Abstracts

Neurology

NEURO-ANATOMY AND NEUROPHYSIOLOGY


1. The rates of secretion of the salivary glands in man after unilateral section of the ninth nerve and chorda tympani indicate peripheral pathways for secretory fibres to those glands other than those generally accepted.

2. Section of the ninth nerve intracranially causes marked temporary diminution of salivation with partial recovery involving parotid, sublingual and submaxillary glands.

3. Section of the chorda tympani at the level of the tympanic membrane produces pronounced and permanent diminution of salivation involving the same series of glands.

4. The authors conclude that these glands receive their secretory fibres from both seventh and ninth cranial nerves.

J. V.


Bilateral electrolytic lesions in the region between the corpora mammillaria and third nerve in cats often lead to a condition of somnolence and exaggerated muscle tonus of a plastic type. Cats thus experimented on will maintain for many minutes unusual postures into which they have been put. It is possible that experiments of the kind will provide an explanation of the clinical fact that in some patients somnolence is associated with increased plastic tonus or catalepsy.

A. B.


Experiments on cats have shown that in this species two sets of postural adjustments, the hopping reactions and the five placing reactions which
occur in response to cutaneous and proprioceptive stimuli have a strictly localized cortical control. The localization was determined by the following experimental facts:—

Removal of the gyrus proreus and sigmoid gyri and incidental ablation of a small part of either the coronal or the longitudinal gyrus resulted in permanent disturbances of the reactions of the contralateral legs. The deficiencies consisted in a complete failure of the five placing reactions and a profound depression of the hopping reactions. This condition represents a maximal cortical deficiency, for complete unilateral decortication or removal of all tissue of one hemisphere above the hypothalamus produced no greater disturbances in the reactions. The absence of ipsilateral effects shows that the control is entirely contralateral.

Bilateral removal of the same frontal area was followed by a permanent maximal deficiency of the reactions of all four legs. Cats so operated on were as defective in respect to these reactions as animals lacking all neocortex or as wholly decorticate preparations.

Bilaterally equal deficiencies were produced when the entire cortex and putamen-caudate of one hemisphere and only the sigmoid gyri and gyrus proreus of the other side were ablated. The reactions of the contralateral legs were not modified by removal of temporal or occipital cortex or of the gyrus proreus. The reactions remained normal in both contralateral legs after extirpation of all cortex except the sigmoid gyri, the gyrus proreus, the rostral part of the longitudinal gyrus and a small fraction of the coronal gyrus. This result was not modified by total ablation of the opposite cortex.

Stress is laid on the fact that a remnant of rostral cortex is able to manage in normal fashion the placing and hopping reactions of the opposite legs. This shows conclusively that the representation of these reactions is strictly localized and functionally independent of all other cortical areas.

Evidence is presented which suggests that the essential cerebral mechanism consists of sensorimotor cortex. There is some indication that the sensory cortex exerts its influence through the motor (pyramidal) projection area. The area frontalis is not involved in the control. The tendency of decorticate cats to assume peculiar attitudes of the legs is largely, but probably not entirely, attributable to the deficiencies of the placing and hopping reactions.

R. M. S.

NEUROPATHOLOGY

[124] Effect of ephedrine on blood-sugar mobilization in chronic encephalitis.—

Ephedrine hydrochloride was used as a sympathicomimetic drug, to observe its effect on blood-sugar mobilization in chronic encephalitis. Seven of the 14