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EDITORIAL

TRAUMATIC ULNAR NEURITIS

On February 13, 1887, before the Académie de Médecine in Paris, Dr Panas described four cases in which a slowly progressive lesion of the ulnar nerve was associated with a bony abnormality of the elbow; this is probably the earliest account of traumatic ulnar neuritis. In three of Panas's patients, it is interesting to note that the etiological factors present—old fracture of the lower end of the humerus, hypertrophic osteoarthritis, and an abnormally shallow ulnar groove—are representative of the three chief groups described by later writers.

The descriptive term "traumatic ulnar neuritis" conveys as true a picture of the pathology as the very limited histological evidence permits. No one during the last seventy years has given a fuller account of the intraneural changes taking place than did Panas in his original presentation. This is due to the rarity with which—very properly—resection of the lesion has been done; however, the simple conception that repeated injury gives rise to hyperaemia, oedema and slow infiltration by fibrous tissue may well be correct. It is strikingly apparent that in cubitus valgus, whether congenital or the result of injury early in life, symptoms frequently do not appear for twenty years, although after a similar deformity developing in adult life the latent period is much shorter.

At one time operative treatment included supracondylar osteotomy to correct a cubitus valgus, or gouging out the ulnar groove in order to shorten the course of the nerve. Anterior transposition of the nerve is now the universal and more satisfactory practice. Whatever the underlying cause, it is a simple and logical procedure to remove the nerve out of harm's way.

In this issue Miss A. J. McGowan analyses the etiological factors responsible for the lesion. Unlike earlier workers, she has found that the lesion was post-traumatic in less than half the cases. The next most frequent cause was osteoarthritis of the elbow joint, and there followed a group of cases in which the etiology was doubtful and which must be termed idiopathic. The insidious nature of the pathological process is manifested by the comparatively short duration of symptoms in most cases, though clinical examination shows that the paresis is by no means recent. As might be expected in McGowan's Grade III lesions, where there was actual paralysis of some or all of the intrinsic muscles, recovery judged by motor function was poor, yet in all but one of these cases full sensibility was regained even to the extent of normal two-point discrimination.

Recovery after anterior transposition of the nerve depends largely on two factors: the reversibility of the changes that have taken place at the site of irritation, and the reversibility of the changes present in the motor and sensory end-organs and muscles. That the intraneural changes present in the lesion are to a great extent capable of resolution is suggested by the good quality of sensory recovery; furthermore, this recovery provides strong evidence that

regeneration of sensory end-organs can take place. In muscle which has been denervated for more than eighteen months it is known that secondary changes occur which consist essentially of a fibrous replacement of contractile tissue. The consequence is that even in the presence of axonal regeneration, recovery of function may be impossible; in cases in which severe muscle atrophy was present pre-operatively this is an important factor.

It is clear that early transposition of the nerve is desirable; there is no conservative treatment. With regard to operative technique it has become apparent that, although anterior transposition superficial to the flexor mass is often successful, symptoms can recur from kinking of the nerve as it dives beneath the deep fascia in the forearm. The nerve should be buried beneath the whole mass of the flexor muscles; and the medial supracondylar septum must always be excised, for the nerve may be caught over its sharp edge. By these means good results can be obtained consistently. Excision of the medial epicondyle—a procedure favoured by King and Morgan of Melbourne—can be reserved for use in special circumstances.

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