

ON-LINE APPENDIX

DTI Acquisition Scheme

The main goal of using multiple b-values when acquiring DTI data is to exploit their complementary information in the diffusion tensor estimation. In particular, low b-values (ie, $b=300 \text{ s/mm}^2$) are characterized by a high signal-to-noise ratio while at high b-values, images have a more important diffusion-weighting. Thus, combining low and high b-values results in a better characterization of the diffusion tensor and consequently allows a more precise estimate of the diffusion parameters (ie, FA, MD, AD, RD). Due to software limitations, we acquired the multiple b-value data using 3 independent sequences that share the same FOV and geometric parameters. In particular, we acquired the following sequences:

Sequence 1: 6 directions with $b=0 \text{ s/mm}^2$ and 6 directions with $b=1100 \text{ s/mm}^2$.

Sequence 2: 1 direction with $b=0 \text{ s/mm}^2$, 15 directions with $b=300 \text{ s/mm}^2$, 15 directions with $b=1100 \text{ s/mm}^2$.

Sequence 3: 1 direction with $b=0 \text{ s/mm}^2$, 32 directions with $b=1100 \text{ s/mm}^2$.

On-Table 1: Pattern of damage for patients with CP at conventional MRI

	Ventricular Enlargement	WM Damage	CC Thinning	Global Brain Damage
Mild	17	12	17	16
Moderate	7	12	8	7
Severe	1	1	0	2

Note:—CC indicates corpus callosum.

One possible problem with this acquisition protocol is that there could be a difference in the signal intensity among sequences due to a different gain setup of the receiver amplifiers. To limit this issue, we managed to concatenate the sequence acquisition and turn off the amplifier gain optimization step in sequences 2 and 3. Moreover, we included multiple volumes with the same b-value (ie, $b=1100 \text{ s/mm}^2$) in each sequence to check and, eventually, correct for it. After the acquisition and intensity check, the data can be merged and elaborated as they are acquired with a single sequence.

On-line Table 2: Mean FA values in the 43 tracts for patients with CP and HCs

	FA (Mean)	
	Patients	Controls
Cerebellar peduncles-inferior		
ICP R	0.495 ± 0.041	0.539 ± 0.047
ICP L	0.484 ± 0.040 ^a	0.536 ± 0.048 ^a
Cerebellar peduncles-middle		
MCP	0.502 ± 0.024	0.524 ± 0.033
Cerebellar peduncles-superior		
SCP R	0.491 ± 0.040 ^a	0.590 ± 0.032 ^a
SCP L	0.485 ± 0.042 ^a	0.595 ± 0.033 ^a
Corticospinal tract		
CST R	0.468 ± 0.043 ^a	0.535 ± 0.032 ^a
CST L	0.489 ± 0.042 ^a	0.536 ± 0.030 ^a
Internal capsule		
ALIC R	0.519 ± 0.053	0.557 ± 0.036
ALIC L	0.511 ± 0.052	0.537 ± 0.034
PLIC R	0.626 ± 0.034	0.655 ± 0.036
PLIC L	0.641 ± 0.035	0.658 ± 0.034
External capsule		
EC R	0.393 ± 0.031 ^a	0.437 ± 0.032 ^a
EC L	0.388 ± 0.029 ^a	0.437 ± 0.030 ^a
Thalamic radiations		
ATR R	0.346 ± 0.038 ^a	0.384 ± 0.027 ^a
ATR L	0.363 ± 0.044	0.395 ± 0.026
PTR R	0.473 ± 0.082 ^a	0.583 ± 0.037 ^a
PTR L	0.452 ± 0.090 ^a	0.584 ± 0.036 ^a
Forceps		
FOMa	0.418 ± 0.083	0.504 ± 0.037
FOMi	0.370 ± 0.033	0.407 ± 0.027
Inferior occipital fasciculus		
IFO R	0.401 ± 0.042	0.440 ± 0.031
IFO L	0.411 ± 0.046	0.452 ± 0.032
Inferior longitudinal fasciculus		
ILF R	0.384 ± 0.036	0.415 ± 0.030
ILF L	0.357 ± 0.043	0.393 ± 0.026
Superior longitudinal fasciculus		
SLF R	0.335 ± 0.038 ^a	0.384 ± 0.035 ^a
SLF L	0.329 ± 0.037 ^a	0.374 ± 0.030 ^a
SLF-T R	0.420 ± 0.057	0.482 ± 0.039
SLF-T L	0.392 ± 0.050	0.447 ± 0.035
Uncinate fasciculus		
UF R	0.389 ± 0.027	0.409 ± 0.037
UF L	0.394 ± 0.029	0.423 ± 0.032
Corpus callosum		
CC-G	0.565 ± 0.056	0.613 ± 0.038
CC-B	0.508 ± 0.080 ^a	0.618 ± 0.036 ^a
CC-S	0.537 ± 0.097 ^a	0.653 ± 0.032 ^a
Cingulum		
CING-G R	0.358 ± 0.051 ^a	0.426 ± 0.040 ^a
CING-G L	0.389 ± 0.052	0.435 ± 0.043
CING-H R	0.336 ± 0.032 ^a	0.396 ± 0.038 ^a
CING-H L	0.333 ± 0.025 ^a	0.382 ± 0.039 ^a
Fornix		
FOR	0.478 ± 0.050	0.523 ± 0.042
Corona radiata		
ACR R	0.410 ± 0.047	0.445 ± 0.042
ACR L	0.402 ± 0.051	0.442 ± 0.042
SCR R	0.430 ± 0.058 ^a	0.491 ± 0.031 ^a
SCR L	0.431 ± 0.051 ^a	0.497 ± 0.035 ^a
PCR R	0.334 ± 0.087 ^a	0.483 ± 0.043 ^a
PCR L	0.328 ± 0.081 ^a	0.467 ± 0.041 ^a

