

Fig. S1 Example the somatosensory evoked potential (SEP) for one subject in the TMS group. Patients had shorter latency of N20 and higher wave amplitude of N20-P25 after treatment (c and d) compared to pre-treatment (a and b).

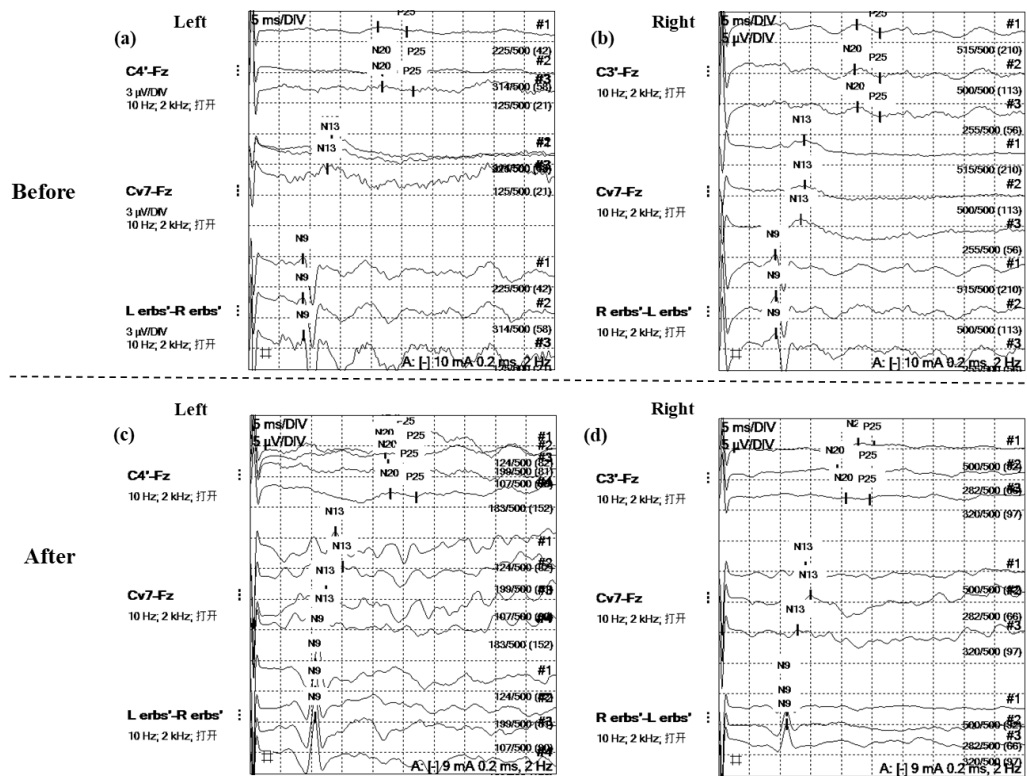


Fig. S2 Example the somatosensory evoked potential (SEP) for one subject in the sham group. No obvious changes

were observed in latency of N20 and wave amplitude of N20-P25 for this patient before (a and b) and treatment after (c and d).

