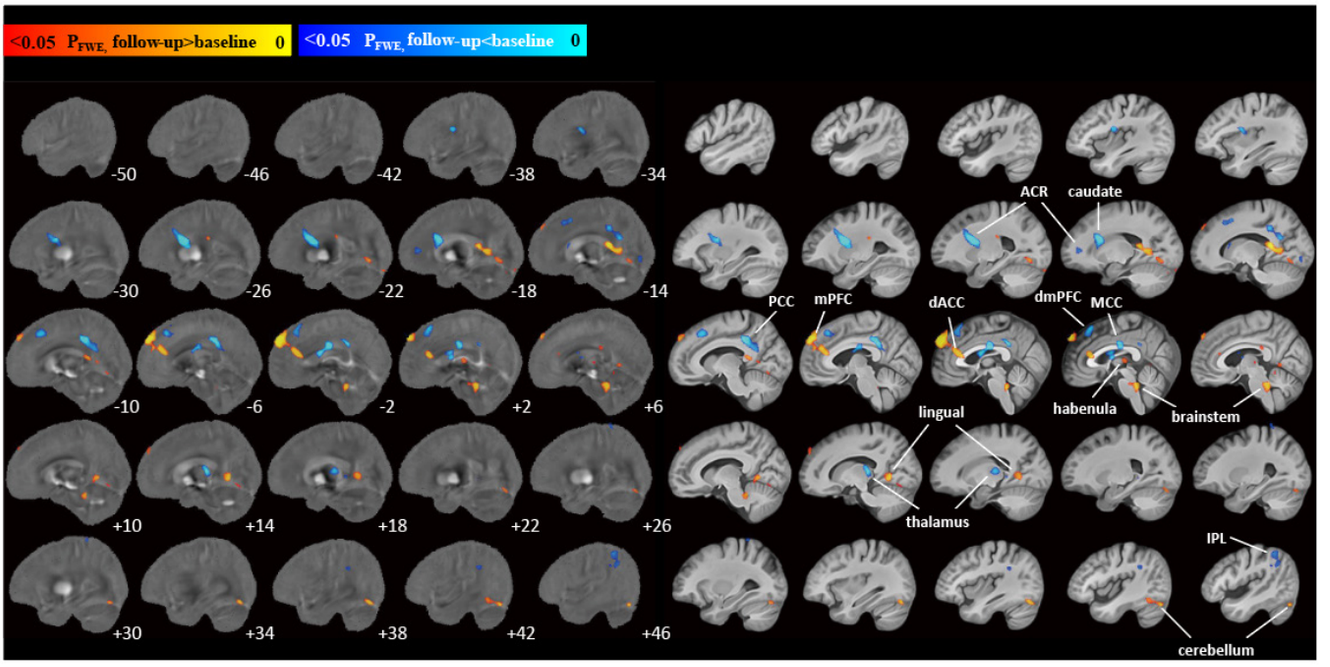

Figure S1 The sagittal projections of the whole-brain susceptibility values change around one year in the patients overlaid on the QSM template and the T1 template in the MNI space by voxel-wise analysis. The red/yellow clusters represent a higher susceptibility value in the follow-up/the second visit (P<0.05, FWE corrected). The blue/light blue clusters represent a lower susceptibility value in the follow-up/the second visit (P<0.05, FWE corrected). The numbers represent the sagittal coordinates of the slice in millimeters in MNI coordinate space. (P<0.05, FWE corrected). FWE, family-wise error; ACR, anterior corona radiata; PCC, posterior cingulate cortex; mPFC, medial prefrontal cortex; dACC, dorsal anterior cingulate cortex; dmPFC, dorsal medial prefrontal cortex; MCC, middle cingulate cortex; IPL, inferior parietal lobule; QSM, quantitative susceptibility mapping; MNI, Montreal Neurological Institute.

Table S1 Brain areas showed increased QSM value after an approximately one-year duration in the depressive patients (P<0.05, FWE corrected)