Note:—ICP indicates inferior cerebellar peduncle; MCP, middle cerebellar peduncle; ALIC, anterior limb of internal capsule; PLIC, posterior limb of internal capsule; EC, external capsule; ATR, anterior thalamic radiation; PTR, posterior thalamic radiation; FOMa, forceps major; FOMi, forceps minor; IFO, inferior fronto-occipital fasciculus; ILF, inferior longitudinal fasciculus; SLF, superior longitudinal fasciculus; SLF-T, temporal part of the superior longitudinal fasciculus UF, uncinate fasciculus; CC-G, genu of the corpus callosum; CC-B, body of the corpus callosum; CC-S, splenium of the corpus callosum; CING-G, cingulate gyrus; CING-H, hippocampal portion of cingulate gyrus; FOR, fornix; ACR, anterior corona radiata; SCR, superior corona radiata; PCR, posterior corona radiata; R, right; L, left.

^a Significant values ($P < .001$).

On-line Table 3: Mean MD, AD, and RD values in the 43 tracts for patients with CP and HCs

	MD (Mean)		AD (Mean)		RD (Mean)	
	Patients	Controls	Patients	Controls	Patients	Controls
Cerebellar peduncles inferior						
ICP R	2.438 ± 0.442	2.199 ± 0.166	1.175 ± 0.148	1.114 ± 0.057	0.632 ± 0.150	0.543 ± 0.060
ICP L	2.172 ± 0.126	2.112 ± 0.140	1.155 ± 0.060	1.174 ± 0.048	0.508 ± 0.046	0.469 ± 0.055
Cerebellar peduncles-middle						
MCP	2.861 ± 0.574	2.271 ± 0.149	1.446 ± 0.173	1.315 ± 0.062	0.708 ± 0.206	0.478 ± 0.050
Cerebellar peduncles-superior						
SCP R	2.869 ± 0.495	2.538 ± 0.226	1.400 ± 0.150	1.369 ± 0.079	0.735 ± 0.185 ^a	0.584 ± 0.078 ^a
SCP L	2.202 ± 0.300	2.176 ± 0.152	1.056 ± 0.090	1.097 ± 0.049	0.573 ± 0.109 ^a	0.539 ± 0.057 ^a
Corticospinal tract						
CST R	2.312 ± 0.146 ^a	2.302 ± 0.147 ^a	1.122 ± 0.053	1.139 ± 0.057	0.595 ± 0.049 ^a	0.581 ± 0.051 ^a
CST L	1.997 ± 0.139	1.952 ± 0.146	1.227 ± 0.051	1.234 ± 0.056	0.385 ± 0.047 ^a	0.359 ± 0.049 ^a
Internal capsula						
ALIC R	3.731 ± 1.272	2.214 ± 0.191	1.615 ± 0.392	1.143 ± 0.074	1.058 ± 0.441	0.536 ± 0.065
ALIC L	2.122 ± 0.106	2.063 ± 0.139	1.134 ± 0.037	1.127 ± 0.049	0.494 ± 0.037	0.468 ± 0.047
PLIC R	3.034 ± 0.388	2.968 ± 0.398	1.568 ± 0.120	1.590 ± 0.122	0.733 ± 0.138	0.689 ± 0.142
PLIC L	2.991 ± 0.662	2.299 ± 0.164	1.471 ± 0.192	1.330 ± 0.060	0.760 ± 0.239	0.484 ± 0.056
External capsula						
EC R	3.019 ± 0.622	2.471 ± 0.209	1.589 ± 0.170	1.497 ± 0.085	0.715 ± 0.230	0.487 ± 0.067
EC L	2.238 ± 0.240	2.081 ± 0.146	1.098 ± 0.064	1.088 ± 0.054	0.570 ± 0.091	0.497 ± 0.051
Thalamic radiations						
ATR R	3.297 ± 0.621	2.589 ± 0.189	1.750 ± 0.147	1.599 ± 0.074	0.773 ± 0.244	0.495 ± 0.062
ATR L	2.418 ± 0.368	2.182 ± 0.154	1.179 ± 0.123	1.109 ± 0.057	0.620 ± 0.126	0.537 ± 0.056
PTR R	2.431 ± 0.186 ^a	2.168 ± 0.131 ^a	1.259 ± 0.072	1.202 ± 0.051	0.586 ± 0.066 ^a	0.483 ± 0.045 ^a
