Supplementary Material

DTI was one selected test for patients. We obtained and analyzed 18 patients' DTI data. The ROIs were the bilateral anterior and posterior periventricular white matter that were set as circular areas with a diameter of 2 mm perpendicular to the longitudinal axis of the ipsilateral ventricle on the brain imaging slice with the lateral ventricle [detailed in Supplementary Figure 1]. The FA and MD values were measured across ROIs on DTI images. The ROIs were chosen according to our pilot study data,[1] which indicated that the FA and MD values in the bilateral anterior and posterior periventricular white matter were correlated with walking ability and cognition in possible iNPH patients. A consistency test was performed (Cronbach's α coefficient >0.6).

Reference

Liu CY, Dong LL, Mao CH, Li J, Huang XY, Wei JJ, et al. Correlation between white matter lesions and clinical features of patients with idiopathic normal pressure hydrocephalus in CSF tap test. Alzheimers Dement J Alzheimers Assoc 2019;15(7S):P711–P712. doi: 10.1016/j.jalz.2019.06.2732.
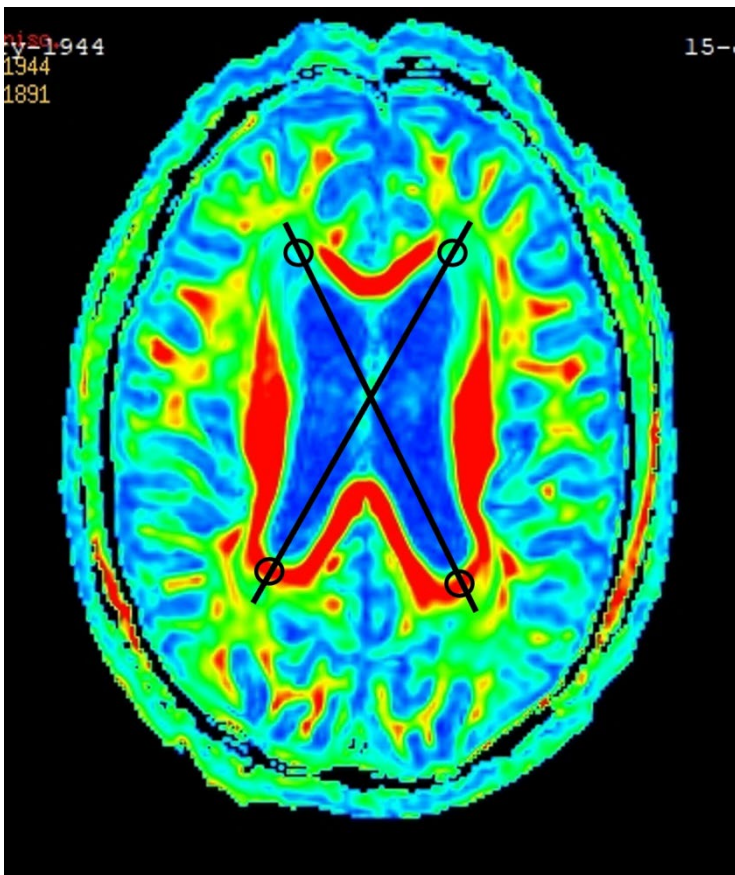
Supplementary Figure 1: DTI illustrates the location of the ROIs. ROIs were circular areas in the

bilateral anterior and posterior periventricular white matter areas with a diameter of 2 mm perpendicular to the longitudinal axis of the ipsilateral ventricle on the brain imaging slice with the lateral ventricle. DTI: Diffusion tensor imaging; ROIs: Regions of interest.

Supplementary Table 1: Demographic characteristics of the CSF TT responder and non-responder groups.

Characteristics or resluts	Responders ($n = 36$)	Non-responders ($n = 29$)	T/χ^2	P-value
Age (years)	69 ± 11	68 ± 9	0.33	0.74
Gender (male:female)	30:6	22:7	0.56	0.54
Duration (years)	4.2 ± 3.4	3.9 ± 2.8	0.33	0.74
Results of assessment				
iNPHGS total	5.7 ± 1.7	5.2 ± 2.1	1.13	0.26
MMSE	20.8 ± 7.0	23.9 ± 5.6	-1.49	0.14
MoCA	17.6 ± 7.3	19.1 ± 6.2	-0.67	0.50
ADL	40.7 ± 14.1	30.0 ± 9.5	2.53	0.02*
10 m walking time (s)	23.6 ± 30.6	41.8 ± 136.5	-0.74	0.44

ADL: Activities of daily living; CSF: Cerebrospinal fluid; iNPHGS: iNPH Grading Scale; MMSE: Mini-mental state examination; MOCA: Montreal Cognitive Assessment; TT: Tap test.

*$P < 0.05$.

Supplementary Table 2: Comparison of the GPT performance, SDMT results, and complex visual motor index before and after the CSF TT in 65 patients with iNPH.

Time point	GPT (median [interquartile range])	Wilcoxon Z	P-value	SDMT (median [interquartile range])	Wilcoxon Z	P-value	Complex visual motor index (median [interquarti	Wilcoxon Z	P-v

Assessment								
Baseline	134.5 (99.9, 217.0)			15 (11, 24)			–2.39 (–5.89, –0.90)	
8 h after CSF TT	133.5 (94.3, 204.0)	–1.60	0.11	18 (10, 25)	–1.80	0.07	–2.08 (–4.08, –0.52)	–1.44
24 h after CSF TT	123.0 (90.5, 193.4)	–4.50	0*	18 (12, 26)	–3.05	0*	–1.72 (–4.70, –0.32)	–3.64
72 h after CSF TT	125.2 (93.3, 170.8)	–4.88	0*	19 (12, 29)	–4.70	0*	–1.54 (–3.83, –0.21)	–4.90

CSF: Cerebrospinal fluid; GPT: Grooved Pegboard Test; iNPH: Idiopathic normal pressure hydrocephalus; SDMT: Symbol-digit Modalities Test; TT: Tap test.

*$P < 0.01$.

Supplementary Table 3: Correlation between GPT, SDMT, trail-making test A performance of possible iNPH patients and the parameters of periventricular white matter lesions by means of DTI.

Assessment	Left periventricular-anterior horn FA value		Left periventricular-anterior horn MD value		Right periventricular-anterior horn FA value		Right periventricular-anterior horn MD value	
	ρ-value	*P*-value	ρ-value	*P*-value	ρ-value	*P*-value	ρ-value	*P*-value
GPT	–0.42	0.08	0.48	0.05	–0.57	0.01*	0.28	0.25
SDMT	0.57	0.04*	–0.56	0.04*	0.69	0.01*	–0.65	0.01*
10 m walking test	–0.36	0.14	0.64	0.01*	–0.51	0.03*	0.28	0.26

TUG	−0.58	0.02*	0.75	0*	−0.61	0.01*	0.54	0.03*

FA: Fractional anisotropy; MD: Mean diffusivity; DTI: Diffusion tensor imaging; FA: Fractional anisotropy; GPT: Grooved Pegboard Test; iNPH: Idiopathic normal pressure hydrocephalus; MD: Mean diffusivity; SDMT: Symbol-digit Modalities Test; TUG: Up and go test.

*$P < 0.0.5$