On-line Table 1: Characteristics of patients and healthy control subjects

	Patients (n = 36)		Control Subjects (n = 23)	
	Mean	SD	Mean	SD
Age (yr)	59.5	7.5	59.9	6.7
Sex	21 M/15 F		9 M/14 F	
Education (yr)	10.7	2.8	11.6	3.2
Disease duration (yr)	5.8	3.9	N/A	N/A
UPDRS (score)	41.9	20.7	N/A	N/A
H&Y stage	2.3	0.9	N/A	N/A
MMSE	28.6	1.4	29.1	0.9

Note:—NA indicates not applicable.

On-line Table 2: GM density, volume, and MTR: group comparisons

	MNI Coordinates					
	X	Y	Z	*Z* Value	*P* FWE-Corrected[a]	Cluster Size (vx)
Control (n = 23) and patient groups (n = 36)						
GM volume effects						
Left parahippocampal gyrus	−34	−58	−7	4.32	.05	1170
GM density effects						
Left parahippocampal gyrus	−28	−49	−9	4.17	.05	2084
MTR effects						
Left olfactory cortex/amygdala[b]	−16	−3	−19	3.10	.05[c]	
Left parahippocampal gyrus	−31	−51	−8	4.29	.05	2272
Control group (n = 23)[d]						
No GM volume, density, or MTR effects						
Control group (n = 23)[e]						
No GM volume or density effects						
MTR effects						
Left olfactory cortex/amygdala[b]	−15	−1	−18	3.19	.05[c]	
Control group (n = 23)[f]						
GM volume effects						
Left parahippocampal gyrus	−25	−45	−9	4.43	.05	1110
GM density effects						
Left parahippocampal gyrus	−25	−44	−10	4.96	.001	4218
MTR effects						
Left olfactory cortex[b]	−10	19	−24	3.31	.05[c]	
Left parahippocampal gyrus	−26	−47	−10	5.10	.0001	13 873
Right STG[b]	62	−28	23	3.85	.05	2620
Patient subgroup in H&Y 1 (n = 9)[g]						
No GM volume or density effects						
MTR effects						
Left olfactory cortex (subcallosal area)[b]	1	24	−3	3.26	.05[c]	
Patient subgroup in H&Y 2 (n = 13)[h]						
No GM volume or density effects						
Left olfactory cortex	−13	18	−23	4.07	.05[c]	
MTR effects						
Left olfactory cortex	−14	23	−24	4.17	.05[c]	
Right STG[b]	68	−17	12	4.03	.05	3784

Note:—MNI indicates Montreal Neurologic Institute.
[a] Cluster-level-corrected, aside from footnote c.
[b] Additional effects on MTR images.
[c] ROI analysis of the olfactory cortex, which was voxel-level corrected.
[d] and Patient subgroup in H&Y stage 1 (n = 9).
[e] Patient subgroup in H&Y stage 2 (n = 13).
[f] Patient subgroup in H&Y stages 3 and 4 (n = 14).

On-line Table 3: Midbrain density, volume, and MTR: group comparisons[b]

	MNI coordinates				
	X	Y	Z	*Z* Value	*P* FWE-Corrected[a]
Control (n = 23) and patient groups (n = 36)					
No density effects					
Volume effects					
Left SN	−2	−8	−13	3.25	.05
MTR effects					
Left SN	−5	−10	−12	3.34	.05
Right SN[b]	5	−11	−9	2.96	.05
Control group (n = 23)[c]					
No volume, density, or MTR effects					
Control group (n = 23)[d]					
Volume effects					
Left SN	−4	−11	−13	3.53	.01
Density effects					
Left SN	−6	−8	−12	3.79	.01
MTR effects					
Left SN	−6	−9	−12	4.10	.01
Right SN[b]	6	−10	−11	2.80	.05
Control group (n = 23)[e]					
Volume effects					
Left SN	−4	−12	−10	3.17	.05
Density effects					
Left SN	−4	−13	−12	3.15	.05
MTR effects					
Left SN	−4	−12	−10	3.18	.05

Note:—MNI indicates Montreal Neurologic Institute.
[a] ROI analysis of the SN.
[b] Additional effects on MTR images.
[c] and Patient subgroup in H&Y stage 1 (n = 9).
[d] Patient subgroup in H&Y stage 2 (n = 13).
[e] Patient subgroup in H&Y stages 3 and 4 (n = 14).

On-line Table 4: Tissue volume, density, and MTR: correlations with UPDRS score in patient group

	MNI Coordinates					
	X	Y	Z	*Z* Value	*P* FWE-Corrected	Cluster Size (vx)
No correlations with GM/WM volume or density						
Negative correlation with MTR						
Right STG[a]	66	−29	−3	4.16	.05	3405
Right ILF[a]	38	−34	−7	3.87	.05	2218

Note:—MNI indicates Montreal Neurologic Institute.
[a] Additional effects on MTR images.