PTR L	2.354 ± 0.180 ^a	2.157 ± 0.131 ^a	1.244 ± 0.067	1.196 ± 0.056	0.555 ± 0.064 ^a	0.480 ± 0.042 ^a
Forceps						
FOMa	2.264 ± 0.158	2.224 ± 0.195	1.041 ± 0.058	1.087 ± 0.074	0.611 ± 0.054	0.568 ± 0.065
FOMi	3.322 ± 0.245	3.083 ± 0.260	1.704 ± 0.074	1.732 ± 0.099	0.809 ± 0.092	0.676 ± 0.084
Inferior fronto-occipital fasciculus						
IFO R	2.035 ± 0.175	2.038 ± 0.144	1.117 ± 0.045	1.148 ± 0.052	0.459 ± 0.070	0.445 ± 0.049
IFO L	3.411 ± 0.304	3.057 ± 0.268	1.731 ± 0.106	1.726 ± 0.095	0.840 ± 0.107	0.666 ± 0.091
Inferior longitudinal fasciculus						
ILF R	3.718 ± 1.200	2.248 ± 0.187	1.617 ± 0.368	1.176 ± 0.071	1.051 ± 0.417	0.536 ± 0.065
ILF L	2.230 ± 0.128	2.144 ± 0.138	1.170 ± 0.065	1.185 ± 0.047	0.530 ± 0.043	0.479 ± 0.054
Superior longitudinal fasciculus						
SLF R	2.273 ± 0.188	2.219 ± 0.144	1.062 ± 0.055	1.075 ± 0.050	0.606 ± 0.070	0.572 ± 0.049
SLF L	2.182 ± 0.216	2.094 ± 0.150	1.037 ± 0.064	1.055 ± 0.052	0.573 ± 0.080	0.520 ± 0.052
SLF-T R	2.264 ± 0.174	2.219 ± 0.143	1.083 ± 0.063	1.092 ± 0.049	0.590 ± 0.060	0.563 ± 0.049
SLF-T L	2.273 ± 0.158	2.271 ± 0.152	1.103 ± 0.056	1.132 ± 0.057	0.585 ± 0.054	0.569 ± 0.052
Uncinate fasciculus						
UF R	2.109 ± 0.131	2.131 ± 0.152	1.013 ± 0.050	1.071 ± 0.057	0.548 ± 0.044	0.530 ± 0.050
UF L	2.128 ± 0.129	2.124 ± 0.146	1.027 ± 0.044	1.068 ± 0.053	0.550 ± 0.046	0.528 ± 0.049
Corpus callosum						
CC-G	2.470 ± 0.328	1.974 ± 0.151	1.227 ± 0.112	1.043 ± 0.066	0.622 ± 0.113	0.465 ± 0.047
CC-B	2.169 ± 0.180	2.171 ± 0.164	1.016 ± 0.060	1.086 ± 0.054	0.577 ± 0.069 ^a	0.543 ± 0.060 ^a
CC-S	2.235 ± 0.169 ^a	2.233 ± 0.191 ^a	1.031 ± 0.067	1.080 ± 0.070	0.602 ± 0.054 ^a	0.577 ± 0.064 ^a
Cingulum						
CING-G R	2.371 ± 0.185	2.362 ± 0.137	1.126 ± 0.057 ^a	1.162 ± 0.045 ^a	0.622 ± 0.066	0.600 ± 0.048
CING-G L	2.546 ± 0.353	2.425 ± 0.199	1.461 ± 0.118	1.466 ± 0.071	0.543 ± 0.120	0.479 ± 0.067
CING-H R	2.297 ± 0.214	2.201 ± 0.150	1.126 ± 0.065	1.127 ± 0.049	0.586 ± 0.079	0.537 ± 0.052
CING-H L	2.253 ± 0.205	2.196 ± 0.133	1.008 ± 0.064	1.028 ± 0.044	0.622 ± 0.072	0.584 ± 0.046
Fornix						
FOR	1.959 ± 0.132	1.939 ± 0.139	1.224 ± 0.049	1.227 ± 0.057	0.368 ± 0.046	0.356 ± 0.045
Corona radiata						
ACR R	2.444 ± 0.390	1.980 ± 0.152	1.209 ± 0.141	1.050 ± 0.064	0.617 ± 0.127	0.465 ± 0.049
ACR L	2.019 ± 0.150	2.011 ± 0.142	1.120 ± 0.040	1.156 ± 0.053	0.450 ± 0.061	0.428 ± 0.049
SCR R	2.273 ± 0.200 ^a	2.175 ± 0.136 ^a	1.025 ± 0.061 ^a	1.030 ± 0.041 ^a	0.624 ± 0.071 ^a	0.573 ± 0.050 ^a
SCR L	2.381 ± 0.232 ^a	2.243 ± 0.132 ^a	1.159 ± 0.077 ^a	1.138 ± 0.045 ^a	0.611 ± 0.082 ^a	0.552 ± 0.046 ^a
PCR R	2.562 ± 0.539 ^a	2.275 ± 0.159 ^a	1.173 ± 0.166 ^a	1.095 ± 0.054 ^a	0.695 ± 0.187 ^a	0.590 ± 0.054 ^a
PCR L	2.554 ± 0.434 ^a	2.308 ± 0.150 ^a	1.158 ± 0.132 ^a	1.096 ± 0.05 ^a	0.698 ± 0.15 ^a	0.606 ± 0.051 ^a