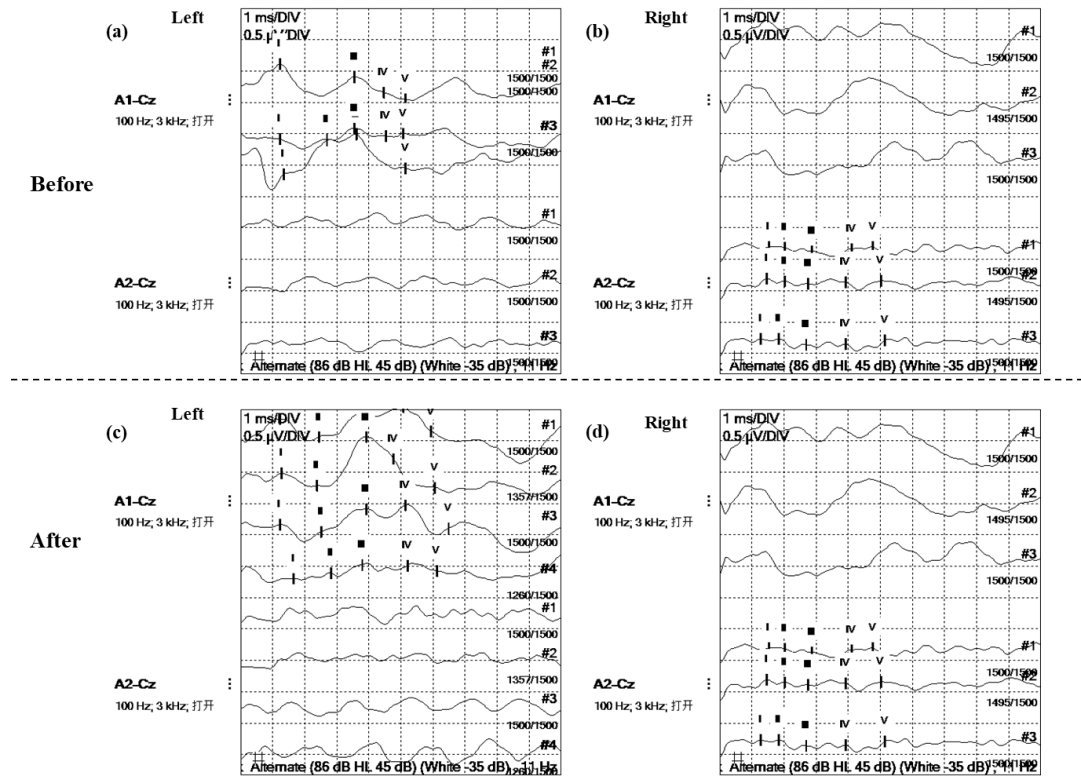


Fig. S3 Example the brain stem auditory evoked potentials (BAEP) for one subject in the TMS group. The BAEP responses (a and b) were moderate abnormality with poor waveform differentiation before intervention. The waves I to V were mild abnormality with moderate waveform differentiation after intervention (c and d).

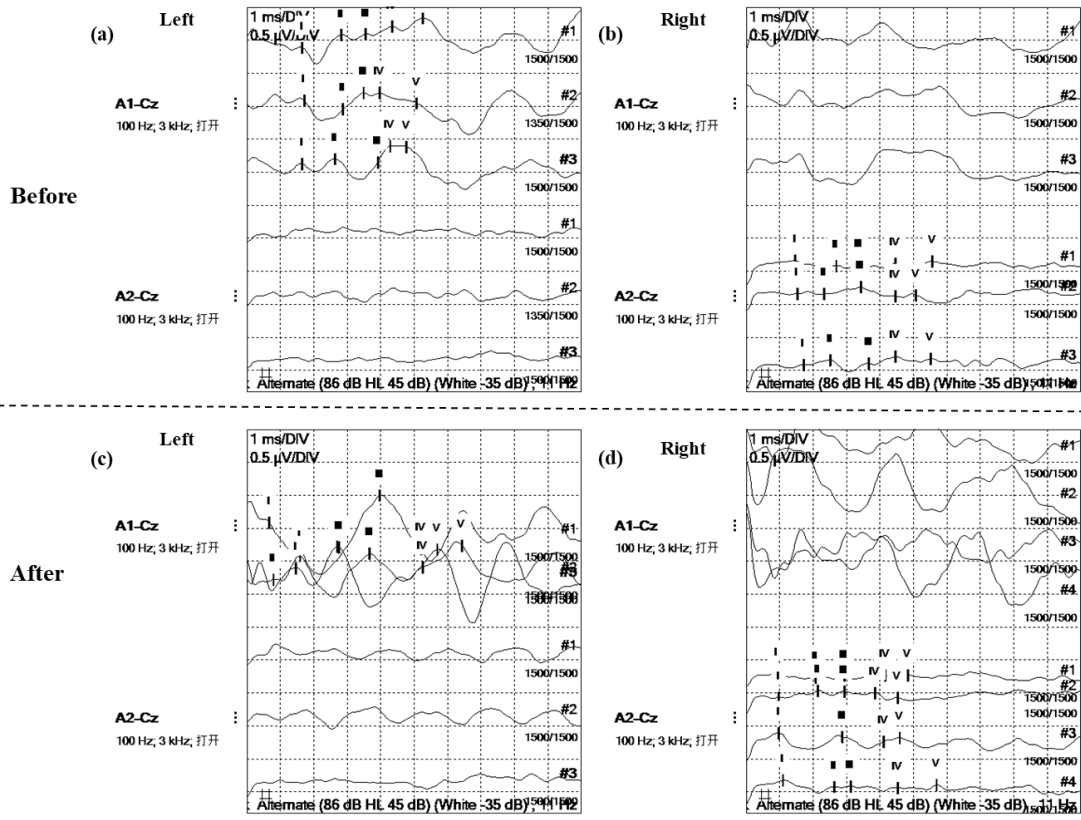


Fig. S4 Example the brain stem auditory evoked potentials (BAEP) for one subject in the sham group. No obvious improvement was observed in waveform differentiation before (a and b) and after intervention (c and d).

