SUMMARY & CONCLUSIONS

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C.T.S is the most frequently diagnosed, best understood and most easily treated entrapment neuropathy.

In this essay, a review of the literature concerned with the C.T.S. has been acomplished. The carpal tunnel is a confined space through which the median nerve and the tendons of the long flexors of the thumb and fingers of the hand pass from the forearm to the palm.

At this situation, the median nerve is the strcuture most vulnerable to alterations in the; size, contour, or pressure of the interior of the tunnel, giving rise the symptoms-complex known as the C.T.S. It is the commonest cause of "upper limb pain" of nerve - compression irritation origin.

C.T.S. was attributed to various etiological factors, and classified into two main categories: Primary and secondary C.T.S. As regards the pathology, ischemia and direct pressure are the responsible factors.

The C.T.S. usually presents as nocturnal or early morning " paroxysms " of paraesthesiae in the hand, restricted to the median territory distal to the wrist, in one or both hands. Objective sensory impairment showed the same distribution. Pain is the only manifestation that may be referred upwards to be felt in the forearm or even at the shoulder. Weakness of the thenar muscles is commonly detected but, atrophy occurs at a late stage.

The incidence of the C.T.S. is at least 1 : 1500, *(McArthur & others, 1969).* Predominately, the syndrome affects females during the 5th and 6th decades; but males and other age groups are also affected.

To arrive at a correct diagnosis of this syndrome, proper history-taking & meticulous clinical examination are usually sufficient. Less commonly, clinical and therapeutic tests as well as, radiography and some special investigations may be needed to ensure the diagnosis & exclude other diseases simulating the C.T.S.

From modern trends in diagnosis, Kazem sign having specificity of 96.1% and sensitivity of 98.9%, others including Carpal compression test, Flick sign, Tethered median

nerve stress test, combination tests, Von Frey pressure test, Vibratory sensibility testing, Digital vibrogram, Static two-point-discrimination test, Moving two-point-discnmination test, touch pin prick and heat sensation, palmar cold threshold test, tactile thresholds, Graphesthesia and autonomic testing.

New trends in investigating that syndrome include, Thermography, CT, MRI, Self-administered hand diagram, LDF, measurment of carpal tunnel pressure, Argon laser stimulation and ultrasound which is considered at least as reliable as E.M.G.

A suitable schedule for the treatment of the syndrome include the following lines:

(1) No treatment.

(2) Conservative treatment:

(a) Medical, (lacal corticosteroid injection is the most important).

(b) Mechanical, (the commonest is splinting of the wrist).

(3) Surgical treatment:

(a) The closed operation, (blind retinaculotomy).

(b) The open operation, (done under direct vision).

(4) Endoscopic release of the carpal tunnel.

(5) Ultrasonic.

(6) Laser.

An assessment of local corticosteroid infiltration and surgery in treatment of C.T.S. was done by *Kazem & Hegazi, 1985 and Nadia, 1987* and it was found that there was high relapse rate among patients receiving local injection and concluded that, surgical decompression of the median nerve within the carpal tunnel is the best method of treatment in all cases of C.T.S. particularly in early cases, with short duration, mild clinical symptoms, with no atrophy of the thenar muscles, and with normalor mild electrodiagnostic affection. Moreover it could be considered the only line of treatmetn in moderate and severe cases of long duration, hypothesia, atrophy of thenar muscles and moderate or severe electrodiagnostic affection.

ECTR may be a useful alternative to open release. However the technique is either technically demanding, commonly resulting in incompletely sectioned ligaments, or both.

Proper training in the use of ECTR, followed by practice on several cadaver specimens before its clinical use, is recomended.

El-Hewala, 1983 postulated the use of ultrasonic in combination with corticosteroid injection & then the patients must be followed up.

All that must be known about the use of laser in treatment of C.T.S. is not fullfilled uptile now.