

Supplementary Table 1: Demographic, clinical, laboratory and outcome data of patients with MOG antibody-associated demyelination

Patient Number	Age at onset /sex	Ethnic group	Prior infectious prodrome	Other clinical history of note	Number of episodes - total (phenotype)	EDSS at acute presentation	Fulfills 2007 NMO criteria	Fulfills 2015 NMOSD criteria	Optic disc swelling (if ON present)	CSF white cell count (10 ⁶ /L)	CSF protein (g/L)	CSF OCB	Fulfills Revised McDonald Criteria	Follow up duration (months)	EDSS at latest clinical follow up
Patient 1	1/F	Caucasian	Yes		3 (ADEM n=1, ADEM + cerebellar /brainstem n=1, ADEM + cerebellar n=1)	8	No	No	Not recorded	5 eosinophils, 0 PMNs, 16 monos	0.25	Not done	No	25	0
Patient 2	1/M	Caucasian	Yes (adenovirus)		2 (ADEM n=1, BON n=1)	5.5	No	No	Yes, bilateral	15 PMNs, 8 monos	0.20	Neg	No	85	0
Patient 3	2/F	Caucasian	Yes	Fevers with relapses	5 acute demyelination syndromes (brainstem/cerebellar n=5, L hemiplegia n=1)	Not available	No	No	No	No cells	0.30	Neg	Yes	74	2
Patient 4	3/F	Caucasian	No	Seizures at first presentation	4 (ADEM n=3, brainstem n=1)	3	No	No	NA	No cells	0.14	Neg	No	35	1
Patient 5	4/F	Caucasian	Yes	Mother has ITP, paternal aunt has coeliac disease	2 (ADEM + LETM n=2)	9.5	No	No	NA	1 PMN, 14 monos	0.22	Neg	Yes	32	2
Patient 6	4/M	Indian	Yes	Initially diagnosed as relapsing remittin	5 (ADEM n=1, cerebellar n=1, UON n=3)	6.5	No	No	Yes	5 PMNs, 3 monos,	0.29	Neg	Yes	64	1

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				g MS											
Patient 7	4/M	Caucasian	Yes (croup 1 week prior)		2 (ADEM n=1, BON n=1)	5.5	No	No	Not recorded	25 PMNs, 25 monos	0.64	Neg	No	21	0
Patient 8	5/F	Caucasian	No	Initially diagnosed as CRION	5 (UON n=3, BON n=2)	4	No	No	Yes, bilateral	0 PMNs, 2 monos	0.24	Neg	No	68	1
Patient 9	5/F	Aboriginal	Yes	Fevers with no infectious origin in 3 relapses, developed chicken pox between first two episodes	8 (BON n=1, ADEM + LETM n=1, UON n=5, LETM n=1)	8	Yes	Yes	Yes, bilateral	28 PMNs, 42 monos	0.34	Neg	No	194	2
Patient 10	5/F	Aboriginal/Caucasian	No	initially diagnosed with MS; treated with β -IFN for 4 years following E4	5 (ADEM n=1, UON n=3, seizure n=1)	6	No	No	Not recorded	No cells	0.23	Neg	No	63	1

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Patient 11	5/M	Caucasian	Yes		3 (ADEM n=1, ADEM + LETM n=1, non-encephalitic ADS n=1)	5	No	No	NA	8 PMNs, 40 monos,	0.23	Neg	Yes	16	2
Patient 12	5/F	Caucasian	Yes	maternal cousin with ON, unexplained visual loss in maternal grandmother in her 40s	3 (BON n=1, UON n=1, short TM n=1)	5	No	No	Yes, bilateral	4 cells (differentials not provided)	0.28	Neg	No	12	1
Patient 13	5/F	Chinese	Yes	Mother with IgA nephropathy	3 (ADEM n=1, UON n=2)	5	No	No	Yes, unilateral	39 cells (differentials not provided)	1.00	Not done	No	105	0
Patient 14	5/F	Middle Eastern	No		4 (BON n=4)	5	No	No	Not recorded	3 PMNs, 5 monos	<0.10	Neg	No	97	2
Patient 15	5/M	Caucasian	Yes	Diagnosed as MS, treated with β -IFN for 5 years after E3	4 (ADEM with seizures n=1, ADEM + UON n=2, ADEM + cerebellar n=1)	6	No	No	Not recorded	64 PMNs, 9 monos	0.45	Not done	No	151	1

