

Table S1. Analysis of motor scores and PDQ-39 in MSA and PSP patients divided into subgroups of NSS 0-5 / 6-10.

	MSA			PSP		
	NSS 0-5	NSS 6-10	p value	NSS 0-5	NSS 6-10	p value
	(n = 3)	(n = 5)		(n = 4)	(n = 2)	
	M ± SD	M ± SD		M ± SD	M ± SD	
UMSARS II	13.3 ± 7.6	28.8 ± 11.9	0.143	n.a.	n.a.	n.a.
PSPRS V+VI ^{*1}	n.a.	n.a.	n.a.	10 ± 0	18 ± 1.4	0.333
MDS-UPDRS III ^{*2}	23.7 ± 17.7	57.8 ± 31.4	0.143	28 ± 6.2	46 ± 8.5	0.200
Factor 1 Midline function ^{*2}	6 ± 7.8	19 ± 7.1	0.071	9 ± 2.6	18.5 ± 2.1	0.200
Factor 2 Rest tremor ^{*2}	0 ± 0	1.4 ± 3.1	0.786	0 ± 0	0 ± 0	1.000
Factor 3 Rigidity ^{*2}	6.7 ± 4.2	10 ± 7.4	0.786	5 ± 1	5 ± 1.4	1.000
Factor 4 Bradykinesia right UEX ^{*2}	4.7 ± 2.1	6.6 ± 3.6	0.571	4.3 ± 1.2	8 ± 1.4	0.200
Factor 5 Bradykinesia left UEX ^{*2}	2.3 ± 2.1	7.6 ± 4	0.143	3.7 ± 1.2	7.5 ± 2.1	0.200
Factor 6 Postural and kinetic tremors ^{*2}	1 ± 1.7	4 ± 4.7	0.250	1.3 ± 1.5	0 ± 0	0.400
Factor 7 Lower limb bradykinesia ^{*2}	3 ± 3.6	9.2 ± 4.3	0.143	4.7 ± 1.2	7 ± 1.4	0.200
PDQ-39 SI	5.1 ± 2.1	9.9 ± 2.2	0.036	6.6 ± 3.8	9.8 ± 2.2	0.533
PDQ-39 1 Mobility	21.7 ± 27	80 ± 16	0.036	48.1 ± 31	62.5 ± 14.1	0.800
PDQ-39 2 Activities of daily living	26.4 ± 19.7	61.7 ± 26.4	0.143	38.5 ± 20.5	56.3 ± 14.7	0.533
PDQ-39 3 Emotional well-being	27.8 ± 17.3	48.3 ± 9.6	0.071	24 ± 28.7	41.7 ± 35.4	0.533
PDQ-39 4 Stigma	31.3 ± 31.3	38.8 ± 30.1	0.786	28.1 ± 30	46.9 ± 66.3	0.800
PDQ-39 5 Social support	19.4 ± 33.7	18.3 ± 22.4	1.000	14.6 ± 18.5	4.2 ± 5.9	0.533
PDQ-39 6 Cognitions	33.3 ± 21.9	27.5 ± 12.2	0.786	35.9 ± 28.1	31.3 ± 35.4	0.800
PDQ-39 7 Communication	25 ± 14.4	36.7 ± 25.4	0.393	41.7 ± 11.8	75 ± 23.6	0.133
PDQ-39 8 Bodily discomfort	38.9 ± 31.5	36.7 ± 24	0.786	18.8 ± 18.5	70.8 ± 5.9	0.133

^{*1}n for PSP = 4, NSS 0-5 n = 2, NSS 6-10 n = 2; ^{*2}n for PSP = 5, NSS 0-5 n = 3, NSS 6-10 n = 2

Table S2. Bivariate correlation analyses between nerve conduction studies, NSS and motor scores in MSA and PSP patients.

