2) The value of positional variations of the basal ganglia may become changed as the reference point is changed. Therefore, by selecting the reference point closer to the target point, anatomical deviation can be minimized so that the stereotaxic procedure may be more accurate and correct.

2. Electrophysiological Investigations of the Thalamus and the Pallidum in man

Hiromu HASEGAWA, Osamu NAKAI, Susumu SATO, Kozo YAJIMA,
Jusuke ITO and Sadao NAKAJO

Dept. of Neurosurgery, School of Medicine, Niigata University

On stereotaxic pallidotomy or thalamotomy as surgical treatment of parkinsonism and other dyskinesias studies on the electrophysiological characteristics of these areas had been carried out before the lesions were determined.

1) The electric activities of the thalamus (ventrolateral region) and pallidum in resting state showed no specific pattern.

2) The stimulation in the ventrolateral region of the thalamus produced tremor or spasm in the contralateral extremities. In parkinsonism tremor could be evoked with stimulation of both low (5~10 c/sec) and high (100 c/sec) frequency, in which evoked tremor was similar to intrinsic tremor in frequency. However, in athetosis or other dyskinesias tremor was not evoked but spasm was produced by only high frequency stimulation.

3) In scalp leads the recruitment response was produced by low frequency (5~10 c/sec) stimulation in the ventrolateral region but was not in the pallidum.

4) The evoked H wave of gastrocnemius muscle was slightly augmented by stimulation in the ventrolateral region.