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WARTERNBERG'S SYNDROME - A CASE REPORT

Orthopaedics

Dr Rahul Bhardwaj Civil Hospital Palampur, Himachal Pradesh
Dr Sidhant Rana* Civil Hospital Kangra, Himachal Pradesh. *Corresponding Author

ABSTRACT

It is superficial radial neuropathy, also known as neuralgia parasthetica. A rare clinical disorder, It involves pain, numbness of thumb and fingers. Diagnosis is often missed due to lesser pts presenting due to mild symptoms localized to a small area and rarely troublesome. Diagnosis is largely clinical, nerve conduction study is sometimes helpful. Treatment is, mainly confined to medical management and rarely surgical.

KEYWORDS

INTRODUCTION

The superficial radial nerve is superficial along its course, so it is more prone for compression.

Isolated superficial radial neuropathy (also called the Wartenberg's Syndrome or Cheiralgia Paresthetica) is a sensory mononeuropathy and a rare clinical condition[1,2]. It was first described in 1922 by Stopfordand, since it has a superficial course, trapping may occur anywhere along the forearm[3]. The etiology of the isolated superficial radial nerve neuropathy is often associated with repeated use of wrist watches, falling, forearm fractures, surgical operations such as fracture fixation and arthroscopic procedures, steroid injections, acupuncture, use of handcuffs, repetitive supination, pronation, ulnar flexion activities, compression of extensor carpi radialis and/or brachioradialis tendons, presence of neuroma, lipoma or ganglion cyst in the wrist as well as exposure to excess cold[1,4,5]. In addition, the presence of diabetes mellitus was reported to provide basis for development of the disease[1,6,7].

In our case, there is history of blunt trauma to distal forearm following which patient develop pain, swelling and numbness of thumb. The diagnosis is largely clinical. Management is conservative mainly and rarely require surgical decompression.

CASE REPORT

A 25 yr old female presented with discomfort to mild pain localized on the right thumb for last one year. There was swelling at wrist just proximal to thumb base. It was associated with paresthesia which got aggravate by movements. There was history of blunt trauma more than a year ago. On examination the sensation was decreased. Passive stretching at wrist aggravated the symptoms. Motor examination of hand and forearm was normal. Tinel sign was positive. On investigation nerve conduction study was normal and blood parameters was also normal.

Pt was treated with removal of tight thread and bracelet around wrist and medical management. Low dose steroid was also given. Transcutaneous electric stimulation was also given. At six weeks of follow up patient improved excellently and there was no residual pain or numbness.

Differential Diagnosis

- De Quervain tenosynovitis
- Carpal tunnel syndrome
- Cervical discopathy
- Brachial plexopathy

DISCUSSION

The radial nerve, originating from the C5-T1 root of the spinal cord and the posterior cord of the brachial plexus, innervates the brachioradialis, extensor carpi radialis longus, and brevis muscles and, then, divides into superficial and deep branches at the level of the forearm. While the deep branch innervates the supinator, forearm and hand extensor muscles, the superficial branch goes down to the hand dorsal[6]and branches into the dorsal digital nerves in the proximal interphalangeal joint of the middle finger, thumb, and index finger[3,4]. The superficial branch of the radial nerve, due to its anatomic location, is vulnerable to compression from trauma, masses, and constriction from the fascia connecting the brachioradialis and extensor carpi radialis longus. This nerve runs under cover of the brachioradialis in the forearm. Eight centimeters proximal to the tip of the radial styloid, the nerve pierces the fascia medial to the brachioradialis to lie dorsal to the extensor tendons. Specifically, in pronation, the brachioradialis and the extensor carpi radialis longus compress the nerve.

In case of trapping of the sensorial branch of the radial nerve at the wrist level, symptoms such as intermittent or persistent burning type pain at proximal forearm and hand dorso-radial; hypoesthesia, numbness, and tingling at hand dorsum and thumb radial face are observed, depending on the duration of trapping[1,8]. Muscular weakness and trophic changes are not observed; electrophysiological assessment revealed normal motor nerve conduction values. Thus, hand motor functions are not affected[9].

Elimination of the etiological factor as well as electrotherapy were reported to be effective[1,8,10]. As in case of a peripheral nerve trap neuropathy, epineural blood flow and axonal transport is reduced due to early-stage ischemic block, leading to transient conduction problems, and elimination of the compression and conservative treatment make this condition reversible[4].

CONLUSION

The trap neuropathy is rare entity but can be diagnosed with vigilant history and examination of patient. Treatment of this disorder is quite easy.

Consent

As per international standard informed and written participant consent has been collected and preserved by author.

Ethical Approval

No ethical Issues were involved in the manuscript.

Competing interest

Authors have declared that no competing interests exist.

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