	MSA						PSP					
	sNAP sural nerve (µV)		cMAP tibial nerve (mV)		NSS		sNAP sural nerve (µV)		cMAP tibial nerve (mV)		NSS	
	(n = 7)		(n = 8)		(n = 8)		(n = 6)		(n = 6)		(n = 6)	
	r _s	p	r _s	p	r _s	p	r _s	p	r _s	p	r _s	p
NSS	-0.738	0.058	-0.561	0.148	n.a.	n.a.	-0.353	0.493	-0.232	0.658	n.a.	n.a.
UMSARS II	-0.299	0.514	-0.762	0.028	0.464	0.247	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
PSPRS V+VI ^{*1}	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-0.056	0.944	-0.738	0.262	0.949	0.051
MDS-UPDRS III ^{*2}	-0.299	0.514	-0.738	0.037	0.512	0.194	-0.667	0.219	-0.5	0.391	0.975	0.005
Factor 1 Midline function ^{*2}	-0.274	0.552	-0.79	0.020	0.565	0.145	-0.667	0.219	-0.5	0.391	0.975	0.005
Factor 2 Rest tremor ^{*2}	0.321	0.483	-0.412	0.310	-0.085	0.842	0.000	0.000	0.000	0.000	0.000	0.000
Factor 3 Rigidity ^{*2}	-0.359	0.429	-0.192	0.649	0.221	0.599	0.081	0.897	-0.158	0.800	0.162	0.794
Factor 4 Bradykinesia right UEX ^{*2}	-0.048	0.919	-0.615	0.105	0.161	0.704	-0.553	0.334	-0.616	0.269	0.921	0.026
Factor 5 Bradykinesia left UEX ^{*2}	-0.449	0.312	-0.452	0.260	0.390	0.339	-0.237	0.701	-0.667	0.219	0.763	0.133
Factor 6 Postural and kinetic tremors ^{*2}	-0.171	0.713	-0.724	0.042	0.352	0.392	-0.057	0.927	0.783	0.118	-0.344	0.571
Factor 7 Lower limb bradykinesia ^{*2}	-0.500	0.253	-0.683	0.062	0.515	0.191	-0.649	0.236	-0.211	0.734	0.973	0.005
PDQ-39 Score	-0.318	0.487	-0.643	0.086	0.561	0.148	-0.435	0.389	0.086	0.872	0.464	0.354
PDQ-39 1 Mobility	-0.318	0.487	-0.667	0.071	0.512	0.194	-0.319	0.538	-0.029	0.957	0.087	0.870
PDQ-39 2 Activities of daily living	0.187	0.688	-0.595	0.120	0.171	0.686	-0.559	0.249	-0.319	0.538	0.132	0.803
PDQ-39 3 Emotional well-being	-0.019	0.968	-0.826	0.011	0.565	0.145	-0.551	0.257	-0.143	0.787	0.319	0.538
PDQ-39 4 Stigma	-0.255	0.581	-0.168	0.691	0.061	0.885	-0.103	0.846	0.406	0.425	0.309	0.551
PDQ-39 5 Social support	-0.155	0.739	-0.254	0.544	0.000	1.000	-0.329	0.525	0.062	0.908	-0.376	0.463
PDQ-39 6 Cognitions	-0.892	0.007	0.356	0.387	0.340	0.410	0.235	0.654	0.493	0.321	-0.221	0.674
PDQ-39 7 Communication	-0.397	0.379	0.048	0.910	0.173	0.682	0.000	1.000	-0.265	0.612	0.851	0.032
PDQ-39 8 Bodily discomfort	0.255	0.581	0.371	0.365	-0.270	0.518	-0.261	0.618	-0.257	0.623	0.696	0.125

^{*1}n for PSP = 4; ^{*2}n for PSP = 5

Table S3. Partial correlation analyses between nerve conduction studies and motor scores in MSA patients after controlling for confounding variable age.

	MSA			
	sNAP sural nerve (μ V) (n = 7)		cMAP tibial nerve (mV) (n = 8)	
	r_s	p	r_s	p
NSS	-0.593	0.215	-0.163	0.727
UMSARS II	-0.061	0.908	-0.873	0.010
MDS-UPDRS III	-0.036	0.946	-0.816	0.025
Factor 1 Midline function	-0.060	0.910	-0.891	0.007
Factor 2 Rest tremor	0.365	0.476	-0.698	0.081
Factor 3 Rigidity	-0.053	0.921	-0.384	0.395
Factor 4 Bradykinesia right UEX	0.054	0.919	-0.771	0.043
Factor 5 Bradykinesia left UEX	-0.281	0.590	-0.828	0.021
Factor 6 Postural and kinetic tremors	0.203	0.699	-0.800	0.031
Factor 7 Lower limb bradykinesia	-0.345	0.503	-0.846	0.016

Table S4. Laboratory parameters subdivided into subgroups with/without electrophysiologically confirmed polyneuropathy.

