

**CARPAL TUNNEL SYNDROME IN A 17 YEAR OLD FEMALE, A CASE REPORT**Vishnu V. K.*¹, Sreenath K.¹, Salabha Ann Mathew¹, Nina Joseph¹, K. Menaka² and T. Sivakumar³¹Pharm D Intern, Nandha College of Pharmacy.²Assistant Professor, Department of Pharmacy Practice, Nandha College of Pharmacy.³Principal, Nandha College of Pharmacy.***Corresponding Author: Vishnu V. K.**

Pharm D Intern, Nandha College of Pharmacy.

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ABSTRACT

Carpal tunnel syndrome (CTS) is defined by compression of the median nerve in the wrist. It is mainly a compressive syndrome and its most frequent cause is idiopathic. Even though spontaneous regression is possible, the general rule is that the symptoms will worsen. The diagnosis is primarily clinical, from the symptoms and provocative tests. Electroneuromyographic examination may be recommended before surgery or in cases of occupational illnesses.

KEYWORDS: Carpal tunnel syndrome, Anterior interosseous nerve, entrapment neuropathy.

INTRODUCTION

First described by Paget in 1854^[1], Carpal Tunnel Syndrome (CTS) remains a puzzling and disabling condition commonly presented to Rheumatologists and Orthopaedic Hand clinicians. It is a compressive neuropathy, which is defined as a mononeuropathy or radiculopathy caused by mechanical distortion produced by a compressive force.^[2] The American Academy of Orthopaedic Surgeons (AAOS) Clinical Guidelines on the Diagnosis of CTS defines it as a symptomatic compression neuropathy of the median nerve at the level of the wrist.^[3]

CTS is the most well-known and frequent form of median nerve entrapment^[3-8], and accounts for 90% of all entrapment neuropathies.^[9] An entrapment neuropathy is a chronic focal compressive neuropathy caused by a pressure increase inside non-flexible anatomical structures.^[10] CTS is a neuropathy caused by entrapment of the median nerve at the level of the carpal tunnel, delimited by the carpal bones and by the transverse carpal ligament.^[2] Physiological evidence indicates increased pressure within the carpal tunnel, and therefore decreased function of the median nerve at that level.^[3]

Other forms of median nerve entrapment neuropathies include pronator syndrome and anterior interosseous nerve syndrome. Pronator syndrome is defined as compression of the median nerve in the forearm that results in sensory alteration in the median nerve distribution of the hand and the palmar cutaneous distribution of the thenar eminence.^[11,12] Anterior interosseous nerve syndrome^[13] is characterised by complete or partial loss of motor function of the muscles

innervated by the anterior interosseous nerve (AIN), a motor branch of the median nerve in the forearm.^[4]

CASE REPORT

A 17 year old female patient was admitted in orthopaedic department with complaints of numbness in the medial aspect of F3 right hand for three months and pain on the skin over wrist joint of right hand for one week. Patient had aggravated pain during increased work, pain radiated to fingers with no history of restriction of finger movements and no history of fever. Patient had no history of similar illness in the past. On local examination numbness over F3 medial aspect was observed with no sensation over the area, tightness of palm tendon on wrist joint area was also seen. MRI of right wrist revealed peripheral neuritis of median nerve. Nerve Conduction Study was normal. Surgery of decompression with anaesthesia was done. Patient was treated with inj. Rerve Plus 2cc IM OD, Tab.pregaba-M HS, Tab.Paracetamol 500 mg TID, Tab.Rantac 150 MG BD.

DISCUSSION

Patients with this condition report symptoms outside the distribution of the median nerve as well, which has been confirmed by a systematic study conducted by Stevens et al., In 159 hands of patients with electro diagnostically confirmed CTS, symptoms in most cases were commonly reported in both the median and ulnar digits more frequently than the median digits alone. They also report location of symptoms in areas other than digits. 21% of patients had forearm paraesthesias with pain; 13.8% reported elbow pain; 7.5% reported arm pain; 6.3% reported shoulder pain; and 0.6% reported neck

pain. Surprisingly, trigger digit presentation accompanies idiopathic CTS in approximately 20% of patients.

A large scale multicentre study has confirmed that patients with mild to moderate CTS are more likely to report substantial symptoms and mild functional limitations, whereas patients with more severe disease may report less severe symptoms, but have more severe functional limitations of the upper limbs. This appears to be a contradiction, but in fact it relates to the fact that severe compromise of the median nerve can impair sensory functioning to the extent that the profound numbness minimizes the experience of tingling and pain. However, profound functional limitations will ensue as a result of such a level of numbness and motor impairment symptoms.

CONCLUSION

Carpal Tunnel Syndrome (CTS) remains a confusing and disabling condition present in 3.8% of the general population. CTS is the most well-known and frequent form of median nerve entrapment, and accounts for 90% of all entrapment neuropathies. This review aims to provide an overview of this common condition, with an emphasis on the pathophysiology involved in CTS. The clinical presentation and risk factors associated with CTS are discussed in this paper. Also, the various methods of diagnosis are explored; including nerve conduction studies, ultrasound, and magnetic resonance imaging.

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