The Journal of Bone and Joint Surgery

EDITORIALS AND ANNOTATIONS

NERVE COMPRESSION SYNDROMES

A nerve subjected to local compression loses its conductivity. This is manifested by paresis or paralysis of muscles, and may be accompanied by disturbance or loss of sensibility in its zone of distribution. The factors that determine the clinical picture are firstly, the severity of the compression, and secondly, its anatomical site. Thus if the compression is mild the motor fibres alone are affected and there will be complete sparing of sensibility. However, a similar pattern of paralysis can occur if the compressing agent is applied solely to the motor branch or branches of a mixed nerve.

Ramsay Hunt (1908) first drew attention to peripheral compression of the median and ulnar nerves as a cause of paralysis of the intrinsic muscles of the hand. Seddon (1952) reported five cases of compression of the deep branch of the ulnar nerve by a ganglion. They presented with paralysis of the muscles supplied by this nerve, but without involvement of the hypothenar muscles and without sensory loss. In the same year three further cases were reported by Brooks (1952), in which there was disturbance of motor and sensory function in the distribution of the ulnar nerve in the hand; the compressing agent in all instances was a ganglion. In these latter three cases the ganglion was found to arise proximal to the division of the nerve into its motor and sensory branches. In 1955 Mallett and Zilkha added two further cases, in which compression by a ganglion proximal to the point of division into motor and sensory branches caused paralysis of all the muscles innervated by the ulnar nerve in the hand, but with sparing of sensibility as originally described by Ramsay Hunt. These three reports serve to illustrate that not only the anatomical site of compression, but also the degree of compression determine the clinical findings.

In this number of the Journal Richmond reports twelve collected cases of an ulnar nerve compression syndrome in the hand caused by carpal ganglia.

Compression syndromes are fashionable nowadays. It is recognised that many peripheral nerves can be involved if in their anatomical course they traverse a fibro-osseous tunnel whose confines are inelastic. Examples include the median nerve in the carpal tunnel (Woltman 1941, Zachary 1954), the ulnar nerve in the ulnar groove (Osborne 1957) and the posterior tibial nerve in the tarsal tunnel (Keck 1962).

Because the treatment is relatively simple it becomes all the more important to recognise these syndromes early, while the changes in nerve and muscle are reversible. In most instances of ulnar nerve compression in the hand a detailed history reveals local trauma to the ulnar border of the hand. In addition to the signs of intrinsic paralysis there is nearly always local tenderness in the region of the pisiform bone, and there may be a lump. When the paralysis is confined to the deep branch of the ulnar nerve operative exploration should be the rule.

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