



ON-LINE FIG 1. White matter skeleton masks. Mean skeleton masks for FA, mean, axial, and radial diffusivity overlaid on the Montreal Neurological Institute 151.1-mm standard image, representing the white matter tract geometry and fiber bundle centers.

On-line Table 1: Clinical and MRI findings of patients and controls

	Patients	Controls
Age (yr)	15.07 ± 1.6	14.7 ± 1.7
Sex (M/F)	3/11	3/11
Disease duration (mean) (yr)	1.72 ± 0.89	NA
Disease duration (median) (yr)	1.37	NA
EDSS (mean)	0.75 ± 1.2	NA
No. of patients with EDSS = 0	9/14	14/14
Lesion-load supratentorial mean	3.25 ± 0.96	NA
Lesion-load infratentorial mean	2.5 ± 0.76	NA
No. of patients with periventricular lesions	11/14	NA
No. of patients with subcortical lesions	8/14	NA
No. of patients with brain stem lesions	7/14	NA
No. of patients with cerebellar lesions	10/14	NA

Note:—EDSS indicate Expanded Disability Status Scale; NA, not applicable.

On-line Table 2: Diffusion parameters in TBSS analysis^a

Cluster No.	Region	Diffusion Parameters				
		Max. P Value	No. of Voxels	Coordinates		
				X	Y	Z
FA^b						
1	R/L splenium of corp. callosum, R/L body of corp. callosum	.0004	1370	2	-36	18
2	R posterior thalamic radiation	.0006	780	36	-57	7
3	L posterior corona radiata	.0006	434	-27	-53	24
4	R posterior corona radiata	.0008	282	-26	-48	30
5	L cingulate gyrus	.001	211	-10	-28	35
6	R inferior longitudinal fasciculus, inferior fronto-occipital fasciculus	.0006	175	41	-20	-8
7	R posterior thalamic radiation	.001	102	25	-77	14
MD^c						
1	L/R superior corona radiata, L/R anterior corona radiata, L/R superior longitudinal fasciculus	.0002	34807	-29	-18	39
2	L/R body of corp. callosum	.0004	332	-3	-20	22
3	Fornix	.0006	329	4	-17	21
4	L superior corona radiata/superior fronto-occipital fasciculus	.0002	226	-28	1	20
5	R corticospinal tract	.0004	160	8	-30	69
6	L forceps major	.0004	116	-19	-81	28
7	L superior corona radiata	.0004	100	-19	14	36
8	L uncinate fasciculus	.0006	88	-36	-7	-15
AD^c						
1	L anterior corona radiata	.003	1825	-23	27	24
	L corticospinal tract	.002	1300	-17	-24	54
3	R superior longitudinal fasciculus	.002	1215	30	-47	30
4	L superior longitudinal fasciculus	.003	812	-31	-28	37
5	R superior corona radiata	.003	744	24	5	35
6	L posterior corona radiata	.002	742	-27	-33	29
7	R superior longitudinal fasciculus	.004	479	34	-11	52
8	L superior longitudinal fasciculus	.005	290	-25	-51	31
RD^c						
1	L/R superior corona radiata, L/R anterior corona radiata, L/R superior longitudinal fasciculus	.0002	31149	19	-1	37
2	R anterior corona radiata	.0004	1248	24	23	22
3	L/R body of corp. callosum, L/R splenium corp. callosum	.0004	350	-11	-40	22
4	L/R anterior thalamic radiation	.0008	292	4	-17	21
5	L corticospinal tract	.0008	265	-13	-25	67
6	L inferior longitudinal fasciculus, L inferior fronto-occipital fasciculus	.0002	174	-42	-24	-12
7	R superior corona radiata, R external capsule	.0002	166	29	-1	19
8	L superior corona radiata, L external capsule	.0002	166	-28	1	19

Note:—R indicates right; L, left; Max., maximum; corp., corpus.

^a >Significant differences within the skeleton between healthy controls and patients with MS. Results are corrected for multiple comparisons across voxels. Coordinates are given in FMRIB58 FA standard space.

^b Healthy controls > patients with MS, $P \leq .001$.

^c Healthy controls < patients with MS, $P \leq .001$.