

Supplementary material

Imaging biomarkers of cerebrospinal fluid tracer dynamics in idiopathic normal pressure hydrocephalus

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Supplementary Table 1. MRI biomarkers at individual level

Patient	MRI biomarkers of CSF space anatomy			MRI biomarkers of CSF tracer dynamics					MRI biomarkers of neurodegeneration			Pulsatile ICP
	Evans index	Callosal angel	DESH	Ventricular Reflux Grade	1-night clearance CSF	2-night clearance CSF	1-night clearance ERC	2-night clearance ERC	MTA Score	Fazekas score	ERC thickness	MWA
iNPH												
1	0.39	71	0	4	-48		-28		2	2	1.5	7.6
2	0.36	144	0	1	-47		8		1	1	1.7	5.4
3	0.39	38	1	4	-41		-15		2	2	2.1	8.7
4	0.43	44	1	4	-44		-22		3	1	2.2	4.6
5	0.37	54	1	3	-48		-27		2	2	2.1	6.5
6	0.36	95	0	4	-23		8		2	2	1.9	4.0
7	0.39	59	1	3	12		49		2	3	2.1	5.6
8	0.34	77	1	1	-74		24		2	2	2.2	3.8
9	0.36	50	1	3	-24		28		2	3	2.1	4.6
10	0.32	78	1	3	-59		-28		2	3	2.4	7.0
11	0.45	88	0	4					2	3		6.5
12	0.39	39	1	3	-42		-11		2	2	2.4	9.4
13	0.37	54	1	4	-39		-15		2	1	1.8	
14	0.41	66	1	4	-12		40		2	1	2.1	6.1
15	0.39	82	0	4	-30		4		2	2	1.8	5.8
16	0.42	48	0	4	-1		16		2	1	1.8	5.5
17	0.32	58	1	4	-46		-2		2	3	1.8	4.9
18	0.38	50	0	4	-61	-92	11	-31	2	1	2.0	9.7
19	0.39	73	1	4	-80	-92	-8	-43	3	3	1.8	6.8
20	0.34	80	1	4	-23	-66	-22	-48	2	3	2.1	4.6
21	0.42	82	0	4	-33		3		3	2	1.7	6.7
22	0.45	68	0	4	-26		6		3	0	2.2	5.4
23	0.36	77	0	4	-67		-11		2	3	1.8	5.4
24	0.38	65	0	3	-47		-30		2	0	1.9	5.8
25	0.44	72	0	4	-77	-90	-37	-53	2	1	2.4	4.9

26	0.38	58	0	4	-50			-38		3	1	1.5	4.4
27	0.38	113	0	3	-29	-66		-3	-32	1	2	1.7	4.1
28	0.45	51	1	3	-46			-33		2	2	2.0	4.4
29	0.42	39	0	4	-30	-59		1	-8	2	1	1.0	6.9
30	0.41	73	1	4	-53	-83		-44	-62	3	2	1.0	11.2
31	0.38	86	0	3	-53	-83		-25	-42	2	1	2.4	4.0
32	0.44	89	0	4	-49	-81		-14	-38	2	2	1.9	4.5
33	0.29	127	0	2	-32	-72		-20	-43	2	0	2.0	4.1
34	0.56	55	0	4	-45	-70		7	-8	2	1	2.3	4.2
AVG ± STDEV	0.39 ± 0.05	70.7 ± 24.1			-41 ± 20	-78 ± 12		-7 ± 23	-37 ± 17			1.9 ± 0.3	5.9 ± 1.8
	MRI biomarkers of CSF space anatomy			MRI biomarkers of CSF tracer dynamics					MRI biomarkers of neurodegeneration			Pulsatile ICP	
Patient	Evans index	Callosal angel	DESH	Ventricular Reflux Grade	1-night clearance CSF	2-night clearance CSF	1-night clearance ERC	2-night clearance ERC	MTA Score	Fazekas score	ERC thickness	MWA	
REF													
1	0.24	120	0	0	-91		-54		0	1	2.7		
2	0.27	126	0	2	-80	-95	-59	-70	0	0	2.3		2.9
3	0.20	123	0	0	-86	-96	-8	-37	0	0	2.1		
4	0.31	133	0	0	-43	-79	27	-12	0	0	2.5		2.6
5	0.26	97	0	2	-81	-96	-48	-57	0	1	2.2		
6	0.26	125	0	0	-58	-92	-25	-56	0	0	2.6		
7	0.31	106	0	1	-71	-95	-36	-58	0	1	2.6		
8	0.24	115	0	0	-70	-94	-59	-69	1	0	1.8		
9	0.28	104	0	1	-61	-92	-45	-62	1	0	1.9		3.9
10	0.25	112	0	2	-70	-92	-50	-61	0	0	2.2		2.2
11	0.28	104	0	1	-70	-94	-33	-49	0	0	2.4		
12	0.27	103	0	0	-69	-97	-53	-64	0	0	2.3		3.5
13	0.24	106	0	3	-68	-94	-41	-63	0	0	2.6		
14	0.33	135	0	1	-53	-86	1	-17		0	2.0		

15	0.29	132	0	2	-86	-94	-25	-37	2	2	2.4	
16	0.25	105	0	3	-51	-87	-16	-43	1	1	2.3	
17	0.22	107	0	2	-58	-87	-9	-26	1	0	1.9	
AVG ±	0.26 ±	114.9 ±										
STDEV	0.03	12.2			-69 ± 13	-92 ± 5	-31 ± 24	-49 ± 18			2.3 ± 0.3	3.0 ± 0.7