

Table S1 ICC coefficient for the ROI measurements: HCs, right, and left hemibrain

ROI	Right hemibrain ICC (95% CI)	Left hemibrain ICC (95% CI)
CN head	0.912 (0.847–0.953)	0.944 (0.902–0.971)
GP	0.919 (0.859–0.957)	0.907(0.840–0.950)
PU	0.934 (0.878–0.966)	0.937 (0.890–0.967)
TH	0.886 (0.805–0.939)	0.934 (0.884–0.965)
RN	0.972 (0.951–0.986)	0.979 (0.958–0.990)
SN	0.978 (0.960–0.988)	0.878 (0.792–0.934)
DN	0.872 (0.779–0.932)	0.981 (0.967–0.990)
WMH	0.853 (0.753–0.920)	0.906 (0.838–0.950)

CI, confidence interval; CN, caudate nucleus; DN, dentate nucleus; GP, globus pallidus; HCs, healthy controls; ICC, intra-class correlation; PU, putamen; RN, red nucleus; ROI, region of interest; SN, substantia nigra; TH, thalamus; WMH, white matter hyperintensity.

Table S2 ICC coefficient for the ROI measurements: patients with HTN, right, and left hemibrain

ROI	Right Hemibrain ICC (95% CI)	Left Hemibrain ICC (95% CI)
CN head	0.888 (0.849–0.919)	0.901 (0.866–0.928)
GP	0.897 (0.861–0.925)	0.938 (0.916–0.956)
PU	0.966 (0.953–0.975)	0.948 (0.928–0.962)
TH	0.855 (0.806–0.894)	0.822 (0.764–0.870)
RN	0.876 (0.832–0.911)	0.889 (0.849–0.920)
SN	0.951 (0.931–0.965)	0.926 (0.896–0.948)
DN	0.914 (0.880–0.940)	0.939 (0.917–0.957)
WMH	0.851 (0.800–0.891)	0.838 (0.785–0.881)

CI, confidence interval; CN, caudate nucleus; DN, dentate nucleus; GP, globus pallidus; HTN, hypertension; ICC, intra-class correlation; PU, putamen; RN, red nucleus; ROI, region of interest; SN, substantia nigra; TH, thalamus; WMH, white matter hyperintensity.

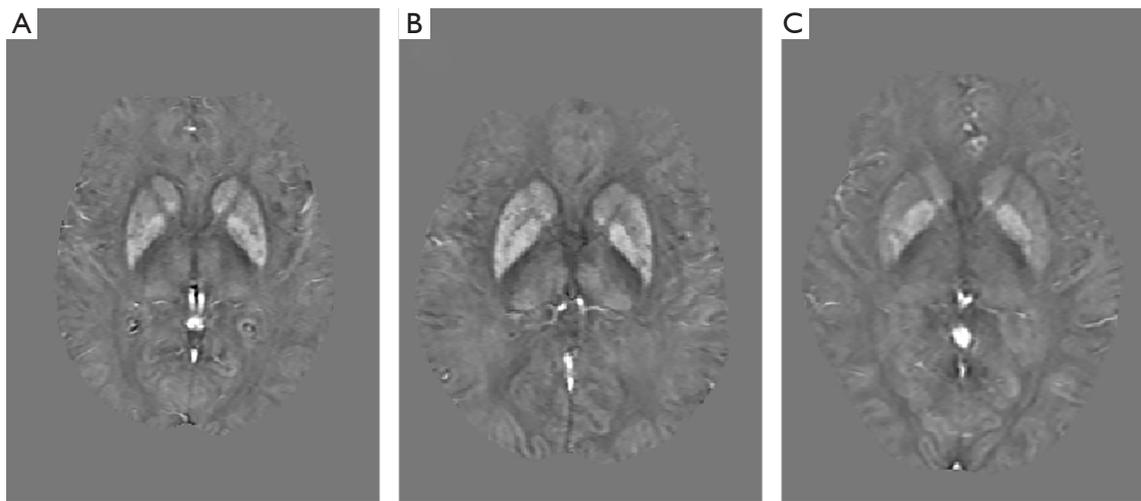


Figure S1 The difference of RI susceptibilities (ppb) among HTN-CI, HTN-NCI, and HCs. (A) A 62-year-old male patient with HTN-CI and simple CSVD scores for one; (B) a 62-year-old male patient with HTN-NCI and simple CSVD scores for two; (C) a 63-year-old female HCs and simple CSVD scores for one. The bilateral CN and PU presented greater susceptibilities in HTN-CI (A) and HTN-NCI (B) than in HCs (C). CN, caudate nucleus; CSVD, cerebral small vessel disease; HCs, healthy controls; HTN-CI, hypertension with cognitive impairment; HTN-NCI, hypertension without cognitive impairment; ppb, parts per billion; PU, putamen; RI, global region.

Table S3 Comparison of RI and RII susceptibilities (ppb) in clustering of regions among the three groups

ROI	RI analysis				RII analysis			
	HTN-CI (n=55)	HTN-NCI (n=50)	HCs (n=31)	Corrected P value	HTN-CI (n=55)	HTN-NCI (n=50)	HCs (n=31)	Corrected P value
Neostriatum	57.90±14.99	49.78±16.86	46.08±8.30	0.004 ^{†§}	93.87±14.21	87.88±10.79	82.72±8.00	0.004 ^{†§}
Lenticular nucleus	107.84±27.77	94.71±21.01	95.32±15.07	0.019 ^{†§}	139.21±16.08	136.47±14.31	131.16±10.24	0.061
Basal ganglia	86.87±19.78	76.53±16.94	77.50±12.37	0.010 ^{†‡}	122.23±13.49	118.12±11.63	113.59±9.65	0.014 ^{†§}
Midbrain	138.61±30.25	128.98±31.37	139.17±24.30	0.178	175.99±18.62	173.87±19.11	170.19±14.66	0.360

Data are presented as the mean ± standard deviation. Neostriatum was defined as CN head and PU. Lenticular nucleus was defined as PU and GP. Basal ganglia was defined as CN head, PU, and GP. Midbrain was defined as RN and SN. [†], significant after correction using the false discovery rate. [‡], significant differences between the HTN-CI and HTN-NCI. [§], significant differences between the HTN-CI and HCs. CN, caudate nucleus; GP, globus pallidus; HCs, healthy controls; HTN-CI, hypertension with cognitive impairment; HTN-NCI, hypertension without cognitive impairment; ppb, parts per billion; PU, putamen; RI, global region; RII, high-iron content region; RN, red nucleus; ROI, region of interest; SN, substantia nigra.