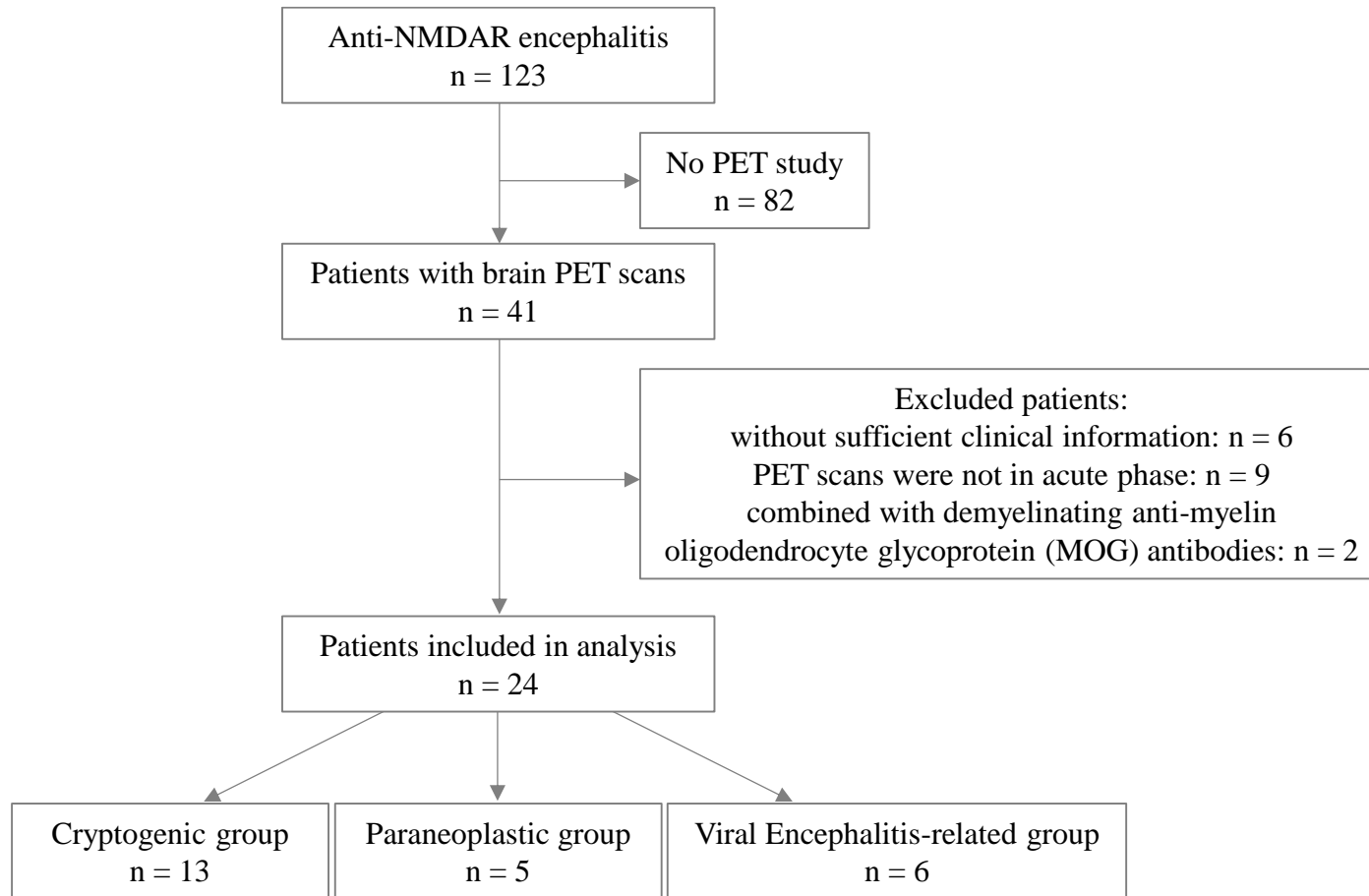


Supplementary Fig.1 The flow chart of patients' enrollment.



