

nerve of intestine by intraarterial injection of Acetylcholine to the mesenteric artery.

- ii) Such stimuli was usually painful and found to excite the numerous C-fibers and the bulk of discharge was found in the ascending phase of the inner pressure curve of intestine as also in the abdominal muscles.
- iii) There was no distinguishing feature of the intestinal E.M.G. in spite of usual pain response.
- iv) In the E.M.G. of both the intestine and abdominal muscles, a few discharge was found at the descending phase of the inner pressure curve.
- v) Anoxia of intestinal tissue at the maximal contraction and electromyographical feature was not found to attribute to excitation of C-fiber by painful stimuli with intra-arterial injection of acetylcholine.

132. On the Mechanism of Lateral Nuclei of the Thalamus.— especially on the Interrelationship with the Cerebellar Dentate Nucleus and Cerebral Motor Cortex

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133. Physioanatomical Study of the Forel-H Field

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An experimental study was attempted on 42 cats to make an analysis of the effect of subcortical and brain stem lesion on the Metrazol-induced corticogenic epileptic convulsion based on EEG-discharge and EMG-convulsion as indicators. Anatomical study was also made to follow the degeneration of fibers by means of Marchi technique in cat after making a lesion in the Forel-H field.

1. A definite threshold increment of eliciting the seizure was found in the case of bilateral lesioning of the Forel-H field. In contrast, no change in the threshold was found in case of bilateral lesioning of the other parts

of brain stem, thalamus, red nucleus and its neighbourhood and lenticular nucleus.

2. There was a parallel relation between EEG discharge and convulsion. Dissociation could be obtained in none of the cases.

3. It is, thus, to be concluded that the Forel-H field lesion causes decrement of the excitability at cortex and an inhibition of the corticogenic epileptic convulsion and to be proposed that the H field is composed of the main axis of the cortico-subcortical reverberating circuit.

4. The ipsilateral distribution of the degenerated granules was found in the anterior sigmoid gyrus, caudate nucleus, putamen and globus pallidus, thalamic nuclei lateral to the internal medullary lamina, substantia nigra, rubrocerebellar system, medial longitudinal fascicle system, mesencephalic and pontine reticular formation and medial lemniscus.

5. There was also contralateral distribution to the interpositus and dentatus nuclei of the cerebellum via brachium conjunctum, to globus pallidus via supraoptic commissure, to subthalamic region and substantia nigra via supra-mammillary commissure, and to red nucleus via tegmental decussation.

6. The degeneration is so extensive that the H field seems to be the cross road of the extrapyramidal system in association with brain stem activating system.

134. Direct Cortical Response and Radiation Response in Man

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Direct Cortical Response (DCR) and Radiation Response (RR) in animal have been extensively studied, but little is known about those of man. The authors have recorded DCR and RR during neurosurgical operation. Cox et al. (1961) reported that in association areas of man the rising phase of the initial negative potential forms a smooth uninterrupted slope but in sensory and motor cortices it is irregular due to the appearance of several humps or spikes. Goldring et al. (1964) showed that with the maturation of the cortex the positive humps of DCR and RR appear gradually.

In our experiment of recording of DCR and RR during operation, the