

distributed according to certain groups of functions rather than according to the anatomical innervation of muscles. Under the second heading, that relating to nutritive disturbances, are included wasting, various trophic changes, and changes in electrical excitability. Although in true paraplegia we may sometimes meet with a considerable wasting of muscles, more than can be attributed to mere disuse, still we never see the extensive atrophy, not only of the muscles but of all the structures of the limb, that so frequently occurs in the pseudo-paraplegias, particularly in those, like acute poliomyelitis, that are due to an affection of the anterior horn cells. Profound trophic changes are rare in true paraplegia, except in the variety caused by an extensive transverse lesion of the cord, and, finally, certain of the electrical changes, particularly that known as the reaction of degeneration, are highly characteristic of the pseudo-paraplegias caused by an affection of the lower motor neurone.

The first patient\* we have to examine is a boy aged six. He was sent to the hospital from Manitoba last January. The paraplegia was then practically complete, but under re-educative treatment it has greatly improved. The early history of the case is very imperfect, but all the indications present point to the affection having been an infective myelitis in the lower dorsal region. He shows very well certain changes in the reflexes, which at once permit us to say that the lesion is one implicating the upper neuronic system of fibres. You will observe that the knee jerks are greatly exaggerated, and, further, that there is present a marked contralateral adductor reflex, i.e., a tap applied to either the patella or the adductor tubercle evokes a contraction of the adductor muscles of the opposite limb. These physical signs are never caused by an affection confined to the lower motor neurone. Their significance is amply confirmed by making the following further tests. Ankle clonus is easily to be obtained, and, as you see, this shows the characteristics of the true ankle clonus, namely, it is slow in rate, regular in both time and amplitude, persistent, not to be varied by changing the pressure or the position, and consists of an almost equal to-and-fro movement instead of a recurrent downward push.

Babinski's plantar sign is also well marked, and in this connection it is perhaps desirable to interpolate a few remarks on the question of technique in testing the plantar reflex, for the value of observations on this reflex, and therefore of con-

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