Note:—ICP indicates inferior cerebellar peduncle; MCP, middle cerebellar peduncle; ALIC, anterior limb of internal capsule; PLIC, posterior limb of internal capsule; EC, external capsule; ATR, anterior thalamic radiation; PTR, posterior thalamic radiation; FOMa, forceps major; FOMi, forceps minor; IFO, inferior fronto-occipital fasciculus; ILF, inferior longitudinal fasciculus; SLF, superior longitudinal fasciculus; SLF-T, temporal part of the superior longitudinal fasciculus; UF, uncinate fasciculus; CC-G, genu of the corpus callosum; CC-B, body of the corpus callosum; CC-S, splenium of the corpus callosum; CING-G, cingulate gyrus; CING-H, hippocampal portion of cingulate gyrus; FOR, fornix; ACR, anterior corona radiata; SCR, superior corona radiata; PCR, posterior corona radiata; R, right; L, left.

^a Significant values ($P < .001$).

On-line Table 4: Correlations between GMFCS and DTI metrics in WM tracts

Tract	FA		MD		AD		RD	
	r	P	r	P	r	P	r	P
Cerebellar peduncles-inferior								
ICP R	-0.50	.01 ^a	0.04	.86	-0.30	.14	0.20	.35
ICP L	-0.37	.07	-0.23	.28	-0.45	.02 ^a	0.01	.98
Cerebellar peduncles-middle								
MCP	0.01	.97	-0.16	.44	-0.14	.50	-0.21	.32
Cerebellar peduncles-superior								
SCP R	0.01	.97	-0.25	.24	-0.34	.10	-0.19	.36
SCP L	0.03	.89	-0.33	.10	-0.42	.04 ^a	-0.26	.20
Corticospinal tract								
CST R	-0.52	.01 ^a	0.23	.27	-0.08	.72	0.29	.16
CST L	-0.51	.01 ^a	0.32	.11	0.17	.42	0.37	.07
Internal capsula								
ALIC R	-0.28	.18	0.18	.38	-0.03	.88	0.28	.17
ALIC L	-0.25	.23	0.21	.31	0.12	.57	0.27	.20
PLIC R	-0.30	.15	0.27	.19	0.20	.34	0.30	.15
PLIC L	-0.06	.78	0.11	.59	0.12	.57	0.08	.71
External capsula								
EC R	-0.45	.02 ^a	0.25	.24	0.02	.91	0.33	.11
EC L	-0.36	.08	0.13	.54	-0.13	.53	0.16	.44
Thalamic radiations								
ATR R	-0.35	.09	0.18	.40	0.17	.40	0.16	.46
ATR L	-0.39	.06	0.29	.17	0.28	.18	0.27	.20
PTR R	-0.48	.02 ^a	0.35	.09	0.32	.12	0.36	.08
PTR L	-0.52	.01 ^a	0.49	.01 ^a	0.46	.02 ^a	0.48	.02 ^a
Forceps								
FOMa	-0.37	.07	0.29	.16	0.07	.74	0.34	.10
FOMi	-0.45	.02 ^a	0.19	.36	-0.03	.90	0.21	.30
Inferior fronto-occipital fasciculus								
IFO R	-0.43	.03 ^a	0.31	.13	0.23	.26	0.32	.12
IFO L	-0.42	.04 ^a	0.40	.05	0.32	.12	0.40	.05 ^a
Inferior longitudinal fasciculus								
ILF R	-0.50	.01 ^a	0.42	.04 ^a	0.32	.12	0.46	.02 ^a
ILF L	-0.40	.05	0.41	.04 ^a	0.36	.08	0.40	.05 ^a
Superior longitudinal fasciculus								
SLF R	-0.57	.00 ^a	0.37	.07	0.33	.10	0.39	.06
SLF L	-0.48	.01 ^a	0.32	.12	0.22	.29	0.39	.06
SLF-T R	-0.56	.00 ^a	0.48	.01 ^a	0.45	.02 ^a	0.49	.01 ^a
SLF-T L	-0.53	.01 ^a	0.38	.06	0.21	.31	0.45	.02 ^a
Uncinate fasciculus								
UF R	-0.24	.25	0.25	.23	0.31	.14	0.22	.29
UF L	-0.50	.01 ^a	0.28	.18	0.08	.72	0.33	.11
Corpus callosum								
CC-G	-0.20	.33	0.11	.62	0.04	.84	0.14	.49
CC-B	-0.46	.02 ^a	0.37	.07	0.25	.23	0.39	.05
CC-S	-0.43	.03 ^a	0.38	.06	0.22	.29	0.38	.06
Cingulum								
CING-G R	-0.37	.07	0.35	.09	0.11	.60	0.40	.05 ^a
CING-G L	-0.47	.02 ^a	0.42	.04 ^a	0.22	.29	0.46	.0 ^a
CING-H R	-0.26	.21	0.00	.99	-0.16	.44	0.15	.48
CING-H L	-0.13	.54	-0.08	.71	-0.13	.55	0.02	.94
Fornix								
FOR	-0.22	.30	0.15	.48	0.12	.55	0.13	.55
Corona radiata								
ACR R	-0.41	.04 ^a	0.45	.02 ^a	0.46	.02 ^a	0.45	.02 ^a
ACR L	-0.52	.01 ^a	0.48	.02 ^a	0.38	.06	0.49	.01 ^a
SCR R	-0.59	.00 ^a	0.66	.00 ^a	0.48	.02 ^a	0.69	.00 ^a
SCR L	-0.59	.00 ^a	0.61	.00 ^a	0.55	.01 ^a	0.64	.00 ^a
PCR R	-0.46	.02 ^a	0.39	.06	0.32	.12	0.38	.06
PCR L	-0.48	.02 ^a	0.37	.07	0.34	.10	0.36	.08

Note:—ICP indicates inferior cerebellar peduncle; MCP, middle cerebellar peduncle; ALIC, anterior limb of internal capsule; PLIC, posterior limb of internal capsule; EC, external capsule; ATR, anterior thalamic radiation; PTR, posterior thalamic radiation; FOMa, forceps major; FOMi, forceps minor; IFO, inferior fronto-occipital fasciculus; ILF, inferior longitudinal fasciculus; SLF, superior longitudinal fasciculus; SLF-T, temporal part of the superior longitudinal fasciculus; UF, uncinate fasciculus; CC-G, genu of the corpus callosum; CC-B, body of the corpus callosum; CC-S, splenium of the corpus callosum; CING-G, cingulate gyrus; CING-H, hippocampal portion of cingulate gyrus; FOR, fornix; ACR, anterior corona radiata; SCR, superior corona radiata; PCR, posterior corona radiata; R, right; L, left.