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Patient 16	5/M	Caucasian	Yes		3 (ADEM n=2, cerebellar n=1)	6	No	No	NA	0 PMNs, 24 monos,	0.43	Neg	No	46	1
Patient 17	6/F	Caucasian	No	Paternal grandm other with Type 1 DM	2 (BON + LETM n=1, BON n=1)	6	Yes	Yes	Yes, bilateral	0 PMNs, 28 monos	0.90	Neg	No	16	0
Patient 18	6/F	Caucasian	No		3 (L UON n=1, seizure + encephalopathy n=1, L UON + dyscognitive seizures n=1)	Not available for E1 or E2, 5 for E3	No	No	Not recorded	Not available	Not available	Neg	No	23	2
Patient 19	7/F	Caucasian	No		2 (BON n=1, LETM n=1)	5	Yes	Yes	Yes	3 PMNs, 90 monos,	0.47	Neg	No	22	1
Patient 20	7/F	Caucasian	No		5 (seizures + encephalopathy n=2, UON n=2, ADEM (with seizures) + BON n=1)	5	No	No	Not recorded	14 PMNs, 28 monos	0.31	Neg	No	85	2
Patient 21	7/F	Caucasian	Yes		5 (ADEM n=2, brainstem n=3)	8	No	No	NA	10 PMNs, 18 monos	0.44	Pos	No	21	0
Patient 22	7/F	Caucasian	No	Past history of Type	2 (BON n=2)	5	No	No	Not recorded	0 PMNs, 2 monos	0.21	Neg	No	206	1

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				1 DM and Hashimoto's thyroiditis, father with Hashimoto's thyroiditis											
Patient 23	7/M	Caucasian	No	Elevated CSF opening pressure (49 cm H ₂ O) prompted initial therapy with acetazolamide	3 (BON n=2, UON n=1)	5.5	No	No	Not recorded	1 PMN, 22 monos	0.50	Neg	No	13	0
Patient 24	7/M	Chinese	Yes		2 (LETM + UON n=1, UON n=1)	2	Yes	Yes	Yes	341 cells (differentials not provided)	1.00	Neg	No	17	0
Patient 25	9/F	Caucasian	No	Mother with psoriasis, personal	3 (UON n=3)	4	No	No	No	No CSF analysis done		No	15	1	

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				history of nausea and vomiting which abated with steroids											
Patient 26	9/M	Chinese	No		2 (ADEM n=1, ADEM + LETM n=1)	9.5	No	No	NA	23 monos	0.32	Neg	No	26	3.5
Patient 27	10/F	Pacific Islander	No	Rheumatic fever 2 years prior to E1	4 (UON n=2, seizures n=2 with one episode being epilepsy partialis continua)	Not available for E1, 5 for E2	No	No	Not recorded	0 PMNs, 1 mono	0.30	Neg	No	74	2
Patient 28	11/F	Caucasian	Yes	Fever at onset	3 (LETM + brainstem + cerebellar n=1, R UON n=1, ADEM + LETM + brainstem n=1)	4	Yes	Yes	Not recorded	4 PMNs, 32 monos	0.20	Neg	No	49	2
Patient 29	11/F	Caucasian	No	Diagnosed as MS following E3, treated for 9 months	4 (BON n=2, aphasia/ R hemiplegia/ raised ICP (normal MRI) n=1, seizure + ADS (aphasia, R hemiplegia) n=1)	Not available	No	No	Not recorded	24 PMNs, 15 monos	0.69	Pos	No	76	2

