Case Reports

Idiopathic Neuralgic Amyotrophy: An Illustrative Case Report

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Abstract

Objective: To describe the case of a patient diagnosed with neuralgic amyotrophy (NA) illustrating pertinent aspects of differential diagnosis, the use of clinical neurophysiological procedures to aid in establishing the diagnosis, and issues of management.

Clinical Features: A 39-year-old male soldier presented with a rapid onset of marked loss of left shoulder movement. This started acutely early one morning as a sharp, severe lower neck pain progressing over the following 2 weeks to a less severe dull ache in the left shoulder and arm. Pain was rapidly replaced with weakness. Physical examination and electrodiagnostic investigation helped establish a diagnosis of NA.

Intervention and Outcome: The patient was reassured that this is normally a self-limiting condition. Range of motion exercises progressing to a strengthening program was prescribed. He was progressing well; however, we lost contact because of his commitments in the armed service.

Conclusion: When a patient presents with shoulder and arm pain of neurogenic origin, NA should be a consideration. Differentiating NA from radiculopathy is especially important in making management decisions. With a careful history and physical examination, the diagnosis may be made without the need for ancillary investigations. Neuralgic amyotrophy is a self-limiting condition requiring reassurance and monitoring. (J Manipulative Physiol Ther 2006;29:52-59)

Key Indexing Terms: *Brachial Plexus Neuropathies; Amyotrophy, Neuralgic; Radiculopathy*

Idiopathic neuralgic amyotrophy (NA) is a rare disorder of unknown etiology that mimics many common conditions with acute pain and weakness around the shoulder. This condition has several confusing descriptors, including acute brachial neuritis/plexitis/neuropathy/radiculitis and shoulder girdle neuritis/syndrome.[1-3] Parsonage and Turner coined the term *neuralgic amyotrophy* in the late 1940s.[4] Subsequently, some clinicians refer to the condition as Parsonage-Turner syndrome.[5] The term neuralgic amyotrophy works well as a descriptor because it does not presume a clear etiology and site of pathology, yet describes the clinical presentation.[1,3,4,6] Characterized by severe pain followed by muscle weakness, atrophy, and variable sensory deficits, the diagnosis is made from the history and physical examination findings and confirmed by clinical neurophysiology testing.

Although NA is a quite well-defined entity, establishing the diagnosis can be challenging, particularly as the presentation is considerably more diverse than generally appreciated.[3] Consideration is often given to nerve root lesions, primarily C5.[6] Other neurological diagnostic considerations within the peripheral neural axis include traction and compressive lesions of the brachial plexus that may affect one or several nerves, including one of the most devastating injuries for athletes, suprascapular nerve entrapment. However, a careful history is often diagnostic.

Fortunately, nerve injuries involving the shoulder are uncommon. However, it is important that the clinician differentiates peripheral nerve injuries from lesions affecting the brachial plexus and proximal lesions resulting in radiculopathy. The latter differentiation is especially important to avoid unnecessary therapeutic interventions, such as surgery for coexisting cervical spondylotic changes in a patient.[6] An in-depth understanding of peripheral nervous system conditions affecting the shoulder and

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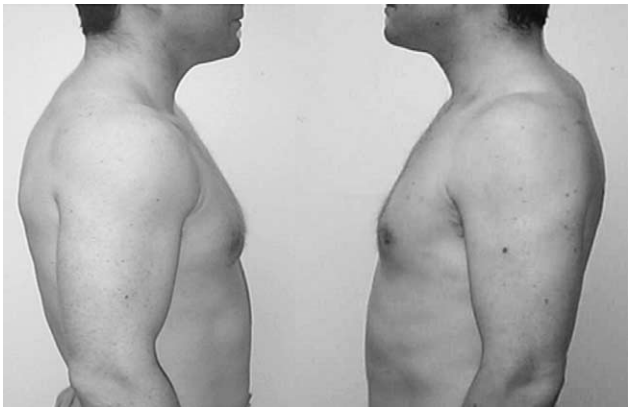

Fig 1. *Moderate atrophy of the left shoulder girdle. Note loss of left deltoid and biceps bulk as compared with the right arm. Some atrophy of the left triceps appears as well.*

