BRACHIAL NEURITIS MIMICKING SEVERE ANTERIOR INTEROSSEOUS SYNDROME

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To the editor,

A 42-year-old man was seen for a likely diagnosis of left anterior interosseous nerve (AIN) entrapment in the forearm (anterior interosseous syndrome). On detailed questioning, he described pain and weakness in both shoulders and arms (especially on the left side). He added that he could not flex his left thumb during the last 3 months (starting one week after a febrile upper respiratory tract infection). His medical history was unremarkable other than smoking (5 packet/year).

Physical examination revealed left supraspinatus muscle atrophy and painful shoulder motions (especially during rotations) on the left side. Neurological examination showed weakness in shoulder abduction and rotations (4/5), second digit distal interphalangeal joint (IJ) flexion (4/5) and thumb IJ flexion (0/5) on the left side. Sensory testing was normal. Radiographs of the shoulder and neck were non-contributory. Magnetic resonance imaging (MRI) of the neck and the left shoulder revealed mild degeneration in the intervertebral discs, degenerated acromioclavicular joint and type 2 impingement. Electromyography (EMG) revealed mild chronic axonal lesion in the branches of AIN, innervating the flexor digitorum profundus (2nd digit), pronator quadratus and flexor pollicis longus muscles. Additionally, on the left side, infraspinatus branch of the suprascapular nerve had severe axonal involvement and the axillary nerve had mild axonal involvement. Accordingly, the patient was diagnosed to have left idiopathic brachial neuritis (BN), predominantly involving the nerve fibers belonging to AIN. Physical therapy including electrical stimulation and strengthening exercises for the aforementioned denervated muscles was started. On control visits, he started to use his thumb effectively during daily activities i.e. with a motor strength of 3/5 in IJ flexion.

Despite diffuse proximal inflammation, patients with BN may masquerade as isolated peripheral nerve entrapments. The clinical scenario may encompass acute severe neuropathic pain, multifocal pareses and atrophy of the muscles, with spontaneous recovery up to 2-3 years following the onset of symptoms[1,2]. Although conservative treatment is the mainstay, surgical decompression may be performed for specific nerve entrapments[2]. Therefore, accurate diagnosis of the lesion with EMG is crucial. Likewise, we herein presented a 42-year-old man who was diagnosed clinically and electrophysiologically as BN with involvement of the fibers belonging to the AIN.

Brachial neuritis (BN) is considered as a rare disease with an incidence of 2-3/100000/year[3]. Half of the attacks are preceded by infections, surgery, pregnancy, puerperium, stress and immunizations[1,3]. It has been reported that paresis of the upper part of the brachial plexus, affecting the shoulder girdle muscles, is the most common (71.1%) form of it and involvement of the lower part of the plexus is less likely. Although a few cases of BN presenting as AIN compression have been reported[2-4]; predominant AIN paresis in males very rare (1.2%)[3]. BN-induced severe AIN palsy can also be confused with other problems like isolated anterior interosseous syndrome, FPL tendon rupture and cervical radiculopathy[5]. Therefore, keeping in mind the different therapeutic approaches for all these conditions, its prompt diagnosis is paramount in clinical practice.

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