Parameter	Unit	Total MSA patients (n=8)	MSA patients without PNP (n=4)	MSA patients with PNP (n=4)	Total PSP patients (n=6)	PSP patients without PNP (n=3)	PSP patients with PNP (n=3)
		M \pm SD	M \pm SD	M \pm SD	M \pm SD	M \pm SD	M \pm SD
Leukocytes	/ μ l	7326.3 \pm 1499.8	6920 \pm 1317.4	7732.5 \pm 1753	6635 \pm 1179.4	6350 \pm 1499.6	6920 \pm 992.4
Erythrocytes	Mio/ μ l	4.8 \pm 0.3	4.9 \pm 0.2	4.6 \pm 0.3	4.7 \pm 0.5	4.4 \pm 0.3	4.9 \pm 0.5
HbA1c	%	5.5 \pm 0.3	5.5 \pm 0.3	5.6 \pm 0.2	5.7 \pm 0.3	5.8 \pm 0.2	5.5 \pm 0.5
GOT	μ /L	20.6 \pm 3.6	18.8 \pm 2.1	22.5 \pm 4	22.3 \pm 3.8	22.7 \pm 3.8	22 \pm 4.6
GPT	μ /L	16.5 \pm 7.3	20.3 \pm 5.7	12.8 \pm 7.3	18.5 \pm 7.1	15 \pm 3	22 \pm 9
GGT	μ /L	21.3 \pm 6.1	24.5 \pm 4.9	18 \pm 5.8	44.8 \pm 44	27.3 \pm 4.2	62.3 \pm 62.5
Urea	mg/dl	34.1 \pm 11.8	32 \pm 8.1	36.3 \pm 15.6	33.8 \pm 14.6	26.3 \pm 10.8	41.3 \pm 15.6
Creatinine	mg/dl	0.8 \pm 0.1	0.9 \pm 0.1	0.7 \pm 0	1 \pm 0.4	0.9 \pm 0.2	1.2 \pm 0.5
Sodium	mmol/l	140.3 \pm 7.2	143.3 \pm 2.1	137.3 \pm 9.7	141.2 \pm 1.2	141.7 \pm 0.6	140.7 \pm 1.5
Potassium	mmol/l	4.1 \pm 0.5	4.4 \pm 0.1	3.7 \pm 0.6	4.2 \pm 0.4	4.4 \pm 0.1	4 \pm 0.5
TSH	μ IE/ml	1.6 \pm 1.2	1.6 \pm 1.7	1.6 \pm 0.7	1.2 \pm 0.4	1.2 \pm 0.6	1.2 \pm 0.3
Vitamin B12	pg/ml	592.4 \pm 368.5	418.3 \pm 125.5	766.5 \pm 469.3	378.5 \pm 81.5	327.7 \pm 27.4	429.3 \pm 90.1
Folic acid	ng/ml	8.3 \pm 3.4	6.3 \pm 2.4	10.3 \pm 3.1	8.1 \pm 5.9	6.1 \pm 0.5	10.2 \pm 8.6
Vitamin B1	μ g/l	53.6 \pm 12.9	52.8 \pm 16.8	54.4 \pm 10.1	60.1 \pm 28	47.5 \pm 14.8	72.6 \pm 35.7
Vitamin B6	μ g/l	12.2 \pm 7.7	10.5 \pm 5.6	13.9 \pm 10	13 \pm 5	13.3 \pm 5.1	12.6 \pm 5.9
Methylmalonic acid ^{*1}	nmol/l	303.9 \pm 110.1	333.9 \pm 152.2	274 \pm 66.7	298 \pm 98.2	346 \pm 123.9	250.1 \pm 43.1
Homocysteine ^{*2}	μ mol/l	19.3 \pm 3.7	20.9 \pm 3.2	16 \pm 2.1	20.3 \pm 7.2	19.8 \pm 5.5	20.8 \pm 9.9
Holotranscobalamine	pmol/l	120.8 \pm 48	126 \pm 29.7	115.6 \pm 66.5	75.5 \pm 32.8	51.8 \pm 6.2	99.2 \pm 31

^{*1} n for MSA = 6, without PNP = 3, with PNP = 3; ^{*2} n for MSA = 6, without PNP = 4, with PNP = 2