EFFECTS OF ELECTRICAL STIMULATION OF THE STRIATUM ON THE MICTURITIONAL REFLEX IN CATS

Hypothesis / aims of study
In Parkinson’s disease in which basal ganglia is affected, micturitional disturbance is common\(^1\). Recent studies reported that neural circuitry of basal ganglia would have an inhibitory effect on micturitional reflex\(^2,3\). Then we examined the role of the striatum on the micturitional reflex in cats by electrical stimulation.

Study design, materials and methods
Experiments were done on 12 adult male cats under anesthesia with ketamine. We stereotaxically inserted microelectrode into the striatum and applied electrical stimulation (100 Hz, 100-200 µA) to examine the effects of striatum on the micturitional reflex.

Results
Electrical stimulation of the head of inferior medial caudate and a part of putamen elicited the inhibitory effects on the micturitional reflex (Figure 1). None of the responses were facilitatory.

Interpretation of results and concluding message
The striatum would have an inhibitory effect on the micturitional reflex, and there seems to be a locality for eliciting this effect.

References