Supplementary material for

Cholinergic mesencephalic neurons are involved in gait and postural disorders in Parkinsonian patients and monkeys

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This PDF file includes:

Supplemental Figure 1

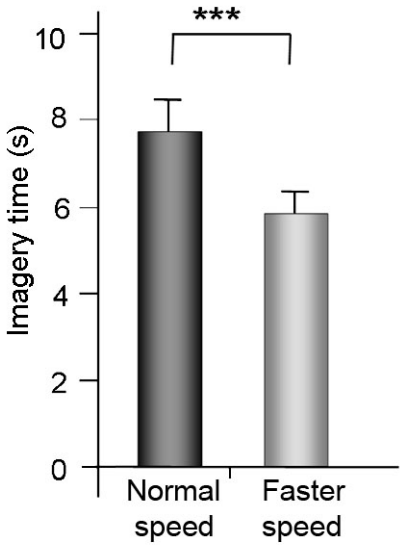

Figure 1 Imagery times in healthy subjects

Mean of imagery times for Imagery of Gait (IG) at normal and faster speed in healthy subjects. A significant decrease in imagery times at faster speed compared to normal speed for the IG condition ($P < 0.00005$, paired t tests). Thus, the faster the speed, the shorter the imagery time.

Supplemental Figure 2

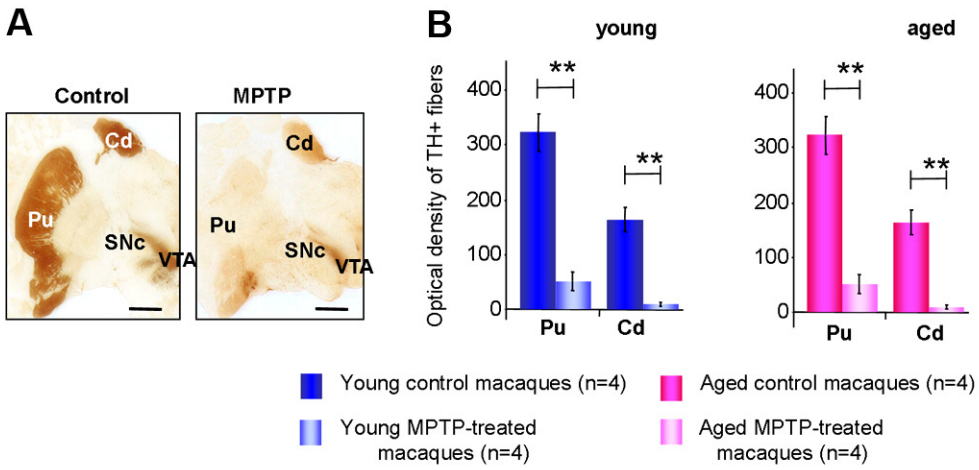

Figure 2 Loss of dopaminergic neurons in MPTP-treated macaques

(**A**) Photomicrographs of representative transverse sections labeled for TH at the level of the substantia nigra pars compacta (SNc), putamen (pu) and caudate nucleus (Cd) of an aged control (left) and an MPTP-treated aged macaque (right). Note that, as expected, neuronal loss is more severe in the SNc than medially in the ventral tegmental area (VTA) and that the TH+ fiber loss is severe in the striatum (Pu and Cd). (**B**) Optical density of TH-immunostaining performed in the putamen and in the caudate nucleus of young and aged MPTP-treated macaques. ** $P<0.01$. Scale bar: 2.5 mm in (a).

Supplemental Figure 3

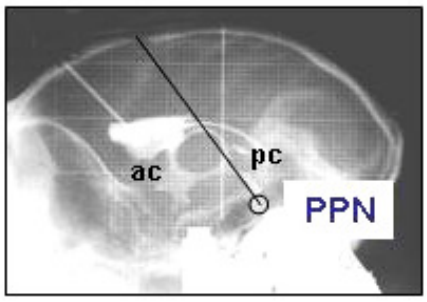

Figure 3 Operative ventriculograph of a monkey in a stereotaxic frame**.** The radiograph shows the ventriculogram (lateral view) with the anterior commissure (ac), the posterior commissure (pc) and the trajectory of the cannula. The PPN target is represented by a circle.

Supplemental Figure 4

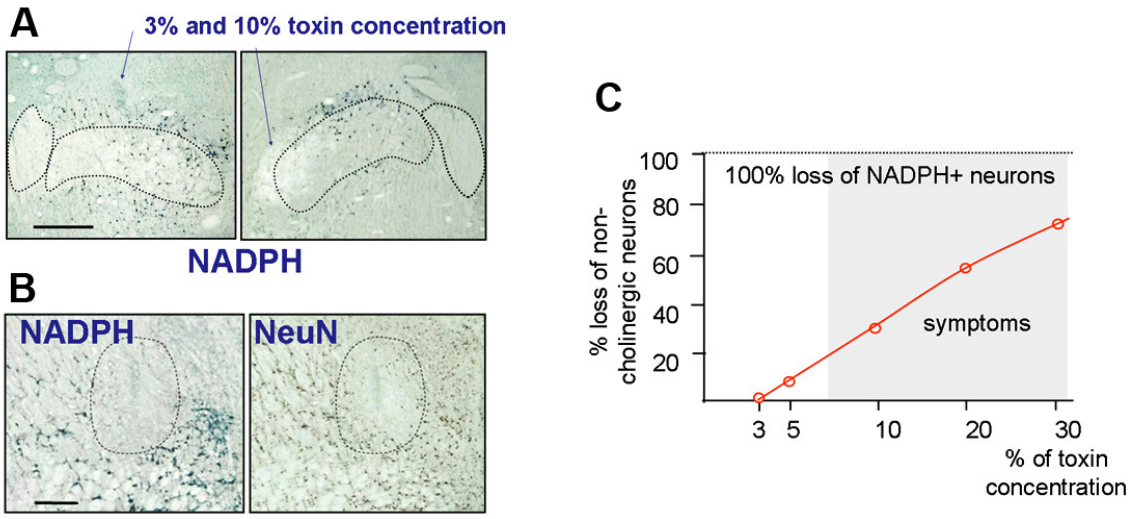

Figure 4 Effective range and specificity of urotensin II-conjugated diphtheria toxin explored in monkey M1.

(**A**) PPN sections labeled for NADPH-diaphorase showing that 10-µL injection of 3% dose induced a very small lesion (left photomicrograph) and no postural deficit. A 10% dose of the same volume injected three weeks later in the other hemisphere of the same animal induced a larger lesion (right photomicrograph) and slight deficits. (**B**) Adjacent PPN sections labeled for NADPH diaphorase and a marker of neuronal cell bodies (NeuN). Note that at the level of the injection site where 100% of cholinergic neurons are lost (hatched area), some NeuN+ neurons remain at the periphery. (**C**) Quantification of the loss of these NeuN+ neurons at the periphery of the injection site revealed that the higher the concentration, the greater the loss of non-cholinergic neurons. Scale bars: 1 mm in (a) and 500 µm in (b).