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A Case of Lateral Antebrachial Cutaneous Neuropathy

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- Abstract -

Lateral antibrachial cutaneous neuropathy(LACN) was diagnosed in a 42-year-old woman who developed pain and paresthesia in the left forearm after several days of heavy labor. The symptoms were resolved with conservative treatment, including cessation of heavy labor and a brief course of oral corticosteroids. But the symptoms recurred after 9 months. Those were also resolved with same treatment as the first attack. LACN is important to recognize because the symptoms may mimic the pathology of a cervical root, the brachial plexus, the radial and median nerves at the level of the elbow, and a focal idiopathic inflammatory neuritis.

Key Words : Lateral antibrachial cutaneous neuropathy

Lateral antibrachial cutaneous nerve is a distal branch of the musculocutaneous nerve which emerges from between the brachialis and biceps muscles just above the lateral humeral epicondyle. It is relatively superficial in the antecubital fossa and subject to various injuries.

This report describes the clinical and electrodiagnostic findings in a patient who developed lateral antibrachial cutaneous neuropathy(LACN) after several days of heavy labor.

2 weeks duration. The symptoms began with pain in the left forearm after several days of heavy labor. The pain increased when she extended the elbow fully. There was no pain in the neck or shoulder and she did not show any weakness of the left arm. Her general condition was good and she was not being treated for arthritis, thyroid disease, hypertension, or diabetes mellitus. She does not drink alcohol and is a nonsmoker. There was no family history of similar problems. She had had an appendectomy and a Caesarean operation twice.

The left forearm pain was reproduced with full extension of the left elbow. A well-defined area with hypersensitivity to touch stimuli and decreased sensitivity to pin stimuli was noted on the volar

CASE REPORT

A 42-year-old, right-handed woman complained of left forearm pain, tenderness, and numbness of

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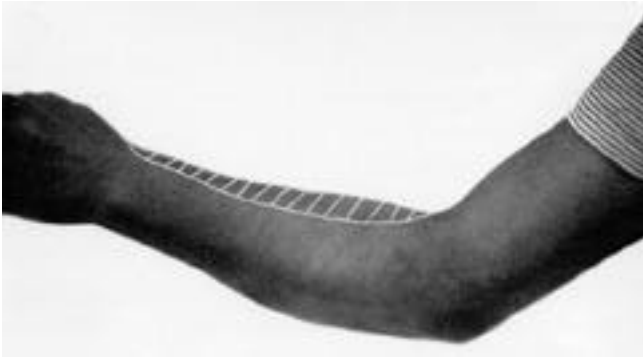


Figure 1. Hatched area of sensory impairment to pinprick corresponding to the left lateral antebrachial cutaneous nerve.

and radial sides of the left forearm beginning at the elbow crease and extending to the base of the thumb (Fig. 1). She complained of pain with palpation and percussion lateral to the biceps tendon at the elbow. But there was no Tinel's sign with percussion at that site. The strength, tone, deep tendon reflexes, and coordination of the left upper extremity were normal. And the neck motion was full and painless, and Lhermitte's sign was absent.

Electrodiagnostic studies demonstrated a LACN. There was no sensory response in the left lateral antebrachial cutaneous nerve stimulation, whereas the corresponding study was normal on the right.¹ And there were normal responses in the left medial antebrachial cutaneous nerve, superficial radial sensory nerve, and the median sensory nerve. The left musculocutaneous motor conduction study was normal. Needle electromyography examination was normal in the left abductor pollicis brevis, first dorsal interosseous, flexor carpi ulnaris, flexor pollicis longus, extensor indicis, extensor digitorum communis, triceps, pronator teres, brachioradialis, brachialis, biceps, deltoid, supraspinatus, infraspinatus, and cervical paraspinal muscles. Plain x-rays of the cervical and left elbow were normal. And routine laboratory examinations were normal. A diagnosis of left LACN was made. The patient was treated by allowing the arm to rest and was given a 2-week course of oral steroids. She noted improvement of the elbow pain and a return of full painless extension of the elbow during steroid therapy. The paresthesias in the left forearm changed to numbness within 1 week after steroid therapy. After a 2-week course of therapy, the left lateral antebrachial cutaneous nerve sensory response became normal within 1 month. The symptoms recurred after 9

months, but those were also resolved by the same therapy as the first attack.

DISCUSSION

The musculocutaneous nerve normally comes off the lateral cord and sends one branch to innervate the coracobrachialis. The main nerve trunk goes directly through this muscle. After sending a branch to the biceps and brachialis, the nerve continues its course down the forearm as the lateral antebrachial cutaneous nerve.

Musculocutaneous neuropathy with weakness of the biceps muscle and a sensory deficit in the distribution of the lateral antebrachial cutaneous nerve has been reported following prolonged repetitive forceful contracture of the flexor muscle of the right upper extremity.² The same activity can also cause compression of the terminal cutaneous branch of the musculocutaneous nerve, which is lateral antebrachial cutaneous nerve, at the point of exit lateral to the biceps tendon.³ Other previously reported causes of LACN pathology include compression due to external pressure of heavy handbag strap⁴, accidental needle trauma during venipuncture⁵, and sustained elbow flexion during the sport activity of windsurfing (board sailing).⁶

LACN is diagnosed easily by history, physical and neurological examination, and sensory nerve conduction study. Spindler and Felsenthal¹ described an antidromic technique for studying in the lateral antebrachial cutaneous nerve. Surface stimulation was done at the elbow where the nerve becomes superficial, and surface recording was made 12 cm distally over the course of the nerve. This is a simple method of evaluating sensory conduction in the lateral cutaneous nerve of the forearm using surface stimulation and recording.

LACN is important to recognize because the symptomatology may mimic pathology of a cervical root, the brachial plexus, the radial and median nerves at the level of elbow, and a focal idiopathic inflammatory neuritis. A focal idiopathic inflammatory neuritis cannot be entirely excluded as the cause of my case of LACN, but it seems less likely because of the close temporal

relationship of the onset of the symptoms of the LACN to the heavy labor.

The symptoms of LACN were resolved with conservative treatment, including arm rest and a brief course of oral corticosteroids, carbamazepine, phenytoin, tricyclic antidepressants, and phenothizines. And surgery was not necessary because the pain resolved quickly with arm rest and medications. Although most patients recovered, early recognition of this disease is important, since successful treatment may obviate prolonged disabling symptoms and future litigation as a complication of venepuncture.

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