

most constant change was the interstitial process. The fact that changes were found, more or less marked, in all the pneumogastric nerves examined, seems to point to considerable influence upon the mode of death in the cases of sudden death. In what way does the poison act? It seems most probable that in such cases it acts through the nerve structures, interfering with their normal function, and that this may occur before degenerative processes have proceeded far does not lessen in any way the importance of their occurrence, but would rather lead us to place greater weight upon slight changes, where other obvious causes of death, as markedly degenerated heart muscle, do not exist. The variability of the amount of changes, both in the heart muscle and in the nerves, may point to a varying cause for these cases of sudden death; but the argument of the disturbance of the functions of the nerve seems strongest.

To sum up, the changes in the nervous system produced by diphtheria are: (1) a marked parenchymatous degeneration of the peripheral nerves, sometimes accompanied by an interstitial process, and hyperæmia and hemorrhages; (2) acute, diffuse, parenchymatous degeneration of the nerve fibres of the cord and brain; (3) no changes, or but slight ones, in the nerve cells; (4) acute, parenchymatous and interstitial changes in the muscles, especially the heart muscle; (5) occasional hyperæmia, or infiltration, or hemorrhage in the brain or cord, in rare cases severe enough to produce permanent troubles, such as the cases of multiple sclerosis or of hemiplegia which have been observed. Finally, the probability that the cases of sudden death from heart failure in diphtheria during the disease, or convalescence, are due to the effects of toxic substances produced in the disease upon the nerve structures of the heart.

SHIVELY.

CLINICAL NEUROLOGY.

153. *TABES AVEC CONSERVATION DES REFLEXES ROTULIENS* (Tabes with Preserved Patellar Reflexes). MM. Achard and Lévi (*La Med. Moderne*, 9, 1898, p. 176).

A typical case of tabes, except for the preservation of the knee-jerks, is reported, with the autopsy. There was sclerosis of the posterior columns, most marked in the sacral and cervical regions. The cornu-commissural zone, the comma-shaped columns of Schultze, and the other "descending areas" were well preserved. At the junction of the lumbar and dorsal segments Westphal's zone of entry of the posterior roots ("Würzel-Eintritt") was observed to be intact. Numerous cases have now been reported of various forms of disorder of the spinal cord, in which it might be expected that the knee-jerk would be lost, but in which it has persisted, and wherever careful post-mortem investigation has been made this zone has been found intact. Lehmann, Kraus, Westphal, Minor, Pick and others have observed this persistence of the reflex in cases of tabes and "combined disease," and accounted for the fact by the integrity of this area in the cord.

MITCHELL.

154. *TABES DORSALIS UND WANDERNIERE* (Tabes Dorsalis and Floating Kidneys). A. Habel (*Centralblatt für Innere Medicine*, 18, 1897, p. 161).

Attention is called to the fact that in cases of tabes a large proportion of wandering kidneys was observed. Thus in the Zurich Clinic some 14 per cent. of all the cases of tabes presented this anomaly, and in the case of the women some 25 per cent. were noted. The proportion observed in the general medical clinic at the same institution for the same time being 1 per cent. The author believes it not improbable that some sort of causative or predisposing condition may exist in this disease or in this anomaly.

JELLIFFE.