Table S1. Parameters of somatosensory evoked potential (SEP) and brain stem auditory evoked potential (BAEP) for the above figures

		SEP				BAEP	
		Latencies of N20 component (ms)		N20-P25 amplitudes (uV)		Grade	
		Left	Right	Left	Right	Left	Right
Real	Before	22.74	21.67	2.53	1.69	III	III
	After	20.22	20.34	10.88	4.87	III	II
Sham	Before	21.59	22.50	1.63	0.50	III	III
	After	22.52	20.97	0.63	0.23	III	III

Table S2. Demographic details of the patients

Group	Patient	Age	Duration	Etiology	CRS-R													GCS								
					Pre-intervention						Post-intervention						Pre-intervention			Post-intervention						
					A	V	M	OM	C	Ar	Total	A	V	M	OM	C	Ar	Total	E	Verbal response	Best motor response	Total	E	Verbal response	Best motor response	Total
TMS group	1	45	3	Stroke	2	1	2	1	0	1	7	2	4	4	2	1	2	15	3	1	3	7	4	1	5	10
	2	48	1	Stroke	1	2	2	1	0	2	8	3	3	3	2	1	2	14	4	1	3	8	4	1	4	9
	3	55	3	TBI	1	2	2	1	0	2	8	2	3	2	2	1	3	13	4	1	3	8	4	1	3	8
	4	56	2	Stroke	2	2	2	1	0	1	8	2	3	3	2	1	3	14	3	1	4	8	4	1	4	9
	5	31	4	Anoxia	1	0	1	0	0	2	4	1	2	2	1	0	2	8	4	1	2	7	4	1	3	8
	6	47	1	TBI	0	0	2	1	0	2	5	1	1	2	1	1	2	8	4	1	2	7	4	1	3	8
	7	50	1	TBI	0	2	2	0	0	2	6	1	2	2	1	1	2	9	4	1	3	8	4	1	3	8
	8	52	6	Stroke	1	2	2	0	0	2	7	1	2	2	1	0	2	8	4	1	3	8	4	1	3	8
	9	70	3	Stroke	1	0	2	0	0	2	5	1	1	2	1	0	2	7	4	1	3	7	4	2	3	9
	10	28	3	TBI	2	2	2	1	0	3	10	3	3	3	2	1	3	15	4	1	3	8	4	3	4	11
	11	34	1	TBI	2	3	2	1	1	3	12	2	3	2	2	1	3	13	4	1	3	8	4	2	3	9
	12	29	1	Stroke	1	2	2	1	1	2	9	2	2	3	2	2	3	14	4	1	3	8	4	2	4	10
	13	56	1	Stroke	1	0	3	0	0	0	4	1	1	3	1	1	2	9	1	1	4	6	4	1	4	9
	14	27	5	TBI	2	2	2	2	0	2	10	2	3	3	2	1	2	13	4	1	3	8	4	2	4	10
	15	57	2	Stroke	0	0	1	1	0	2	4	1	1	2	1	0	2	7	4	1	2	7	4	1	3	8
	16	54	3	TBI	1	2	1	0	0	2	6	1	2	2	1	0	3	9	4	1	2	7	4	1	3	8
	17	60	3	Stroke	2	2	2	1	0	3	10	3	3	2	2	1	2	13	4	1	3	8	4	1	3	8
	18	68	2	TBI	1	0	2	1	0	2	6	1	1	2	1	0	2	7	4	1	3	8	4	1	3	8
	19	68	1	TBI	1	0	2	2	0	2	7	1	1	2	2	0	2	8	4	1	3	8	4	2	3	9

