

**Supplement Table 1 The clinical characteristics of MSA-P and MSA-C patients**

	Subtypes		X <sup>2</sup>	P value
	MSA-P (n = 30)	MSA-C (n = 19)		
Non-motor symptoms				
Syncope/dizziness			0.814	0.367
No	15 (68.2%)	7 (31.8%)		
Yes	15 (55.6%)	12 (44.4%)		
Cognitive impairment			0.228	0.633
No	24 (58.5%)	17 (41.5%)		
Yes	6 (75.0%)	2 (25.0%)		
Olfactory dysfunction			0.001	0.978
No	22 (61.1%)	14 (38.9%)		
Yes	8 (61.5%)	5 (38.5%)		
Wheezing/apnea			0.458	0.498
No	16 (57.1%)	12 (42.9%)		
Yes	14 (66.7%)	7 (33.3%)		
Sweating			1.899	0.168
No	18 (54.5%)	15 (45.5%)		
Yes	12 (75.0%)	4 (25.0%)		

Urinary/sexual dysfunction			0.000	1.000
No	5 (62.5%)	3 (37.5%)		
Yes	25 (61.0%)	16 (39.0%)		
Constipation			0.406	0.524
No	7 (53.8%)	6 (46.2%)		
Yes	23 (63.9%)	13 (36.1%)		
Orthostatic hypotension			0.567	0.451
No	8 (53.3%)	7 (46.7%)		
Yes	22 (64.7%)	12 (35.3%)		
Motor symptoms				
Loss of facial expression			0.433	0.510
No	3 (42.9%)	4 (57.1%)		
Yes	27 (64.3%)	15 (35.7%)		
Dysphagia (swallowing problems)			0.404	0.525
No	13 (56.5%)	10 (43.5%)		
Yes	17 (65.4%)	9 (34.6%)		
Dysphonia			0.000	0.994
No	5 (55.6%)	4 (44.4%)		

Yes	25 (62.5%)	15 (37.5%)		
Essential Tremor			2.029	0.154
No	16 (53.3%)	14 (46.7%)		
Yes	14 (73.7%)	5 (26.3%)		
Rigidity			0.843	0.358
No	6 (50.0%)	6 (50.0%)		
Yes	24 (64.9%)	13 (35.1%)		
Bradykinesia			1.393	0.238
No	4 (40.0%)	6 (60.0%)		
Yes	26 (66.7%)	13 (33.3%)		
Postural instability/ gait disturbance			0.433	0.510
No	3 (42.9%)	4 (57.1%)		
Yes	27 (64.3%)	15 (35.7%)		
Lower limb weakness			0.406	0.524
No	7 (53.8%)	6 (46.2%)		
Yes	23 (63.9%)	13 (36.1%)		
Coordination test (+)			0.002	0.962
No	16 (61.5%)	10 (38.5%)		
Yes	14 (60.9%)	9 (39.1%)		
Babinski-like			2.549	0.110

responses/hyperreflexia				
No	17 (53.1%)	15 (46.9%)		
Yes	13 (76.5%)	4 (23.5%)		
Imaging (MRI)	Abnormal			
Cortical atrophy			0.181	0.671
No	26 (59.1%)	18 (40.9%)		
Yes	4 (80.0%)	1 (20.0%)		
Cerebellum, brainstem atrophy			0.587	0.444
No	14 (56.0%)	11 (44.0%)		
Yes	16 (66.7%)	8 (33.3%)		
Enlargement of the fourth ventricle			0.075	0.784
No	23 (59.0%)	16 (41.0%)		
Yes	7 (70.0%)	3 (30.0%)		
Hyperintense putaminal rim			0.000	1.000
No	23 (62.2%)	14 (37.8%)		
Yes	7 (58.3%)	5 (41.7%)		
The Hot Cross Bun Sign			0.063	0.801
No	20 (62.5%)	12 (37.5%)		

Yes	10 (58.8%)	7 (41.2%)
-----	------------	-----------

---

Some common nonmotor symptoms, motor symptoms and imaging features of the MSA-P and MSA-C patients showed no differences between the subgroups.