**SUPPLEMENTAL DATA**

e-Table 1: clinical and paraclinical characteristics of patients in the low concentration group.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Patient** | **Gender** | **Age onset** | **DM** | **Autoimmune disorders** | **Clinical description** | **CSF** | **MRI** | **Serum anti-GAD(U/mL)** | **CSF anti-GAD(U/mL)** | **Immunotherapy/****improvement** |
| 37 | Male | 72 | No | No | Behavioral changes for six months. Admitted for 2 seizures. Eight months later gait disturbance, paraparesis and bladder dysfunction, diagnosed with polyradiculitis.  | 360cell/uL; proteins 1244mg/L | Brain and spine normal | 6,580 | 81 | IVMP and IVIG (1st admission) /Seizures stopped |
| 38 | Female | 44 | Yes | Thyroid disease | Six months after a properly treated Lyme disease (bite, skin lesion and general malaise), fluctuating and changing gait disorder with burning legs. Normal examination and ancillary tests. Considered to be functional.  | 0 cell/uL | Normal | 3,770 | 1 | No |
| 39 | Female | 55 | Yes (LADA) | Thyroid disease | ICU admission in coma. Mild CSF pleocytosis and slow activity in EEG, without other findings. Suspected to be epileptic. Empirically treated with antibiotics, acyclovir and steroids. | Pleocytosis | Normal | 2,810 | 17 | IVMP /Complete recovery |
| 40 | Male | 61 | Yes | Thyroid disease | Transient worsening of spasms and stiffness in left limbs in a patient with left hemipyramidalism and a long-back musculature dystonia as sequelae of meningioma surgery.  | Proteins 66 mg/dL | Surgery sequelae | 2,259 | 6 | No |
| 41 | Male | 0 | Yes | Antitpo | Unclassified inborn syndrome with cerebral hemangiomas, epilepsy and autism. | - | Hemangiomas and cerebellar atrophy | 1,770 | - | No |
| 42 | Female | 23 | Yes | No | Cramps and stiffness in lower-back and legs after exercising or after standing for long.  | - | Spine MRI normal | 1,359 | - | No |
| 43 | Male | - | Yes | No | Progressive cerebellar syndrome not specified | - | - | - | 22 | No |
| 44 | Female | 40 | Yes | Arthropaty | Muscular fatigue and stiffness after exertion. Axonal polyneuropathy and in EMG.  | - | Spine MRI normal | 465 | - | No |
| 45 | Male | 69 | No | No | Late onset cerebellar ataxia and autonomic dysfunction. Possible MSA-C. | Normal | Normal | 442 | 1 | No |
| 46 | Female | 6 | Yes | Antitpo | Focal-onset non-motor seizures in childhood. | Normal | Normal | 364 | 7 | No |
| 47 | Female | 47 | No | No | Limbic encephalitis with beharvioral and psychotic symptoms and seizures. Anti-TPO 3,100, anti-Tg 229. Considered possible Hashimoto’s encephalopathy (after thorough investigations).  | 20 cell/uL, proteins 100 mg/dL | Normal | 204 | 1 | IVMP and IVIG/Recovered. |
| 48 | Male | 46 | Unknown | Unknown | CIDP (chronic inflammatory demyelinating polyneuropathy) | 11 cell/uL, proteins 92 mg/dL |  | 146 | 1 | Periodic IVIG and prednisone /Improved |
| 49 | Male | 39 | No | No | PERM with positive anti-glycine receptor antibodies.  | 15 cels/uL, proteins normal.  | Brainstem encephalitis | 93 | 1 | IVIG, IVMP, Cycloph. /Clinical and MRI improvement |
| 50 | Female | 63 | No | No | Paraneoplastic limbic encephalitis and treatment resistant status epilepticus with anti-GABAbR antibodies and pancreatic carcinoma. | 5 cell/uL, mild protein increase | Normal | 77 | 1 | IVIG, IVMP,RTX, tumor removal /Mild improvement |
| 51 | Female | 34 | No | Alopecia | Focal onset seizures and confusion, lasting a few days, with spontaneous recovery.  | 30 cell/uL, OCB positive.  | Normal | 77 | 1 | No |
| 52 | Female | 68 | No | Unknown | Episodes of focal onset non-motor seizures (temporal bilateral). Chronic epilepsy of unknown source.  | Normal | Normal | 57 | 1 | No |
| 53 | Male | 46 | Yes | No | Seronegative limbic encephalopathy | 11 cell/Ul, proteins normal | Bilateral hyperintense signal in limbic regions.  | 40 | 1 | IVMP, IVIG /Moderate improvement. |
| 54 | Male | 71 | No | Unknown | Guillain-Barré syndrome. | 2 cell/uL, proteins 139 mg/dL.  | Spine MRI normal | 22 | - | IVIg /Improved. |
| 55 |  | 56 | No | No | Symptomatic epilepsy due to right parietal glioblastoma | Normal | Glioblastoma | 12 | 1 | No |
| 56 | Male | 52 | No | Pernicious anemia | Suspected Miller-Fisher syndrome with dysarthria, severe ataxia and areflexia. Non-conclusive ancillary tests.  | - | Normal | 6 | - | IVIG /Recovery in weeks. |

DM: diabetes mellitus; CSF: cerebroespinal fluid; IVMP: intravenous methylprednisolone; IVIG: intravenous immunoglobulins; MSA-C: multiple system atrophy type C (cerebellar); PERM: progressive encephalomyelitis with rigidity and myoclonus; OCB: oligoclonal bands.

Patients 47, 49, 50 & 53 fulfilled criteria for autoimmune encephalitis syndromes.