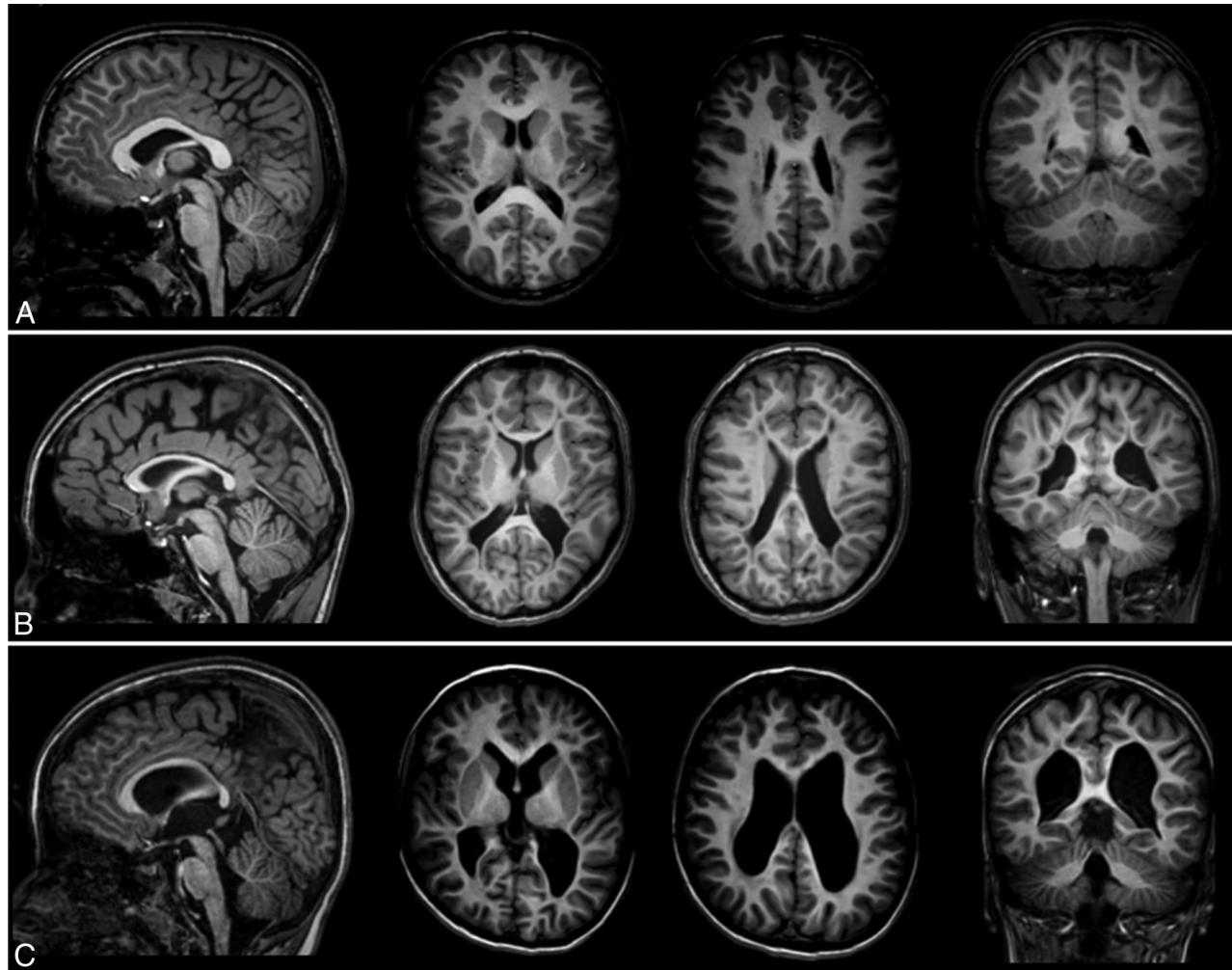
^a P < .05.

