A Soldier with Lateral Antebrachial Cutaneous Neuropathy: Malingering or Fact?

Lateral Antebrakial Kutanöz Nöropatili Bir Asker: Temaruz ya da Gerçek?

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Summary

Introduction: Compression of the lateral antebrachial cutaneous nerve (LACN) is a rarely recognized but clearly definable syndrome. It should be taken into account in the differential diagnosis in the context of soldiers who are suspected of avoiding military duties by assuming the sick role. In this report, we describe a 23-year-old soldier who presented with avoidance of elbow extension due to a burning pain in the right forearm induced by extension. LACN neuropathy, which occurred after physical training including palm-away pull ups in the military camp and was initially suspected to be malingering, was later diagnosed according to the clinical and electrodiagnostic findings. People who are accused of malingering in military settings should be examined carefully also concerning the training-related injuries of the peripheral nervous and musculoskeletal systems. Especially for patients complaining of forearm pain that leads to inability to extend the elbow, LACN neuropathy should be considered in the differential diagnosis and confirmed by electrophysiological examination. Turk J Phys Med Rehab 2010;56:145-7.

Key Words: Lateral antebrachial cutaneous nerve, neuropathy, malingering

Case

A 23-year-old, right-handed man (a soldier) presented with a burning pain in the radial half of the flexor surface of the right forearm between the elbow crease and the base of the right

Giriş: Lateral antebrakial kutanöz sinir (LAKS) kompresyonu nadiren akla gelen ancak açağıklıkla tanımlanabilen bir sendromdur. Bu sendrom, hasta rolü yaparak askeri görevlerinden kaç›nabilecek askerlerde ay›r›c› tan›da göz önünde bulundurulmal›d›. Bu vakada dirsek ekstansiyonunun ortaya ç›kard›¤› sağ önkola yay›lan yanº a¤r› nedeniyle dirsek ekstansiyonundan kaç›nma flikayeti ile baflvuran 23 yafl›nda bir askeri tan›mlad›k. LAKS nöropatisi, askerlik görevi s›ras›nda temaruz ile suçlanan kifliler , askeri e¤itimleri ile iliflkli periferal nörolojik ve kas iskelet sistemi yaralanmalar› aç›s›ndan da dikkatli bir flekilde incelenmelidir. Özellikle ön kol a¤r› flikayeti olan ve bu nedenle dirsek ekstansiyonu yapamayan hastaların ayr›c› tan›s›nda LAKS nöropatisi ak›lda tutulmalı ve elektrofizyolojik incelemlerle doãrulanmal›d›r. Türk Fiz Tıp Rehab Derg 2010;56:145-7.

Anahtar Kelimeler: Lateral antebrakial kutanöz sinir, nöropati, temaruz
thumb increasing with elbow extension. The patient was followed in neurology outpatient clinic and hospitalized in orthopedic and cardiovascular surgery clinics within the past 2 months. The results of the upper extremity arterial and venous Doppler ultrasonography, plain X-ray, and electromyographic examination including ulnar, median, musculocutaneous and radial nerves were found to be within normal ranges. Therefore, initially we failed to differentiate the clinical pathology in the peripheral nervous and musculoskeletal system from fraud. The soldier was suspected of malingering to avoid military service.

Finally, he was referred to our physical medicine and rehabilitation department. Upon further detailed questioning, it was revealed that the symptoms started suddenly while he was practicing in the military camp. His complaints started with repeated resistance to the flexion and extension movements of the elbow, when the forearm was in pronation during suspension to the horizontal bar. He noted the sudden onset of ‘electric-like shocks’ in his right lateral forearm accompanied by paresthesia. His symptoms included a severe degree of pain in the right forearm and an inability to fully extend his elbow because of increased pain during elbow extension. His complaints have continued for a period of two months.

The patient’s general physical examination was unremarkable. There was no atrophy, and bilateral upper extremity strength, range of motion, tone, and reflexes were normal. There was no evidence of trauma or trophic changes in his right arm and hand. On a careful examination, it was detected that he had a decreased sensation in the distribution of the right LACN. The differential diagnosis at this time included plexopathy, radiculopathy, peripheral neuropathy, and idiopathic (neuralgic) amyotrophy.

We reviewed medical records and requested two additional investigations, magnetic resonance imaging (MRI) of the right elbow and sensory nerve conduction study of LACN, apart from the previous electromyographic examination of the upper extremity. MRI of the right elbow was normal. Electromyography revealed a prolonged distal latency (R: 3.35, L: 2.50 msec) and a 66% decrease in amplitude (R: 5.4, L: 5.7 μV) in the right LACN when compared to the asymptomatic left arm (Figure 1). The surface recording electrode was placed over the nerve on the anterior forearm and the nerve was stimulated at the lateral border of the biceps brachii tendon in the cubital fossa. The right musculocutaneous, ulnar, median, radial nerve conduction studies and electromyography of multiple muscles of the right arm were normal. Entrapment of the right LACN was diagnosed.

Initial treatment included rest with splint and non-steroidal anti-inflammatory drugs (NSAID). He was started on a treatment course of physical therapy including whirlpool, hot pack, ultrasound, transcutaneous electrical nerve stimulation and massage on the right arm. At the reevaluation, which was done three weeks later, he continued to complain of persistent pain and paresthesia over the same region.

Three months after the onset of the symptoms, due to failure of conservative treatment and the persistence of symptoms, the patient underwent surgical exploration and LACN release under regional block anesthesia. The lateral edge of the biceps was exposed. The relationship of the nerve to the lateral margin of the biceps was evaluated. LACN was located...
forceful activities. Surgery was not necessary in his case, because the pain resolved quickly with rest and oral steroids. Davidson et al. (11) noted that of the 15 patients with LACN neuropathy they examined, four responded to the conservative treatment, eleven needed surgical decompression, and all patients who had decompression operation had no ongoing complaints. In our case also, in spite of the physical treatment applied for three weeks in addition to resting and NSAID, total recovery was not achieved. Therefore, decompression operation was needed. Surgical treatment described by Bassett consisted of release of the LACN at the elbow between the bicipital tendon and brachialis muscle, and wedge resection of the bicipital tendon (1). He treated his patients successfully not only by releasing the nerve between the bicipital tendon and brachialis muscle and triangular wedge resection of the bicipital tendon, but also by excision of the deep antebrachial fascia.

Most of the patients with LACN entrapment present with lateral elbow pain, but some may present with paresthesia along the volar radial aspect of the distal forearm (12). In Naam and Massoud's study (12), patients with LACN compression who complained of sensory dysfunction had less chance of improving with conservative treatment. In our case also, there was paresthesia in the radial forearm and no response was received from the conservative treatment in the initial evaluation, and thus, surgical intervention was required.

Soldiers who are accused of malingering should be investigated carefully concerning the training-related injuries of the peripheral nerves and musculoskeletal systems. Although forcing activity-related nerve injuries apparently occur infrequently, electromyographers and other related clinicians should be aware of this phenomenon, which is uncommon but of clinical and medico-legal importance. In patients with complaints of pain along the distal radial aspect of the forearm and inability of extension of elbow, LACN neuropathy should be considered in the differential diagnosis and electrophysiological examination should be performed.

References