The Nerve Compression and Nerve Entrapment Epidemiology

1. Definitions

Within the large symptomatic neurological disease generally known as Neuropathic Pain a substantial role is played by painful conditions caused by compression or entrapment of the nerve.

Compressive diseases are classified under several definitions however a limited number i.e. radiculopathy, lumbar spinal stenosis, spondylosis and sciatic nerve compression, can be considered as the most representative in terms of numbers and social impact.

Typical syndromes under nerve entrapment conditions are the carpal tunnel, the tarsus tunnel and the ulnar tunnel syndromes.

2. Epidemiology of Nerve Compression

According to a study (Tarulli AW and Raynor EM, 2007), the prevalence of lumbo-sacral radiculopathy is approximately 5% distributed equally in men and women. This percentage is confirmed by a recent review (Rutkove S, UpToDate Inc., 2008) which gives a range of 4 – 6% prevalence for this condition.

However in other studies (Chau R et al. , 2007) radiculopathy is estimated to affect up to 7.6% of the population in a given year, of which 1/3 suffer from persistent pain.

Lumbo-sacral radiculopathy belongs to the larger definition of Low Back Pain (LBP). 85% of Americans suffer LBP sometime during their lives and, after the common cold, LBP is the most frequent cause of lost workdays in adults (Orthoinfo.aaos.org, 2006).

In the United States and Europe the neuropathic component of LBP represents about 50% of all subtypes of neuropathic pain affecting patients (Datamonitor, 2006) and its diagnosis rate within neuropathic pain is at about 60% (IMS Health, 2008).

Lumbo-sacral radiculopathy represents from 4% (Jarvik JG and Deyo RA, 2002) to 10% (Bennet at al., 1998) of LBP. This range seems to be confirmed by a review (Medical-Library.org, 2008) for which 5-10% of the causes of low back pain are due to lumbar radiculopathies.

Lumbar spinal stenosis is present in 5 of every 1,000 Americans over the age of 50 and mainly because of degenerative processes leads to radiculopathy or neurogenic claudication (Szpalsky and Gunzburg, 2004). Current estimates indicate that 70 million Americans are older than 50 years. This number is estimated to grow by 18 million in the next decade alone, suggesting that the prevalence of spinal stenosis will increase (Hsiang J., 2006).

Lumbar spondilosis, a non-specific aging phenomenon, is present in 27-37% of the asymptomatic population. In the United States more than 80% older than 40 years have lumbar spondilosis. Usually it produces no symptoms however nerve compression syndromes and spinal stenosis are frequent complications (Rothschild BM, 2007).

3. Epidemiology of Nerve Entrapment

Carpal Tunnel Syndrome (CTS) affects 3.75% of Americans (McCabe SJ et Al., 2007) and high rates have been reported in persons who perform certain repetitive wrist motions such as frequent computer users (Natahel H, 2004).

In about 6% of diagnosed entrapment syndromes, patients were found to have the combined presence of CTS, ulnaris and supinator syndromes (Weitbrecht W and Navickine E).

Ulnar nerve entrapment is the second most frequent entrapment neuropathy in the upper extremity (Tidy C, Patient.Co.UK, 2007)

Nerve entrapment syndromes rank third amongst the diagnoses made for neuropathic pain (IMS Health, 2008).