that motoneuron activity is probably controlled by the complex network consisted of the motor cortex, basal ganglia and the thalamus: and during VL stimulation at least some signals from CNS which control motoneuron descend through the pyramidal tract to the motoneuron.

9. The function of Nucleus Ruber in Human Body

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A number of reports on the animal experiments of the function of nucleus ruber have appeared but only a few report on the experiments conducted on human body. It has been pointed out that the human nucleus ruber greatly differs anatomically from that of animals. Therefore it is our thought that the results obtained by the electrical stimulation given on human nucleus ruber is worth reporting here.

In performing stereotaxic C-M thalamotomy and V-L thalamotomy, by needling vertically to AC-PC line and by advancing the needle a few millimeters from the target point, the nucleus ruber can be reached. By electrically stimulating the nucleus ruber by this method, the following results were obtained.

1. No response was evoked in cortical activity in case single shock was given to the center of the nucleus ruber or 3-8 c/sec. low frequency stimulation was given.

2. High frequency stimulation of nucleus ruber generally gives rise to the muscle tone of the whole body. Its degree was strongest in ipsilateral cervical muscles and in the extensors of the extremities of the opposite side. It was more distinct in the upper extremities than in the lower extremities.

3. High frequency stimulation sometimes gives rise to tremor. But this only happens to the patients who are suffering from tremor. Not only nucleus ruber but also the morbid condition of basal ganglia are associated with the development of tremor.

4. The stimulation usually acts as an accelerator to the evoked H-Wave of gastrocnemius muscle.

5. With the high frequency stimulation, the dilatation of pupil, the increase of pulse rate and the decrease of amplitude in finger plethysmogram were observed.

The nucleus ruber belongs to the sympathetic zone in the autonomic nervous system.