On-line Table 5: Correlations between MACS and DTI metrics in WM tracts

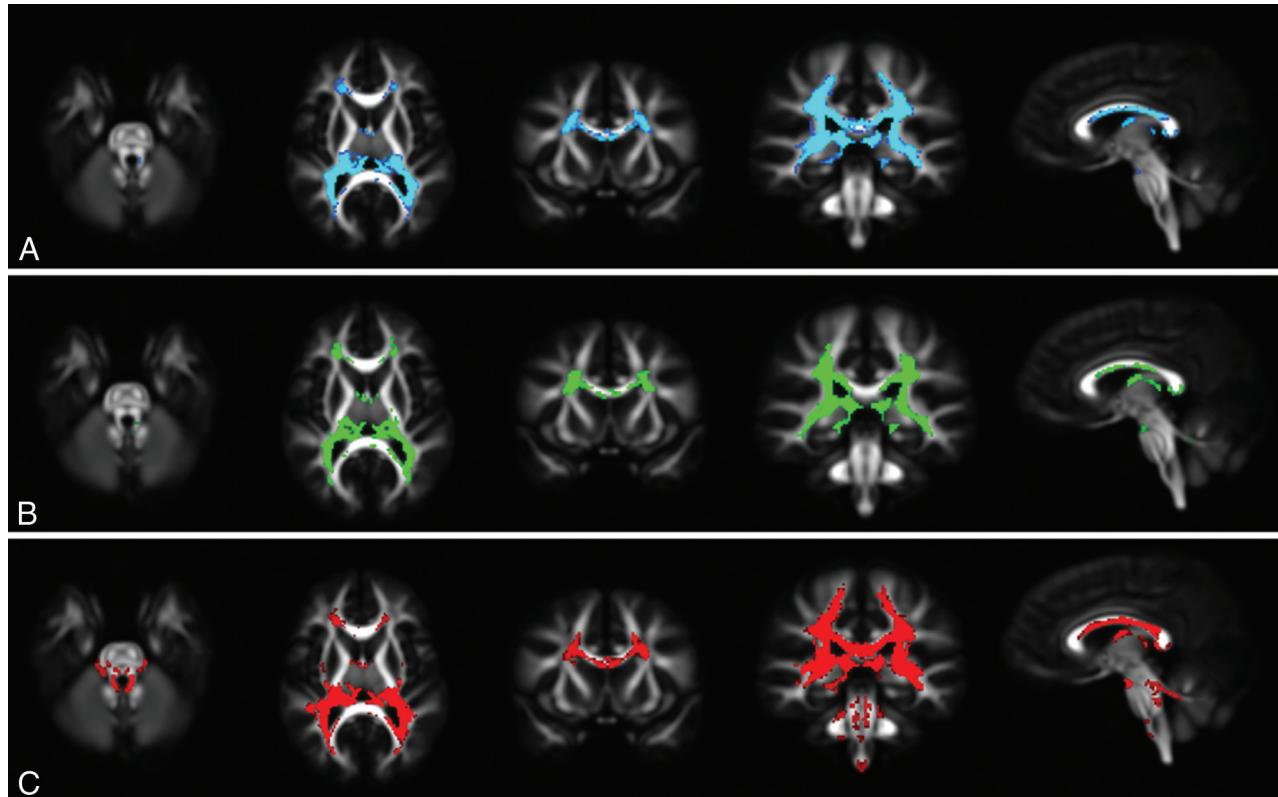
Tract	FA		MD		AD		RD	
	r	P	r	P	r	P	r	P
Cerebellar peduncles-inferior								
ICP R	-0.39	.06	-0.02	.91	-0.26	.22	0.12	.56
ICP L	-0.28	.18	-0.31	.13	-0.44	.03 ^a	-0.12	.58
Cerebellar peduncles-middle								
MCP	0.04	.85	-0.17	.41	-0.22	.28	-0.23	.26
Cerebellar peduncles-superior								
SCP R	0.13	.53	-0.22	.28	-0.22	.29	-0.23	.27
SCP L	0.11	.61	-0.23	.27	-0.31	.13	-0.17	.43
Corticospinal tract								
CST R	-0.35	.09	0.00	.99	-0.22	.30	0.10	.64
CST L	-0.50	.01 ^a	0.24	.26	0.05	.83	0.30	.15
Internal capsula								
ALIC R	-0.23	.27	0.10	.64	-0.19	.37	0.17	.41
ALIC L	-0.20	.33	0.13	.53	-0.05	.83	0.17	.41
PLIC R	-0.08	.71	0.07	.76	0.06	.77	0.07	.73
PLIC L	-0.04	.86	0.07	.73	0.01	.96	0.03	.89
External capsula								
EC R	-0.27	.19	0.07	.75	-0.10	.64	0.13	.55
EC L	-0.13	.52	0.00	.99	-0.18	.40	-0.04	.87
Thalamic radiations								
ATR R	-0.28	.17	0.17	.43	0.13	.53	0.16	.43
ATR L	-0.39	.05	0.33	.11	0.28	.17	0.31	.14
PTR R	-0.45	.02 ^a	0.29	.17	0.24	.24	0.30	.15
PTR L	-0.50	.01 ^a	0.48	.02 ^a	0.46	.02 ^a	0.48	.02 ^a
Forceps								
FOMa	-0.30	.14	0.17	.41	-0.03	.87	0.24	.25
FOMi	-0.45	.03 ^a	0.16	.46	-0.05	.82	0.19	.36
Inferior fronto-occipital fasciculus								
