Case Report

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Posterior Shoulder Pain—Not Always a Muscle Spasm

Urgent message: Patients present to urgent care with a variety of complaints, many of which are common—even if they are the result of an uncommon condition. It is important that the provider develop a broad differential diagnosis as they approach these problems.

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Case Presentation

History

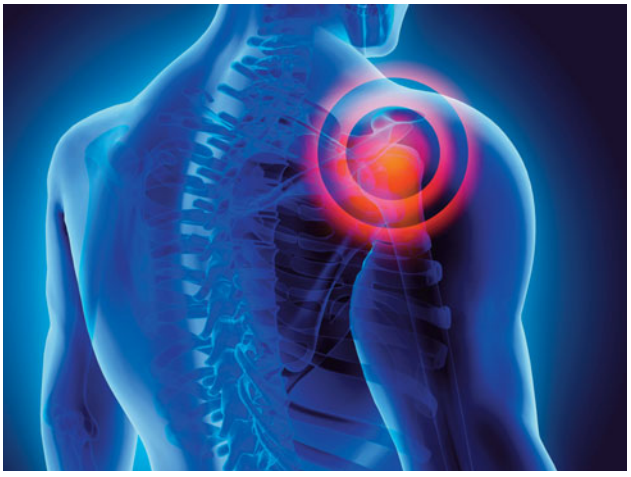
A 52-year-old male presents to urgent care with the chief complaint of new lower posterior neck and right shoulder pain of 5 days' duration. He describes the pain as "aching." It is aggravated by movement of his neck or shoulder. He feels that he may have "slept on it wrong." There is no history of trauma. He denies headache, fever, numbness, or weakness in the right arm and neck. His is right hand dominant. His past medical history is significant for left nephrectomy for T1b Grade 2 renal cell carcinoma 9 years ago. He takes no chronic medications and has no known drug allergies.

Physical Examination

Physical exam reveals a slightly overweight male in no apparent distress. Vital signs:

- Blood pressure 156/98
- Pulse 90/min
- Respiratory Rate 16/min
- Temperature 97.9° F
- Weight 257 lbs
- Height 73 inches

The patient's head was normocephalic and atraumatic. He has tenderness in the right posterior neck and shoulder. He has pain with normal range of motion (NROM) of the neck (which was supple) and shoulders. He had normal upper extremity strength.



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Follow-Up

The patient presented to the emergency department 3 days later after lack of response to methylprednisolone and cyclobenzaprine prescribed initially. Cervical spine x-rays demonstrated straightening of the cervical lordosis. He was discharged on oral medication. Three weeks later he presented to his primary care provider. Examination at that time was significant for Spurling's test with pain in the neck without radiation to the right arm. Radial pulses and temperature of hands were normal. He had 4/5 strength in the right biceps; otherwise no weakness was noted. He had an MRI of the cervical spine with mild spinal stenosis and mild broad-based disc herniation at C4-C5 and C5-C6. He was referred for elec-

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Table 1. Considerations in Patients Presenting with Neck and Shoulder Pain and Weakness[4,5]

• Cervical radiculopathy • Glenohumeral bursitis • Rotator cuff tendonitis • Infectious peripheral neuropathy • Malignancy • Herpes zoster	• Shoulder sprain • Stroke • Transverse myelitis • Parsonage-Turner syndrome • Traction injury to brachial plexus

tromyography (EMG) and nerve conduction study, but symptoms resolved prior to his consultation. He was diagnosed with Parsonage-Turner syndrome (PTS).

The Clinical Entity

PTS, also known as neuralgic amyotrophy and brachial plexus neuritis, is an uncommon cause of upper extremity pain and weakness. A series of 136 case was described by M.J. Parsonage and J.W Turner.[1] The common presentation is severe pain in the shoulder and arm followed by development of weakness over days or weeks.[2,3] This condition, which has been noted to wake patients from sleep,[2] is often misdiagnosed as cervical radiculopathy.

Etiology and Epidemiology

Idiopathic and hereditary forms of neuralgic amyotrophy have been identified. The exact cause of the idiopathic form has not been identified but potential triggers include infection, antecedent immunization, Hepatitis B, and strenuous exercise.[2,4,5]

This condition most commonly occurs in males between 20 and 60 years of age.[2] Classically, the incidence of brachial plexus neuritis was thought to be approximately two cases per 100,000 persons.[2,4] In recent years it is felt to be more common than previously recognized.[6]

Differential Diagnosis

Diagnosis of PTS is mainly clinical and made by exclusion of other conditions. It is often confused with more common conditions involving the cervical spine and rotator cuff disease. (See **Table 1**.)

Evaluation

Laboratory abnormalities associated with neuralgic amyotrophy are unremarkable. Blood tests may show mildly abnormal liver function tests but inflammatory markers such as erythrocyte sedimentation rate and C-reactive protein are often normal.[4,6] Evaluation on the cerebrospinal fluid could show a mildly elevated protein.[7]

Patients may start an imaging evaluation with plain cervical spine x-rays, shoulder x-ray, and possibly a chest x-ray to rule out a Pancoast tumor of the lung. MRI exams are obtained in the evaluation of these patients for not only the evaluation of the condition but also for exclusion of some of the conditions listed previously. With the advancement of MRI and ultrasound technology, structural peripheral nerve abnormalities called hourglass constrictions have been identified in some patients.[8,9]

Nerve conduction studies and EMG are essential in confirming PTS and excluding other causes. EMG finding may vary from mild to extensive denervation of the affected muscle group.[10]

Treatment

Treatment in the acute phase of neuralgic amyotrophy involves adequate pain control. Pain can be severe and may require multimodal analgesia. Early corticosteroids may improve pain and speed up recovery.[11] In patients that have failed conservative therapies, surgical options may be considered.[8]

Conclusion

While cervical and shoulder pain are common complaints in urgent care, it is imperative to develop a broad differential diagnosis. As noted here, a common complaint was caused by an uncommon condition.

The patient experienced a fairly typical course for a patient with PTS. He presented with idiopathic pain and then progressed to weakness in his upper extremity. He made a full recovery; unfortunately, this is not the case for all patients. One large study showed 60% of patients still experienced pain 6 to 24 months in the clinical course and 80% had difficulty performing overhead tasks.[6]

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