

Early progressive changes in white matter integrity are associated with stroke recovery

Translational Stroke Research

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Table S1. Baseline and Follow-Up comparison of FA, MD, AD and RD values (Median, IQR) extracted from region of interest in patients vs controls. CC = corpus callosum, LCST = left corticospinal tract, RCST = right corticospinal tract. Mann-Whitney U Test. Bonferroni-adjusted level of significance = 0.01.

Baseline FA values	Patients	Controls	p-value
CC genu	0.697 (0.058)	0.700 (0.041)	0.279
CC body	0.690 (0.052)	0.707 (0.040)	0.077
CC splenium	0.786 (0.038)	0.794 (0.019)	0.293
LCST	0.594 (0.037)	0.593 (0.027)	0.380
RCST	0.594 (0.034)	0.600 (0.031)	0.885
Baseline MD values	Patients	Controls	p-value
CC genu	0.00078 (0.00008)	0.00077 (0.00005)	0.173
CC body	0.00081 (0.00007)	0.00079 (0.00005)	0.030
CC splenium	0.00070 (0.00005)	0.00069 (0.00002)	0.150
LCST	0.00071 (0.00004)	0.00070 (0.00002)	0.992
RCST	0.00070 (0.00005)	0.00070 (0.00002)	0.961
Baseline AD values	Patients	Controls	p-value
CC genu	0.00155 (0.00011)	0.00154 (0.00007)	0.267
CC body	0.00162 (0.00009)	0.00159 (0.00005)	0.206
CC splenium	0.00156 (0.00007)	0.00154 (0.00007)	0.267
LCST	0.00123 (0.00007)	0.00124 (0.00006)	0.302
RCST	0.00124 (0.00009)	0.00124 (0.00006)	0.900
Baseline RD values	Patients	Controls	p-value
CC genu	0.00041 (0.00009)	0.00039 (0.00004)	0.186
CC body	0.00042 (0.00007)	0.00038 (0.00004)	0.026
CC splenium	0.00029 (0.00005)	0.00028 (0.00002)	0.206
LCST	0.00044 (0.00004)	0.00043 (0.00003)	0.678
RCST	0.00043 (0.00004)	0.00042 (0.00003)	0.595
Follow-Up FA values	Patients	Controls	p-value
CC genu	0.671 (0.056)	0.707 (0.034)	0.028
CC body	0.682 (0.039)	0.721 (0.028)	0.001
CC splenium	0.789 (0.027)	0.791 (0.021)	0.738

LCST	0.576 (0.036)	0.596 (0.018)	0.055
RCST	0.592 (0.025)	0.599 (0.019)	0.361
Follow-Up MD values	Patients	Controls	p-value
CC genu	0.00084 (0.00017)	0.00079 (0.00006)	0.001
CC body	0.00086 (0.00020)	0.00078 (0.00005)	0.001
CC splenium	0.00076 (0.00026)	0.00069 (0.00003)	0.003
LCST	0.00074 (0.00078)	0.00071 (0.00002)	0.002
RCST	0.00075 (0.00018)	0.00070 (0.00002)	0.012
Follow-Up AD values	Patients	Controls	p-value
CC genu	0.00158 (0.00008)	0.00155 (0.00008)	0.067
CC body	0.00163 (0.00011)	0.00160 (0.00005)	0.060
CC splenium	0.00158 (0.00012)	0.00155 (0.00006)	0.064
LCST	0.00124 (0.00012)	0.00125 (0.00005)	0.485
RCST	0.00126 (0.00008)	0.00123 (0.00005)	0.112
Follow-Up RD values	Patients	Controls	p-value
CC genu	0.00048 (0.00023)	0.00037 (0.00004)	<0.0001
CC body	0.00047 (0.00029)	0.00038 (0.00005)	0.001
CC splenium	0.00035 (0.00032)	0.00028 (0.00002)	0.002
LCST	0.00051 (0.00013)	0.00044 (0.00003)	0.001
RCST	0.00050 (0.00025)	0.00042 (0.00003)	0.008

Table S2: Correlations of cross-sectional extracted white matter integrity and stroke recovery (delta NIHSS). LCST = left corticospinal tract, RCST = right corticospinal tract; CC = corpus callosum. Level of significance after Bonferroni correction = 0.01.

Baseline FA	Stroke recovery	p-value
LCST	-0.135	0.426
RCST	0.048	0.776
CC genu	0.404	0.013
CC body	0.204	0.226
CC splenium	0.194	0.250
Follow-Up FA		
LCST	-0.164	0.386
RCST	-0.136	0.473
CC genu	-0.117	0.538
CC body	-0.012	0.950
CC splenium	0.176	0.352
FA change		
LCST	-0.085	0.654
RCST	-0.186	0.326
CC genu	-0.390	0.033
CC body	-0.241	0.199
CC splenium	-0.019	0.922
Baseline MD	Stroke recovery	p-value
LCST	-0.056	0.744
RCST	-0.104	0.540
CC genu	-0.337	0.041
CC body	-0.167	0.323
CC splenium	-0.199	0.237
Follow-Up MD		
LCST	-0.073	0.701
RCST	0.121	0.523
CC genu	0.002	0.993
CC body	0.136	0.474
CC splenium	0.030	0.874

MD change		
LCST	0.035	0.856
RCST	0.125	0.511
CC genu	0.214	0.256
CC body	0.206	0.275
CC splenium	0.127	0.502
Baseline AD	Stroke recovery	p-value
LCST	-0.059	0.728
RCST	-0.174	0.304
CC genu	-0.065	0.702
CC body	-0.062	0.716
CC splenium	-0.224	0.183
Follow-Up AD		
LCST	-0.235	0.212
RCST	0.036	0.868
CC genu	0.089	0.639
CC body	0.053	0.782
CC splenium	0.029	0.877
AD change		
LCST	-0.304	0.102
RCST	0.184	0.331
CC genu	-0.001	0.994
CC body	-0.017	0.929
CC splenium	0.104	0.584
Baseline RD	Stroke recovery	p-value
LCST	0.079	0.641
RCST	-0.121	0.474
CC genu	-0.381	0.020
CC body	-0.218	0.195
CC splenium	-0.208	0.216
Follow-Up RD		
LCST	0.124	0.513
RCST	0.110	0.562

CC genu	0.007	0.969
CC body	0.122	0.522
CC splenium	0.064	0.738
RD change		
LCST	0.108	0.571
RCST	0.137	0.471
CC genu	0.208	0.271
CC body	0.244	0.193
CC splenium	0.106	0.579