

Concurrent Carpal Tunnel And Pronator Syndromes: Emerging Incidence Or Underdiagnosed?

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INTRODUCTION:

carpal tunnel syndrome (CTS) is the commonest peripheral entrapment neuropathy, with a local prevalence in between 2.9 to 7.5% (Munirah et al. 2014; Tamrin and Zakaria 2016). Isolated pronator syndrome (PS) on the other hand is rare. However, it can occur concurrent with pronator syndrome. Hsiao et al reported a prevalence of 6% of pronator syndrome diagnosed with carpal tunnel syndrome (2017).

MATERIALS & METHODS:

We report a series of 5 patients initially referred for CTS but were actually found to have concurrent PS. All were right hand dominant females, aged between 22-52 years old. The occupations were national shooting athlete, teacher, financial assistant, medical officer, and medical student. The common complaint was numbness in median nerve distribution, ranging between 8 months to 3 years prior to clinic visit. Weakness was reported in 3 cases with numbness for at least 2 years

Sensory examination showed reduced sensation in all median nerve distribution. Tinel's sign and Durkan compression tests were positive. Pronator provocative tests were positive. 3 patients reported flexor digitorum profundus weakness (MRC 4), with additional flexor pollicis longus weakness (MRC 4) in the other 2 patients. Screenings for cervical myelopathies were negative.

RESULTS:

All patients underwent carpal tunnel and pronator release after failed conservative management. Compression at the two heads of pronator teres was seen in all patients, followed by flexor digitorum superficialis fibrous arch (3) and bicipital aponeurosis (1). Intraoperatively, sites of the compression in the forearm were released, regardless of the provocative test. This is to prevent recurrence as the compressive sites lie in close proximity to each other. Post

operatively, all patients reported relief of symptoms of both sensation and motor power, and ability to use their hands without any discomfort as before. Complete recovery was recorded as early as 1 month post-surgery, with recovery being dependent on duration of symptoms and their severity.



Figure 1: Median nerve compression at fibrous arch of flexor digitorum superficialis



Figure 2: Step cut to release the entrapment by the superficial head of pronator teres

DISCUSSIONS:

The incidence of pronator syndrome have been missed or underreported due to lack of screening specifically for it and exposure of clinicians to it.

CONCLUSION:

As a conclusion, patients presenting with carpal tunnel syndrome should be screened for more proximal compression

REFERENCES:

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2. Tamrin et al. 2016. Malaysian J of Human Factors and Ergonomics 1(1): 68-76.
3. Hsiao et al. 2017. Orthop Traumatol Surg Res 103(1): 101-103