IFO R	-0.35	.09	0.22	.29	0.09	.67	0.25	.24
IFO L	-0.23	.28	0.21	.31	0.18	.40	0.23	.27
Inferior longitudinal fasciculus								
ILF R	-0.30	.14	0.21	.31	0.16	.46	0.27	.20
ILF L	-0.28	.17	0.30	.15	0.20	.35	0.29	.15
Superior longitudinal fasciculus								
SLF R	-0.40	.05 ^a	0.32	.12	0.26	.21	0.34	.09
SLF L	-0.36	.08	0.27	.20	0.15	.48	0.34	.10
SLF-T R	-0.45	.02 ^a	0.40	.05 ^a	0.35	.09	0.40	.05 ^a
SLF-T L	-0.42	.04 ^a	0.26	.21	0.13	.53	0.35	.09
Uncinate fasciculus								
UF R	-0.10	.63	0.02	.92	0.05	.81	0.00	.99
UF L	-0.26	.22	0.03	.90	-0.16	.44	0.09	.66
Corpus callosum								
CC-G	-0.17	.41	0.10	.65	0.04	.85	0.15	.48
CC-B	-0.29	.16	0.23	.27	0.15	.48	0.27	.19
CC-S	-0.33	.11	0.27	.20	0.02	.94	0.29	.15
Cingulum								
CING-G R	-0.23	.26	0.19	.37	-0.12	.56	0.24	.25
CING-G L	-0.40	.05 ^a	0.27	.19	-0.01	.98	0.31	.13
CING-H R	-0.12	.58	-0.23	.28	-0.37	.07	-0.08	.70
CING-H L	0.01	.96	-0.26	.21	-0.24	.24	-0.19	.36
Fornix								
FOR	-0.18	.40	0.12	.56	0.09	.66	0.14	.49
Corona radiata								
ACR R	-0.29	.16	0.34	.10	0.40	.05	0.35	.09
ACR L	-0.45	.02 ^a	0.42	.04 ^a	0.27	.19	0.46	.02 ^a
SCR R	-0.32	.12	0.40	.05	0.30	.15	0.43	.03 ^a
SCR L	-0.43	.03 ^a	0.51	.01 ^a	0.49	.01 ^a	0.54	.01 ^a
PCR R	-0.44	.03 ^a	0.34	.10	0.27	.19	0.33	.11
PCR L	-0.50	.01 ^a	0.39	.06	0.36	.08	0.40	.05