Supplementary Table 1 The details of demographic and clinical information for individual patients

Anti-NMDAR Encephalitis	Gender	Age, y	Main clinical symptoms	Maximum mRS	ICU admission	CSF	EEG	Interval between onset and Immunotherapies, d	Immunotherapies	Interval between onset and PET scan, wk	Interval between the last seizure and PET scan, d	Treated with steroids before PET	Treated with sedative before PET	Treated with AEDs before PET	mRS at the time of PET	Follow-up time, y/mRS at the last follow-up
<i>Cryptogenic Group (13 cases)</i>																
1.1	F	19	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction, movement disorder, decreased consciousness, autonomic dysfunction	4	No	Normal WBC, normal protein	Left diffuse slow wave and epileptic activity	21	Steroids, IVIG	1	2	No	No	Yes	3	2.5/1
1.2	M	33	Psychiatric symptoms, cognitive impairment, seizures, movement disorder, decreased consciousness	4	Yes	Normal WBC, EP	Normal	27	Steroids, IVIG, RTX	8	56	No	Yes	Yes	3	4.3/0
1.3	M	67	Psychiatric symptoms, cognitive impairment, speech dysfunction, decreased consciousness	4	No	Pleiocytosis, normal protein	NA	1	Steroids, IVIG, CTX	1	No seizure	Yes	No	No	3	1.3/1
1.4	M	18	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction, right lower limb movement disorder, decreased consciousness	4	Yes	Normal WBC, normal protein	Left dominant slow wave activity	17	Steroids, IVIG, RTX	6	1	Yes	Yes	Yes	3	4.5/0
1.5	M	21	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction, movement disorder	3	No	Normal WBC, normal protein	Left slow wave activity	5	Steroids, IVIG, CTX	1	9	Yes	No	Yes	3	3.5/0
1.6	M	24	Psychiatric symptoms, cognitive impairment, seizures, autonomic dysfunction	3	No	Pleiocytosis, normal protein	Normal	9	Steroids, IVIG, RTX	2	5	Yes	No	Yes	3	3.4/0
1.7	F	21	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction, decreased consciousness, dysgraphia	4	Yes	Normal WBC, normal protein	Diffuse slow wave activity	19	Steroids, IVIG, RTX	18	128	Yes	No	No	2	3.0/1
1.8	M	25	Psychiatric symptoms, cognitive impairment, seizures	3	No	Normal WBC, normal protein	Left dominant slow wave and epileptic activity	32	Steroids, IVIG, MMF	21	17	Yes	Yes	Yes	2	1.8/0
1.9	M	24	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction, movement disorder, decreased consciousness	5	Yes	Pleiocytosis, EP	Normal	20	Steroids, IVIG, AZA	2	No seizure	No	No	Yes	3	1.3/1
1.10	M	15	Psychiatric symptoms, cognitive impairment, seizures, decreased consciousness	4	No	Pleiocytosis, normal protein	NA	7	IVIG	3	26	No	No	No	1	3.7/0
1.11	M	58	Psychiatric symptoms, cognitive impairment	3	No	Pleiocytosis, EP	Diffuse slow wave activity	1	Steroids, IVIG	7	No seizure	Yes	Yes	No	3	0.9/2
1.12	M	16	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction	3	No	Pleiocytosis, normal protein	Normal	10	Steroids, IVIG, AZA	10	58	Yes	Yes	Yes	3	2.1/1
1.13	M	14	Seizures, decreased consciousness, autonomic dysfunction	3	No	Normal WBC, EP	Diffuse slow wave activity	59	IVIG	9	2	Yes	No	Yes	2	1.3/0

