

# Case Report

## Pronator Teres Syndrome (PTS)

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**PTS is not a common syndrome, very less reports of this syndrome is present in the literature. In PTS, pain affects the function of hands. We report a case of PTS as the first case reported in the literature of Pakistan.**

**Key words: Pronator teres, median nerve, entrapment**

A 35 years old patient reported in the Outpatient Department, Hand Upper Limb Surgery Centre with pain on the flexor aspect of forearm more near the elbow joint radiating distally. Pain increases on heavy physical work.

On examination there was wasting of thenar muscles. Anesthesia over the thenar eminence, on the lateral aspect of the thumb and index finger noted. Patient was unable to make a fist as the thumb index and middle finger remained semi flexed. Loss of opposition of the thumb was also present.

Before coming to Hand Upper Limb Surgery Centre, the patient was given NSAIDS, ILCS (kenacort) and physiotherapy. Nevertheless, pain kept on increasing and resulting into anaesthesia in portion of hand already mentioned.

At surgery, thick fibrous arch between the two heads of pronator teres was found. This arch was compressing the median nerve in the pronator teres compartment. Compression by the fibrous arch made an indentation on the median nerve. Fibrous arch divided and epineurectomy of involved nerve portion was done. One month post operatively patient regained motor post operatively patient regained motor function of the hand, index and the middle fingers. Are of anaesthesia (grade 5) improved to grade 2, patient is likely to improve.

the pronator teres muscle. Median nerve entrapment at the elbow is a rare occurrence and is more commonly seen in children. The other site of entrapment is at the pronator muscle itself. Here the median nerve passes between the superficial and deep heads of the muscle and can become entrapped due to edema and hypertrophy of the pronator teres muscle. Entrapment at the pronator teres muscle does not involve muscle itself since its innervation come from a point more proximal than the muscle itself sparing the pronator teres muscle. Neuropathies at either site will involve both sensory and motor deficits on the flexor side of the forearm. Sensory losses will include the thumb, index, the middle and half of the ring finger. This sensory loss involves the entire palm of the hand and sometimes way up the forearm. Motor loss leads to loss of flexion (inability to make a tight fist and opposition of the thumb and finger involved. The exception to this is involvement of pronator teres muscle which will make it difficult to pronate the arm (turn the palm down).

Pain along the median nerve axis is the most significant feature. It is helped by rest and aggravated by activity. The median nerve is tender long its course. Symptoms are reproduced by gripping tightly with resisted pronation of the arm from elbow to full extension.

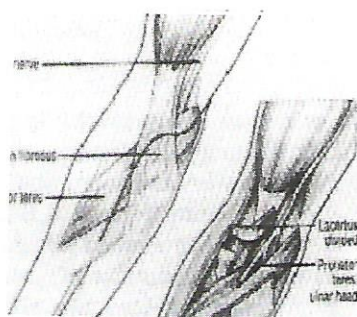


Fig. 1

### Discussion

This syndrome (also known as pronator syndrome) is uncommon and involves entrapment (compression or pinching) of the median nerve at or about the level of the elbow. Depending on the site of entrapment, two types of symptoms may occur. Compression of the median nerve at the elbow or just above the elbow leads to the weakness of



Fig 2

The patient has a complaint of aching discomfort and easy fatigability of the muscle of the forearm exacerbated by activities, which requires repetitive pronation, as in practicing tennis serves or throwing action. Nocturnal

awakening may be seen, but are much less common than in carpal tunnel syndrome.

Patient must be differentially diagnosed from its more common cousin anterior interosseous nerve syndrome (Kiloh Nevin Syndrome). Kiloh-Nevin Syndrome is due to repetitive heavy lifting and a purely motor dysfunction, affecting flexion of the thumb, distal fingertips of the index and middle fingers and weak pronation of the arm with the elbow flexed. These patients are unable to pinch the finger together tip-to-tip, but rather can only achieve pulp-to-pulp contact.

Treatment for PTS involves rest, modification of daily activities, non-steroidal anti-inflammatory drugs (NSAIDs) conservative care and decompressive surgery. Results of decompressive surgery have proved to be very good. It is recommended that surgical decompression

should be done as the compression is a mechanical phenomenon, so its better to relieve the compression rather than referring conservative approach.

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