Note:—ICP indicates inferior cerebellar peduncle; MCP, middle cerebellar peduncle; ALIC, anterior limb of internal capsule; PLIC, posterior limb of internal capsule; EC, external capsule; ATR, anterior thalamic radiation; PTR, posterior thalamic radiation; FOMa, forceps major; FOMi, forceps minor; IFO, inferior fronto-occipital fasciculus; ILF, inferior longitudinal fasciculus; SLF, superior longitudinal fasciculus; SLF-T, temporal part of the superior longitudinal fasciculus; UF, uncinate fasciculus; CC-G, genu of the corpus callosum; CC-B, body of the corpus callosum; CC-S, splenium of the corpus callosum; CING-G, cingulate gyrus; CING-H, hippocampal portion of cingulate gyrus; FOR, fornix; ACR, anterior corona radiata; SCR, superior corona radiata; PCR, posterior corona radiata; R, right; L, left.

^a P <.05.



ON-LINE FIG 1. Mild (row A), moderate (row B), and severe (row C) patterns of PVL are shown on T1-weighted images. A progression in corpus callosum thinning, ventricular enlargement, and WM gliosis is evident from mild-to-severe damage.



ON-LINE FIG 2. Axial (first 2 columns), coronal (third and fourth columns), and sagittal (last column) MR images show voxelwise MD (row A), AD (row B), and RD (row C) differences between patients with CP and HCs. For all 3 variables, measured values in patients were higher than those in controls. Results are overlaid on the FA template obtained from all participants, at a significance level of $P < .001$, corrected for multiple comparisons.