

Online Supplemental Data

Table 1 The comparisons of CT values between PD and HC group

CT values	ROI	PD group (HU)	HC group (HU)	<i>p</i>	<i>p1</i>
CT values (LFI)	CAL	30.72 ±4.98	30.17 ±4.49	0.626	0.297
	CAR	31.72 ±2.98	31.95 ±3.20	0.752	0.337
	PUL	36.19 ±2.12	36.80 ±1.10	0.146	0.090
	PUR	35.95 ±1.09	36.31 ±0.96	0.156	0.095
	GPL	40.72 ±2.58	38.37 ±1.94	7.0 ×10(-5)	9.4 ×10(-5)
	GPR	42.15 ±2.61	38.08 ±2.39	1.0 ×10(-9)	4.0 ×10(-9)
	SNL	35.73 ±1.58	33.62 ±1.59	4.0 ×10(-7)	8.1 ×10(-7)
	SNR	35.08 ±1.23	34.27 ±1.39	0.010	0.008
	RNL	34.95 ±1.36	34.27 ±1.34	0.038	0.025
	RNR	34.90 ±1.14	33.59 ±2.85	0.009	0.007
CT values (Sn80KVp)	CAL	36.19 ±3.93	36.25 ±4.66	0.955	0.510
	CAR	36.92 ±3.15	37.32 ±4.18	0.648	0.414
	PUL	41.85 ±2.98	42.70 ±2.96	0.233	0.202
	PUR	42.35 ±3.08	42.95 ±2.03	0.355	0.279
	GPL	45.52 ±2.30	43.99 ±2.87	0.014	0.018
	GPR	46.74 ±1.83	45.15 ±2.81	0.005	0.018
	SNL	40.14 ±2.99	38.39 ±3.29	0.021	0.022
	SNR	40.53 ±2.91	38.79 ±2.63	0.011	0.018
	RNL	40.64 ±3.14	39.24 ±2.06	0.034	0.036
	RNR	40.43 ±3.32	38.50 ±2.90	0.012	0.018
CT values (Sn150KVp)	CAL	27.94 ±5.46	27.33 ±3.38	0.581	0.308
	CAR	28.49 ±3.09	28.48 ±2.82	0.994	0.432
	PUL	32.80 ±2.09	32.89 ±1.48	0.836	0.390
	PUR	32.04 ±1.33	32.41 ±0.92	0.189	0.126
	GPL	35.00 ±2.25	34.00 ±1.68	0.041	0.030
	GPR	35.40 ±2.24	34.12 ±1.55	0.008	0.009
	SNL	32.72 ±1.73	31.00 ±1.07	7.0 ×10(-6)	3.0 ×10(-5)
	SNR	32.79 ±1.69	31.77 ±1.10	0.004	0.007
	RNL	32.80 ±2.20	31.56 ±1.51	0.009	0.010
	RNR	32.32 ±1.69	31.24 ±2.53	0.034	0.027

LFI, linear fusion image; PD, Parkinson's disease; HC, healthy control; ROI, region of interest; *p1*, the *p* value corrected by False discovery rate; CAL, left caudate nucleus; CAR, right caudate nucleus; PUL, left putamen; PUR, right putamen; GPL, left globus pallidus; GPR, right globus pallidus; SNL, left substantia nigra; SNR, right substantia nigra; RNL, left red nucleus; RNR, right red nucleus.

Table 2 The comparisons of MSVs between PD and HC group

ROI	PD group (ppm)	HC group (ppm)	<i>p</i>	<i>p</i> ₁
CAL	0.027±0.010	0.027±0.005	0.729	0.419
CAR	0.030±0.008	0.030±0.005	0.638	0.392
PUL	0.029±0.012	0.029±0.007	0.798	0.439
PUR	0.029±0.013	0.028±0.010	0.782	0.434
GPL	0.073±0.022	0.060±0.020	0.011	0.026
GPR	0.079±0.021	0.068±0.020	0.039	0.048
SNL	0.075±0.029	0.057±0.035	0.018	0.030
SNR	0.074±0.030	0.052±0.031	0.003	0.015
RNL	0.049±0.018	0.043±0.013	0.130	0.129
RNR	0.052±0.018	0.048±0.013	0.355	0.277

MSV, magnetic sensitivity value; PD, Parkinson's disease; HC, healthy control; ROI, region of interest; *p*₁, the *p* value corrected by False discovery rate; CAL, left caudate nucleus; CAR, right caudate nucleus; PUL, left putamen; PUR, right putamen; GPL, left globus pallidus; GPR, right globus pallidus; SNL, left substantia nigra; SNR, right substantia nigra; RNL, left red nucleus; RNR, right red nucleus.