Paraneoplastic Group (5 cases)																
2.1	F	16	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction, movement disorder, decreased consciousness, central hypoventilation	5	Yes	Pleiocytosis, normal protein	Diffuse slow wave and epileptic activity	15	Steroids, IVIG	30	72	Yes	No	Yes	2	5.3/1
2.2	F	23	Psychiatric symptoms, cognitive impairment, speech dysfunction, movement disorder, decreased consciousness, central hypoventilation	5	Yes	Normal WBC, EP	Diffuse slow wave activity	8	Steroids, IVIG, PE	35	111	Yes	Yes	Yes	2	4.3/1
2.3	F	20	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction, movement disorder, decreased consciousness	5	Yes	Normal WBC, normal protein	Diffuse slow wave activity	7	Steroids, IVIG	1	4	No	No	Yes	3	4.7/0
2.4	F	27	Psychiatric symptoms, cognitive impairment, seizures, movement disorder, decreased consciousness, central hypoventilation	5	Yes	Normal WBC, normal protein	Diffuse slow wave activity	6	Steroids	8	14	Yes	No	Yes	4	5.6/0
2.5	F	23	Psychiatric symptoms, cognitive impairment, seizures, movement disorder, decreased consciousness, central hypoventilation	5	Yes	Normal WBC, normal protein	Normal	11	Steroids, IVIG, PE	9	28	Yes	No	Yes	2	1.9/0
Viral Encephalitis-related Group (6 cases)																
3.1	F	16	Psychiatric symptoms, cognitive impairment, seizures, movement disorder, decreased consciousness, autonomic dysfunction	4	No	Normal WBC, EP	Right dominant slow wave and epileptic activity	27	Steroids, IVIG, PE, RTX	6	60	No	Yes	Yes	4	3.9/2
3.2	M	43	Psychiatric symptoms, cognitive impairment, seizures, decreased consciousness	3	No	Normal WBC, EP, OCBs	Normal	103	Steroids	14	99	No	No	No	3	0.8/2
3.3	M	69	Psychiatric symptoms, cognitive impairment, speech dysfunction, decreased consciousness	4	No	Normal WBC, EP, OCBs	Normal	46	Steroids, IVIG	1	No seizure	No	Yes	No	3	4.6/2
3.4	M	44	Psychiatric symptoms, cognitive impairment, seizures, speech dysfunction, movement disorder, decreased consciousness	5	No	Normal WBC, EP, OCBs	Normal	39	Steroids, RTX	5	33	Yes	Yes	No	3	3.9/2
3.5	M	16	Psychiatric symptoms, cognitive impairment, movement disorder, autonomic dysfunction, hypogeusia	4	Yes	Normal WBC, EP, OCBs	NA	8	Steroids, AZA	4	32	Yes	Yes	Yes	3	2.9/2
3.6	M	18	Psychiatric symptoms, cognitive impairment, speech dysfunction, movement disorder, decreased consciousness, autonomic dysfunction	4	No	Pleiocytosis, EP	Right dominant slow wave activity	7	Steroids, IVIG, AZA	20	No seizure	Yes	Yes	Yes	3	2.0/2

*This patient had seizures after PET scan. *NMDAR*, N-methyl-D-aspartate receptor; *y*, years; *mRS*, modified Rankin Scale; *ICU*, intensive care unit; *CSF*, cerebrospinal fluid; *EEG*, electroencephalogram; *PET*, positron emission tomography; *wk*, weeks; *d*, days; *AEDs*, antiepileptic drugs; *F*, female; *WBC*, white blood cell count; *IVIG*, intravenous immunoglobulins; *M*, male; *EP*, elevated protein; *RTX*, rituximab; *NA*, not available; *CTX*, cyclophosphamide; *MMF*, mycophenolate mofetil; *AZA*, azathioprine; *PE*, plasma exchange; *OCBs*, oligoclonal bands.

Supplementary Table 2 The details of demographic information for individual healthy subjects

Healthy subjects	Gender	Age (Year)
1	M	31
2	M	32
3	F	63
4	M	56
5	M	55
6	M	57
7	M	56
8	M	59
9	F	57
10	M	70