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				with β -IFN, elevated anti thyroglobulin and thyroid peroxidase antibodies											
Patient 30	12/F	Caucasian	Yes		2 (UON n=2)	3	No	No	Not recorded	Not available			No	120	0
Patient 31	12/M	Caucasian	No	Treated with glatiramer acetate for 5 years after E2	3 (UON n=2, ADEM n=1)	Not available for E1 or E2, 5 at E3	No	No	Not recorded	Not available	0.60	Neg	Yes	186	2
Patient 32	14/F	Pacific Islander	No		3 (LETM n=1, brainstem + cerebellar n=1, UON n=1)	8	No	Yes	Not recorded	1 PMN, 2 monos	0.23	Neg	Yes	76	0
Patient 33	16/M	Caucasian	Yes		2 (BON n=1, LETM n=1)	Not available for E1, 6 at E2	Yes	Yes	Not recorded	39 PMNs, 100 monos	0.4	Not done	No	81	0
Patient 34	18/M	Caucasian	Yes	Henoch Schonlei	5 (UON n=5)	5.5	No	No	Yes	0 PMNs,	0.31	Pos	No	92	5.5

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				n Purpura aged 2						6 monos					
Patient 35	26/F	Caucasian	No		2 (Sensory non spinal n=1, cerebellar n=1)	2	No	No	NA	1 PMN, 34 monos	0.53	Pos	Yes	19	1.5
Patient 36	26/F	Caucasian	Yes		10 (BON n=4, UON, n=5, short TM n=1)	2	No	No	Yes	No cells	Normal protein (value not noted)	Neg	No	84	1
Patient 37	28/F	Pacific Islander	No	Vaccine 3 weeks before episode	2 (BON n=1, UON n=1)	3	No	No	Yes, bilateral	0 PMNs, 30 monos	0.41	Neg	No	32	0
Patient 38	29/M	Indian	Yes	Fevers with no infectious origin during episodes	4 (BON n=1, LETM n=1, UON n=1, brainstem n=1)	8	Yes	Yes	Yes, bilateral	360 PMNs, 0 monos	1.87	Neg	No	40	4.5
Patient 39	31/M	Caucasian	Yes	Pertussis vaccination two weeks prior to first episode	10 (BON n=2, UON n=3, ADEM n=2, ADEM + UON n=1, cerebellar n=1, brainstem n=1)	3	No	Yes	Yes. bilateral	5 PMNs, 41 monos	0.58	Pos	Yes	55	2
Patient 40	32/M	Caucasian	No		2 (BON n=2)	4	No	No	Yes. bilateral	0 PMNs, 16	0.26	Neg	No	36.8	1

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										monos					
Patient 41	32/M	Caucasian	No		3 (UON n=3)	5	No	No	Yes, unilateral	Not available			No	20	1
Patient 42	33/F	Indian	Yes	ulcerative colitis in mother	3 (UON n=3)	1	No	No	Yes, unilateral	No CSF analysis done			No	17	0
Patient 43	33/M	Caucasian	Yes	No	2 (BON n=1, UON n=1)	5.5	No	No	Yes, unilateral	0 PMNs, 1 mono	0.43	Neg	No	15	0
Patient 44	35/F	Caucasian	Not recorded	E9 while pregnant, E10 occurred 1 week post partum	10 (short TM n=8, brainstem n=1, UON n=1)	3	No	No	No	0 PMNs, 2 monos	0.45	Neg	No	97	2
Patient 45	35/M	Indian	Not recorded		2 (UON n=2)	Not available	No	No	Not recorded	No CSF analysis done			No	14	0
Patient 46	36/F	Caucasian	No	E1 occurred 4 months post partum	4 (BON n=3, sensory (non spinal) n=1)	4	No	No	Yes, bilateral	No cells	0.16	Neg	No	60	1.5
Patient 47	37/F	Indonesian	No	E1 occurred 2 months post	2 (BON n=1, R UON n=1)	5	No	No	Yes, bilateral	2 PMNs, 1 mono	0.30	Neg	No	18	0

