, this case reminds them of the need to widen the differential diagnosis. □

REFERENCES

1. Emery SE. Cervical spondylotic myelopathy: diagnosis and treatment. *J Am Acad Orthop Surg.* 2001;9(6):376-388.
2. Truumees E, Herkowitz HN. Cervical spondylotic radiculopathy and myelopathy. *Instructional Course Lectures.* Vol 49. Rosemont, Ill: American Academy of Orthopaedic Surgeons; 2000:339-360.
3. Snyder DL, Doggett D, Turkelson C. Treatment of degenerative lumbar spinal stenosis. *Am Fam Physician.* 2004;70(3):517-520.