Table 3 The AUC of the parameters in diagnosing PD

Variables	AUC	Standard error	<i>p</i>	<i>p</i> 1
MSV-GPR	0.632	0.068	0.057	0.072
MSV-GPL	0.666	0.064	0.016	0.027
MSV-SNR	0.732	0.060	0.001	0.005
MSV-SNL	0.676	0.066	0.011	0.024
CT-LFI-GPR	0.912	0.036	$2.6 \times 10^{(-9)}$	$6.5 \times 10^{(-9)}$
CT-LFI-GPL	0.766	0.058	$1.2 \times 10^{(-4)}$	$9.8 \times 10^{(-5)}$
CT-LFI-SNR	0.650	0.066	0.030	0.012
CT-LFI-SNL	0.842	0.048	$7.7 \times 10^{(-7)}$	$9.6 \times 10^{(-7)}$
CT-LFI-RNR	0.715	0.061	0.002	0.001
CT-LFI-RNL	0.650	0.065	0.030	0.012
CT-80kvp-GPR	0.699	0.065	0.004	0.015
CT-80kvp-GPL	0.667	0.065	0.016	0.020
CT-80kvp-SNR	0.677	0.063	0.011	0.019
CT-80kvp-SNL	0.658	0.067	0.023	0.022
CT-80kvp-RNR	0.638	0.065	0.046	0.035
CT-80kvp-RNL	0.611	0.066	0.108	0.069
CT-150kvp-GPR	0.705	0.062	0.003	0.002
CT-150kvp-GPL	0.629	0.067	0.061	0.029
CT-150kvp-SNR	0.686	0.062	0.007	0.004
CT-150kvp-SNL	0.806	0.051	$9.0 \times 10^{(-6)}$	$2.5 \times 10^{(-5)}$
CT-150kvp-RNR	0.711	0.062	0.002	0.002
CT-150kvp-RNL	0.775	0.056	$7.0 \times 10^{(-5)}$	$9.9 \times 10^{(-5)}$

AUC, area under the curve; PD, Parkinson's disease; *p*1, the *p* value corrected by False discovery rate; MSV, magnetic sensitivity value; GPR, right globus pallidus; GPL, left globus pallidus; SNR, right substantia nigra; SNL, left substantia nigra; LFI, linear fusion image; RNR, right red nucleus; RNL, left red nucleus; CT-80kvp, CT values based on 80kvp tube voltage; CT-150kvp, CT values based on 150kvp tube voltage.

Table 4 The correlations of MSVs and CT values for PD patients

	ROI	r	<i>p</i>	<i>p</i> 1
MSVs and CT values (Sn150KVp)	CAL	0.089	0.580	0.604
	CAR	0.203	0.204	0.349
	PUL	-0.252	0.111	0.226
	PUR	-0.077	0.630	0.624
	GPL	0.511	0.001	0.007
	GPR	0.466	0.002	0.007
	SNL	0.273	0.084	0.192
	SNR	0.039	0.809	0.680
	RNL	-0.165	0.303	0.444
	RNR	-0.058	0.718	0.654
MSVs and CT values (80KVp)	CAL	0.186	0.245	0.314
	CAR	-0.210	0.187	0.279
	PUL	-0.095	0.553	0.479
	PUR	-0.045	0.779	0.564
	GPL	0.617	$1.8 \times 10^{(-5)}$	$1.1 \times 10^{(-4)}$
	GPR	0.550	$2.0 \times 10^{(-4)}$	$6.2 \times 10^{(-4)}$
	SNL	0.170	0.289	0.335
	SNR	0.159	0.322	0.349
	RNL	0.029	0.856	0.587
	RNR	-0.075	0.641	0.516
MSVs and CT values (LFI)	CAL	-0.073	0.650	0.250
	CAR	0.287	0.069	0.067
	PUL	-0.227	0.153	0.103
	PUR	0.033	0.837	0.301
	GPL	0.563	$1.3 \times 10^{(-4)}$	$4.4 \times 10^{(-4)}$
	GPR	0.524	$4.3 \times 10^{(-4)}$	$7.3 \times 10^{(-4)}$
	SNL	0.200	0.210	0.119
	SNR	0.265	0.094	0.080
	RNL	0.152	0.343	0.150
	RNR	0.151	0.346	0.151

MSV, magnetic sensitivity value; ROI, region of interest; *p*1, the *p* value corrected by False discovery rate; CAL, left caudate nucleus; CAR, right caudate nucleus; PUL, left putamen; PUR, right putamen; GPL, left globus pallidus; GPR, right globus pallidus; SNL, left substantia nigra; SNR, right substantia nigra; RNL, left red nucleus; RNR, right red nucleus; LFI, linear fusion image.