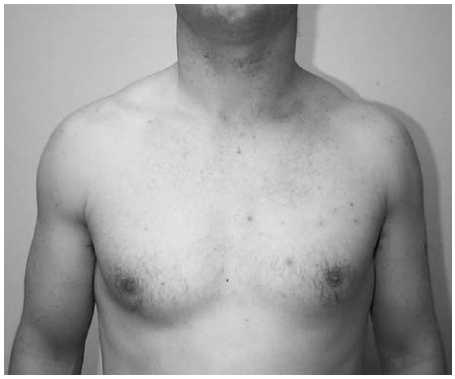

Fig 3. *Moderate atrophy of the left anterior shoulder girdle. Note loss of left deltoid and biceps bulk as compared with the right arm. There appears to be a mild asymmetry of the pectoralis major muscles. This could be confused with atrophy, but in most cases, it is a simple anatomic variation.*

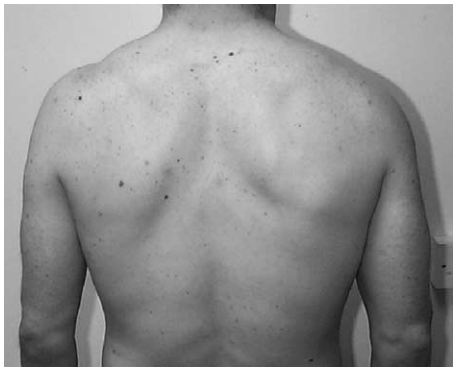

Fig 2. *Moderate atrophy of the left posterior shoulder girdle. Note loss of left deltoid bulk as compared with the right arm. There is winging of the left scapula. As in the lateral photographic view, the left triceps appears thinner than the right.*

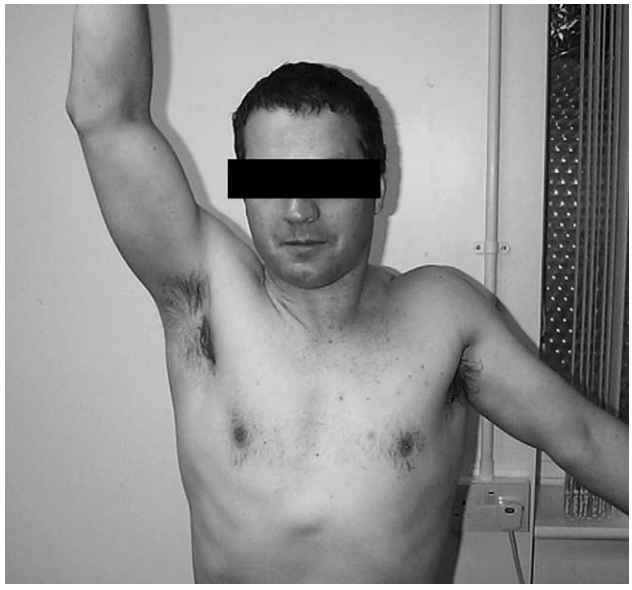

Fig 4. *Marked loss of left shoulder abduction. Note hiking of the shoulder during attempted abduction secondary to loss of primary and secondary muscle action.*

neurological localizing skill is integral to appropriate diagnosis and management.

We present the case of a patient with an acute onset of left shoulder pain to illustrate pertinent aspects of differential diagnosis, the use of clinical neurophysiological procedures to aid in establishing the working diagnosis, and issues of management. Neuralgic amyotrophy is often a self-limiting phenomenon that requires nothing more than monitoring for a period of time, range of motion exercises, followed by a strengthening program. However, there are instances when recovery does not occur or is incomplete. Also, possibilities of more serious conditions require careful evaluation and critical thought illustrating the need for careful observation and monitoring.

Case Report

A 39-year-old male British Army physical trainer presented to the teaching clinic of Anglo-European College of Chiropractic complaining of a rapid onset of marked loss of left shoulder movement. Problems with his left shoulder began 3 weeks before his initial clinic visit when he reported waking up at 4:00 AM with a sharp pain in the left lower neck. He tried using an ice pack and applying an ibuprofen-based topical gel, which provided no relief. Over the following 24 hours, the sharp pain changed in character to a slightly less severe dull ache. Over the following 2 weeks, the dull ache spread into the left shoulder and arm, stopping at the elbow. Various medications prescribed by an Army medical officer, including aspirin, a paracetamol (acetaminophen) and codeine preparation, and diazepam, oral corticosteroid, and amitryptilline, provided no relief or change in