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				partum											
Patient 48	38/F	Caucasian	No		2 (UON + short TM + brainstem n=1), R UON n=1	7	No	Yes	Yes, unilateral	14 monos,	Normal protein (value not noted)	Neg	No	12	1
Patient 49	40/F	Caucasian	No	On β -IFN for 13 years	5 (UON + TM n=1, UON + LETM n=1, BON + LETM n=2, UON n=1)	8.5	Yes	Yes	Not recorded	No cells	Normal protein (value not noted)	Not done	No	288	3
Patient 50	44/F	Lebanese	No	Was on β -IFN and glatiramer acetate during early part of disease course when thought to have MS	5 (short TM n=1, LETM n=4)	6	No	No	NA	0 PMNs, 3 monos	1.61 g/L	Neg	No	39	3.5
Patient 51	45/F	Sri Lankan	Yes	Was on β -IFN for 3 months, then glatiramer acetate	3 (UON n=1, BON n=2) with one ON episode including a symptomatic cerebral syndrome	5.5	No	Yes	Not recorded	1 PMN, 0 monos	0.25 g/L	Neg	No	59	1

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Patient 52	47/F	Caucasian	No	Previous diagnosis of LGI1 Ab positive autoimmune encephalitis	2 (UON n=2)	4	No	No	Yes, unilateral	No CSF analysis done			No	36 months following UON (60 months following autoimmune encephalitis)	2
Patient 53	49/F	Caucasian	No		6 (UON n=3, short TM n=1, sensory non-spinal n=1, UON and sensory non-spinal n=1)	3	No	No	Yes, unilateral	0 PMNs, 21 monos	Not available	Neg	No	147	2
Patient 54	51/F	Caucasian	Yes		2 (BON n=1, sensory non-spinal n=1)	2	No	No	Yes, unilateral (on left)	No CSF analysis done			No	56	0
Patient 55	51/M	Caucasian	Yes		2 (UON n=2)	4	No	No	Yes, unilateral	No CSF analysis done			No	16.5	2
Patient 56	52/F	Caucasian	Yes	Fevers with presenta	3 (LETM n=1, UON n=2)	8.5	Yes	Yes	Not recorded	0 PMNs, 68	0.47	Not done	No	49	4

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				tion						monos					
Patient 57	53/F	Caucasian	No	Cognitive deterioration as presentation in two episodes with improvement following immunotherapy	6 (BON n=4, cognitive decline n=2)	3	No	Yes	Yes, bilateral	0 PMNs, 1 mono	0.63	Neg	Yes	45	2
Patient 58	58/F	Caucasian	No	Diagnosed as CRION	5 (BON n=1, UON n=4)	Not available	No	No	Yes, bilateral	2 monos	0.53	Neg	No	39	0
Patient 59	74/F	Caucasian	No		4 (UON n=3, brainstem n=1)	3	No	Yes	Not recorded	0 PMNs, 40 monos	0.35	Neg	No	12.5	0

ADEM acute disseminated encephalomyelitis; ADS acute demyelinating syndrome; BON bilateral optic neuritis; CRION chronic relapsing inflammatory optic neuropathy; CSF cerebrospinal fluid; DM diabetes mellitus; EDSS expanded disability status scale; F female; ICP intracranial pressure; ITP idiopathic thrombocytopenic purpura; LETM longitudinally extensive transverse myelitis; LGI 1 Ab leucine rich glioma-inactivated 1; M male; MOG myelin oligodendrocyte glycoprotein; MS multiple sclerosis; NMO neuromyelitis optica; NMOSD neuromyelitis optica spectrum disorder; OCB oligoclonal band; ON optic neuritis; PMN polymorphonuclear cell; TM transverse myelitis; UON unilateral optic neuritis