

Table 4 Characteristics, longitudinal outcomes, and treatments of 29 GAD65 antibody-positive patients

Case no.	GAD group	Age/sex	Type 1 DM	Tumor (PNS Score)	Time from symptom onset to diagnosis (m)	Time from diagnosis to immunotherapy (m)	Time from diagnosis to IVIg (m)	Treatment		mRS		Improved symptom	Follow-up (m)
								Symptomatic treatment	Immunotherapy	Base line	Final		
Good outcome group without immunotherapy													
27	low	36/M	-	-	2	-	-	Diazepam 5-15mg/day	-	2	1	Disappearance of spasm	114
7	high	55/F	+	-	6	0	0	Diazepam 20mg/day	-	4	2	Disappearance of spasm	30
15	high	52/F	-	-	12	-	-	Diazepam 12mg/day; Baclofen 5mg/day; Eperisone 150mg/day	-	4	1	Decreased stiffness and Improved walking	89
29	high	62/F	+	-	1	-	-	Clonazepam 0.5mg/day	-	1	1	Improved balance	34

35	high	26/F	+	-	84	-	-	Diazepam 20mg/day	6-	-	5	1	Decreased stiffness	60
44	high	35/M	-	-	48	-	-	Diazepam 12mg/day; Pregabalin 300mg/day		-	3	2	Decreased stiffness	96
Good outcome group without effective long-term immunotherapy														
20	high	54/F	-	Lung cancer (2)	24	0	-	-		IVMP 1 course for one month	5	0	Disappearance of spasm	24
34	high	55/F	+	-	12	0	0	Diazepam 25mg/day	17-	IVIg 1 course for 36 months	5	2	Decreased stiffness	36
Good outcome group with effective long-term immunotherapy														
9	low	26/M	-	-	2	0	0	ITB 550µg, daily		PE 2 course for 2 months; IVIg 9 course for 2 years; IVMP 6 courses for 1 year; PSL 5-20mg/day for 2 years; tacrolimus 3mg/day for 3 years	4	2	Decreased stiffness	48

24	low	50/M	-	-	12	0	0	Diazepam 1.5-4mg/day; Dantrolene 25-50mg/day	IVIg 9 course every 4 months for 3 years	2	0	Disappearance of stiffness and spasm	36
3	high	63/F	-	-	5	1	-	Diazepam 15mg/day	IVMP 1 course, followed by PSL 25-30mg alternate-day for 60 months	5	2	Disappearance of stiffness and dysarthria	60
6	high	51/F	-	-	60	0	1	Diazepam 30-40mg/day	PE 2 courses and IVIg 1 course for 2 months, followed by IVIg 4 courses and IVCPA 2 courses for 28 months; PSL 5-30mg/day and tacrolimus 3mg/day for 30 months	4	2	Improved walking	30
12	high	71/F	-	-	36	7	7	Levetiracetam 1000mg/day; etizorham 3mg/day	IVIg 2 course for 19 months; PSL maximum dosage 30mg/day for 26 months	2	1	Improved walking and disappearance of stiffness and myoclonus	30

18	high	62/F	-	-	14	0	1	Diazepam 8mg/day	4- PE 1 course and IVMP 1 course for 1 month; IVIg 2 courses followed by 12 courses monthly administration for 17 months	3	1	Improved stiffness	18
26	high	23/F	-	-	6	0	1	-	PE 1 course, IVIg 1 course, and pulse 2 course for 1 month, followed by PSL for 14 months	3	0	Improved posture and decreased spasm	15
30	high	43/F	-	-	48	0	2	Diazepam 0.5mg/day; clonazepam 1-1.5mg/day	PE 1 course for one month, followed by IVIg 18 courses, PSL 10-45mg/day, and tacrolimus 3.5mg/day for 167 months	5	2	Decreased stiffness and improved posture	168
31	high	36/M	-	-	12	1	-	Diazepam 10mg/day	PE 1 course for one month; PSL 5mg/day for 24 months, followed by tacrolimus 2-3mg/day for 36 months	3	1	Disappearance of myoclonus and decreased stiffness	96

40	high	47/F	-	-	52	0	-	Diazepam 5-15mg/day	IVMP 1 course followed by PSL for 36 months	5	2	Disappearance of spasm	36
51	high	53/F	-	-	24	1	1	Diazepam 9mg/day; baclofen 30mg/day	PE 1 course, IVIg 1 course, and IVMP 2 courses for 1 month, followed by PSL maximum dosage 30mg/day for 37 months	5	2	Improved walking and decreased stiffness	38
Poor outcome without immunotherapy													
13	high	60/F	-	-	12	-	-	Diazepam 12mg/day Levetiracetam 500mg/day	-	4	3	decreased stiffness	50
Poor outcome without effective long-term immunotherapy													
28	low	37/F	+	-	2	9	-	Diazepam 6-8mg/day	PE 1 course for 1 month	3	3	Decreased spasm and stiffness	46
39	low	53/F	+	Breast cancer	3	0	0	Diazepam 2-6mg/day; gabapentin 200-900mg/day	IVIg 17 courses and IVMP 13 courses for 120 months	4	4	Improved walking	108

1	high	59/F	+	-	84	1	2	Diazepam 2mg occasionally; clonazepam 3mg/day; gabapentin 900mg/day; baclofen 30mg/day	PE 1 course and IVMP 1 course for 1 month, followed by IVIg 3 courses for 4 months	4	3	Decreased stiffness	144
5	high	51/F	+	Thymo ma (2)	96	0	-	Diazepam 30mg/day Clonazepam 3mg/day	IVMP 1 course and PE 1 course for 1 month	4	3	Improved walking	96
14	high	51/F	+	-	5	0	0	Diazepam 4- 16mg/day; baclofen 30- 60mg/day; pregabalin 225mg/day	IVIg 4 courses for 48 months	3	3	Improved posture	48
55	high	56/F	+	-	12	1	3	Diazepam 2mg/day; eperisone 100mg/day	PE 1 course for one month, followed by IVIg 30 courses for 180 months	4	4	Decreased stiffness	180

57	high	46/M	-	-	12	1	1	Diazepam 8mg/day	4-	IVIg 1 course and IVMP 1 course for one month	3	3	No improvement	40
Poor outcome with effective long-term immunotherapy														
54	high	25/M	+	-	84	0	1	Diazepam 15mg/day; Clonazepam 3mg/day		PE 1 course for 1 month, followed by IVIg 6 courses, PSL maximum dosage 55mg/day, and tacrolimus 3mg/day for 23 months	4	4	Improved walking	24
56	high	67/F	+	-	12	2	2	Diazepam 7mg/day		IVIg 43 courses and tacrolimus 3mg/day for 192 months	4	4	Decreased stiffness	192

CSF, cerebrospinal fluid; DM, diabetes mellitus; GAD65, glutamic acid decarboxylase-65; ITB, intrathecal baclofen therapy; IVCPA, intravenous cyclophosphamide; IVIg, intravenous immunoglobulin;

IVMP, intravenous methylprednisolone; mRS, modified Rankin scale; PE, plasma exchange; pulse, steroid pulse; PNS, paraneoplastic neurologic syndrome; PSL, oral prednisolone

§ The first two courses were intermittent, and the third and subsequent courses were administrated monthly

Case 30 and 40 were previously reported.^{e3, e4}