	20	65	1	TBI	2	2	2	2	0	2	10	2	2	2	2	0	2	10	4	1	3	8	4	1	3	8
	21	33	2	Anoxia	0	0	1	1	0	2	4	1	1	1	1	1	2	7	4	1	2	7	4	1	2	7
	22	45	3	Anoxia	1	2	1	0	0	2	6	1	1	1	0	0	2	7	4	1	2	7	4	1	3	8
	23	50	3	TBI	2	3	1	1	0	3	10	2	3	1	1	0	3	10	4	1	3	8	4	1	3	8
	24	63	4	TBI	1	0	2	1	0	2	6	1	1	2	1	0	2	7	4	1	3	8	4	1	3	8
	25	72	4	Stroke	1	0	2	2	0	2	7	1	1	2	1	0	2	9	4	1	3	8	4	2	3	9
Sham group	1	33	2	TBI	2	2	3	1	0	2	10	2	3	3	2	1	2	13	4	1	4	9	4	1	4	9
	2	35	6	Anoxia	1	1	1	0	0	2	5	2	1	1	1	0	2	7	4	1	2	7	4	1	2	7
	3	73	6	Stroke	1	1	2	1	0	1	6	2	1	2	1	0	1	7	4	1	3	8	4	1	3	8
	4	79	1	Anoxia	0	0	2	1	0	1	4	1	1	2	2	0	1	7	1	1	3	5	2	1	3	6
	5	50	1	Stroke	1	1	2	1	0	1	6	1	1	2	1	0	1	6	4	1	3	8	3	1	4	8
	6	58	4	TBI	1	1	1	1	0	1	5	1	1	2	1	0	1	6	3	1	2	6	3	1	3	7
	7	66	1	Stroke	1	1	2	1	0	1	7	2	2	2	1	0	1	9	3	1	3	7	3	1	3	7
	8	55	1	TBI	1	2	2	1	0	2	8	2	2	2	1	0	2	9	4	1	3	8	4	1	3	8
	9	41	6	TBI	1	2	2	1	0	2	8	2	2	2	1	0	2	9	4	1	3	8	4	1	3	8
	10	52	3	Stroke	2	2	2	1	0	1	8	2	2	2	1	0	1	8	3	1	4	8	4	1	4	9
	11	44	3	Anoxia	1	0	1	0	0	2	4	1	1	1	0	0	2	5	4	1	2	7	4	1	3	8
	12	67	1	TBI	0	0	2	1	0	2	5	2	1	2	1	0	2	8	4	1	2	7	4	1	2	7
	13	66	1	TBI	0	2	2	0	0	2	6	2	2	2	1	0	2	9	4	1	3	8	4	1	3	8
	14	70	1	Stroke	1	2	2	0	0	2	7	1	2	2	1	0	2	8	4	1	3	8	4	1	3	8
	15	45	5	Stroke	1	0	2	0	0	1	5	1	0	2	0	0	2	5	3	1	3	7	4	1	2	7
	16	51	2	TBI	2	2	2	1	0	3	10	2	2	2	1	0	3	10	4	1	3	8	4	1	3	8
	17	47	3	TBI	2	3	2	1	1	3	12	3	3	2	2	1	3	14	4	1	3	8	4	1	3	8
	18	58	3	Stroke	1	2	2	1	1	2	9	1	2	2	1	1	2	9	4	1	3	8	4	2	3	9
	19	64	2	Stroke	1	0	3	0	0	0	4	1	1	3	1	1	1	6	1	1	4	6	2	1	4	9

20	52	1	TBI	2	2	2	2	0	2	10	2	2	2	2	0	2	10	4	1	3	8	3	1	4	8
21	42	1	Anoxia	0	0	1	1	0	2	4	1	1	1	1	0	2	6	4	1	2	7	4	1	3	8
22	40	2	Anoxia	1	2	1	0	0	2	6	1	2	1	0	0	2	6	4	1	2	7	4	2	2	8
23	34	3	Stroke	2	3	1	1	0	3	10	2	3	1	1	0	3	10	4	1	3	8	4	2	2	8
24	70	3	Anoxia	1	0	2	1	0	2	6	1	1	2	1	0	2	7	4	1	3	8	4	1	3	8
25	23	2	Anoxia	1	0	2	2	0	2	7	2	1	2	2	0	2	9	4	1	3	8	4	1	3	8

Abbreviations: TBI: traumatic brain injury, CRS-R, Coma Recovery Scale-Revised; A, auditory; Ar, arousal; C, communication; M, motor; OM, oro-motor; V, visual; GCS: Glasgow Coma Scale; E, eye-opening.