Cluster index	Peak MNI coordinates (x mm, y mm, z mm)	Peak intensity	Cluster's voxel number	Anatomical name	Brodmann area
Cluster #1 (mPFC and dACC)	(–3, 58, 35)	0.997	5,548	Cingulum_Ant_sup_L, Cingulum_Ant_sup_R, Frontal_Sup_Medial_L, Frontal_Sup_Medial_R, Frontal_Sup_R, Frontal_Sup_L	BA6, 8, 9, 10, 24, 32
Cluster #2 (middle cingulate)	(6, –31, 26)	0.962	88	Cingulum_Mid_R	BA23
Cluster #3 (left lingual)	(–21, –71, –7)	0.978	664	Lingual_L, Cerebelum_6_L	BA18, 19
Cluster #4 (right lingual)	(13, –57, –1)	0.991	1,345	Cerebelum_4_5_R, Lingual_R, Calcarine_R, Vermis_4_5	BA18, 19, 29, 30
Cluster #5 (right lingual)	(11, –70, –9)	0.960	110	Cerebelum_6_R, Lingual_R	BA18, 19
Cluster #6 (white matter and left calcarine)	(–15, –42, 14)	0.996	2,109	Corpus_Callosum_Splenium _L, Calcarine_L, Cingulum_Post_L, Precuneus_L	BA18, 29, 30
Cluster #7 (habenula)	(3, –21, 8)	0.973	247	Thalamus_L, Thalamus_R	–
Cluster #8 (brainstem and cerebellum)	(1, –38, –27)	0.992	1,575	Cerebelum_3_R, Vermis_1_2	–
Cluster #9 (cerebellum and fusiform)	(38, –72, –18)	0.991	1,461	Cerebelum_Crus1_R, Fusiform_R, Cerebelum_6_R, Temporal_Inf_R	BA18, 19, 37
Cluster #10 (cerebellum)	(–19, –81, –25)	0.955	13	Cerebelum_Crus1_L	–
Cluster #11 (cerebellum)	(–21, –92, –22)	0.970	75	Cerebelum_Crus1_L	–
Cluster #12 (white matter)	(–25, –28, 24)	0.978	155	Posterior_Corona_Radiata_L	–

The anatomical name indicates the names of the Automated Anatomical Labeling (3rd version) or ICBM DTI-81 atlases. QSM, quantitative susceptibility mapping; FWE, family-wise error; MNI, Montreal Neurological Institute; mPFC, medial prefrontal cortex; dACC, dorsal anterior cingulate cortex.

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Table S2 Brain areas showed decreased QSM value after an approximately one-year duration in the depressive patients (P<0.05, FWE corrected)

Cluster index	Peak MNI coordinates (x mm, y mm, z mm)	Peak intensity	Cluster's voxel number	Anatomical name	Brodmann area
Cluster #1 (dmPFC)	(2, 29, 52)	0.987	2,566	Frontal_Sup_Medial_R, Frontal_Sup_Medial_L, Supp_Motor_Area_L, Frontal_Sup_L	BA6, 8, 32
Cluster #2 (MCC)	(–1, –14,31)	0.997	2,389	Cingulum_Mid_L, Cingulum_Mid_R	BA23, 24
Cluster #3 (MCC and PCC)	(–6, –38, 37)	0.999	3,117	Cingulum_Mid_L, Cingulum_Mid_R, Cingulum_Post_L, Cingulum_Post_R	BA31
Cluster #4 (right postcentral)	(28, –43, 72)	0.968	211	Postcentral_R	BA2, 5
Cluster #5 (right inferior parietal)	(47, –46, 51)	0.979	755	Parietal_Inf_R	BA40
Cluster #6 (right precuneus)	(16, –38, 3)	0.962	75	Precuneus_R	BA30
Cluster #7 (right supramarginal)	(42, –41, 32)	0.962	320	SupraMarginal_R	BA40
Cluster #8 (left lingual)	(–14, –85, –7)	0.964	133	Lingual_L	BA17
Cluster #9 (right thalamus)	(14, –26, 10)	0.996	956	Thalamus_R	–
Cluster #10 (left dorsal striatum and white matter)	(–23, 8, 22)	0.9996	5,295	Caudate_L, Putamen_L, Rolandic_Oper_L, Insula_L, Anterior_Corona_Radiata_L	–
Cluster #11 (white matter)	(–18, 44, 6)	0.970	246	Anterior_Corona_Radiata_L	–

The anatomical name indicates the names of the Automated Anatomical Labeling (3rd version) or ICBM DTI-81 atlases. QSM, quantitative susceptibility mapping; FWE, family-wise error; MNI, Montreal Neurological Institute; dmPFC, dorsal medial prefrontal cortex; MCC, middle cingulate cortex; PCC, posterior cingulate cortex.

Table S3 Correlations between the increases in QSM measures and the changes in clinical measurements

Cluster index	Partial Spearman correlation [r (P)]				
	HAMD-17	HAMD-24	HAMA	MMSE	MoCA
Cluster #1 (mPFC and dACC)	–0.613 (0.009)	–0.542 (0.025)	–0.343 (0.178)	–0.166 (0.523)	–0.308 (0.229)
Cluster #2 (middle cingulate)	–0.237 (0.359)	–0.195 (0.454)	–0.161 (0.538)	0.042 (0.874)	–0.105 (0.690)
Cluster #3 (left lingual)	–0.153 (0.557)	–0.107 (0.682)	0.097 (0.710)	–0.410 (0.102)	0.132 (0.613)
Cluster #4 (right lingual)	–0.109 (0.678)	–0.113 (0.666)	0.111 (0.671)	–0.408 (0.104)	0.000 (0.999)
Cluster #5 (right lingual)	–0.166 (0.525)	–0.230 (0.374)	0.044 (0.867)	–0.016 (0.951)	–0.100 (0.703)
Cluster #6 (white matter and left calcarine)	–0.287 (0.264)	–0.181 (0.490)	–0.227 (0.380)	–0.472 (0.055)	–0.046 (0.860)
Cluster #7 (habenula)	–0.024 (0.927)	–0.029 (0.912)	–0.236 (0.362)	–0.588 (0.013)	–0.008 (0.974)
Cluster #8 (brainstem and cerebellum)	–0.153 (0.559)	–0.118 (0.652)	–0.141 (0.589)	–0.230 (0.375)	0.119 (0.648)
Cluster #9 (cerebellum and fusiform)	–0.221 (0.395)	–0.166 (0.525)	0.019 (0.943)	–0.038 (0.885)	–0.220 (0.395)
Cluster #10 (cerebellum)	–0.154 (0.555)	0.018 (0.946)	–0.316 (0.217)	–0.500 (0.041)	0.423 (0.091)
Cluster #11 (cerebellum)	0.035 (0.893)	0.143 (0.584)	0.117 (0.655)	0.164 (0.528)	0.322 (0.208)
Cluster #12 (white matter)	–0.358 (0.158)	–0.193 (0.459)	–0.282 (0.273)	–0.288 (0.266)	–0.062 (0.814)

The r and P values are from partial Spearman correlation analyses adjusting for age, gender, and the interval between two visits. QSM, quantitative susceptibility mapping; HAMD, Hamilton Depression Scales; HAMA, Hamilton Anxiety Scale; MMSE, Mini-Mental State Examination; MoCA, Montreal Cognitive Assessment; mPFC, medial prefrontal cortex; dACC, dorsal anterior cingulate cortex.

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Table S4 Correlations between the decreases in QSM measures and the changes in clinical measurements

Cluster index	Partial Spearman correlation [r (P)]				
	HAMD-17	HAMD-24	HAMA	MMSE	MoCA
Cluster #1 (dmPFC)	−0.014 (0.958)	−0.035 (0.666)	0.056 (0.832)	0.080 (0.761)	0.225 (0.385)
Cluster #2 (MCC)	−0.190 (0.465)	−0.093 (0.722)	−0.155 (0.554)	−0.139 (0.594)	0.046 (0.862)
Cluster #3 (MCC and PCC)	−0.276 (0.283)	−0.169 (0.516)	−0.004 (0.987)	−0.189 (0.467)	−0.007 (0.979)
Cluster #4 (right postcentral)	−0.375 (0.138)	−0.391 (0.121)	−0.406 (0.106)	−0.188 (0.469)	−0.347 (0.172)
Cluster #5 (right inferior parietal)	−0.355 (0.162)	−0.278 (0.280)	−0.180 (0.489)	0.211 (0.416)	−0.182 (0.486)
Cluster #6 (right precuneus)	−0.165 (0.526)	−0.149 (0.568)	−0.162 (0.534)	−0.174 (0.504)	0.129 (0.620)
Cluster #7 (right supramarginal)	−0.225 (0.385)	−0.270 (0.295)	−0.022 (0.933)	−0.352 (0.166)	−0.029 (0.913)
Cluster #8 (left lingual)	0.055 (0.834)	−0.013 (0.960)	0.283 (0.271)	−0.613 (0.009)	0.450 (0.070)
Cluster #9 (right thalamus)	0.064 (0.809)	0.055 (0.833)	0.180 (0.489)	−0.517 (0.033)	0.072 (0.782)
Cluster #10 (left dorsal striatum and white matter)	−0.100 (0.703)	0.041 (0.877)	−0.009 (0.973)	0.066 (0.800)	−0.181 (0.486)
Cluster #11 (white matter)	−0.541 (0.025)	−0.500 (0.041)	−0.120 (0.646)	0.015 (0.953)	0.230 (0.375)

The r and P values are from partial Spearman correlation analyses adjusting for age, gender, and the interval between two visits. QSM, quantitative susceptibility mapping; HAMD, Hamilton Depression Scales; HAMA, Hamilton Anxiety Scale; MMSE, Mini-Mental State Examination; MoCA, Montreal Cognitive Assessment; dmPFC, dorsal medial prefrontal cortex; MCC, middle cingulate cortex; PCC, posterior cingulate cortex.

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