**Supplement file**

**Analysis of soluble interleukin-2 receptor as prognostic biomarker in NMOSD and MOGAD**

Supplemental table 1. Description of patients with NINDs

|  |  |
| --- | --- |
|  | **N = 69** |
| Sex (female), n (%) | 36 (52%) |
| Age in years (SD) | 45 (17) |
| Diagnosis, n (%) |  |
| Cranial nerve pathology | 4 (6%) |
| Dementia | 2 (3%) |
| Encephalopathy | 1 (1%) |
| Functional/psychiatric | 13 (19%) |
| Headache | 18 (26%) |
| Movement disorder | 4 (6%) |
| PNP | 5 (7%) |
| Seizure | 7 (10%) |
| Sleep disorder | 3 (4%) |
| Spinal stenosis | 5 (7%) |
| Vascular pathology | 6 (9%) |
| Other/unspecified | 1 (1%) |

Abbreviations: interquartile range: IQR; polyneuropathy: PNP; noninflammatory neurologic disease (NINDs); standard deviation: SD.

Supplemental table 2. Comparison of serum sIL-2R levels with sex and age

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| EMM serum sIL-2R in IU/ml of female/male sex | | | | | | | |
|  | | Female | | Male | | Marginal R2 | *p* value |
| All | | N = 37 | 497 (439-555) | N = 32 | 521 (459-583) | 0.00 | 0.889 |
| NINDs | | N = 35 | 388 (343-439) | N = 34 | 373 (328-424) | 0.01 | 0.652 |
| AQP4-IgG+NMOSD | | N = 11 | 615 (492-796) | N = 3 | 1,233 (805-1886) | 0.31 | **0.0049** |
| AQP4-IgG-NMOSD | | N = 7 | 425 (327-553) | N = 3 | 557 (371-837) | 0.18 | 0.270 |
| MOGAD | | N = 19 | 499 (418-596) | N = 26 | 477 (409-556) | 0.01 | 0.709 |
| Linear mixed model analysis of serum sIL-2R and age | | | | | | | |
|  | N | β (95%-CI) | | Marginal R2 | | *p* value | |
| All | 138 | 0.004 (-0.00-0.01) | | 0.02 | | 0.055 | |
| NINDs | 69 | 0.00 (0.00-0.02) | | 0 | | 0.689 | |
| AQP4-IgG+NMOSD | 14 | 0.01 (0.00-0.02) | | 0.28 | | **0.016** | |
| AQP4-IgG-NMOSD | 10 | 0.00 (-0.01-0.03) | | 0.05 | | 0.581 | |
| MOGAD | 45 | -0.00 (-0.00-0.01) | | 0 | | 0.990 | |

Abbreviations: aquaporin 4-IgG seropositive neuromyelitis optica spectrum disorders: AQP4-IgG+NMOSD; aquaporin 4-IgG seronegative neuromyelitis optica spectrum disorders: AQP4-IgG-NMOSD; confidence intervals: CI; estimated marginal means: EMM; myelin oligodendrocyte glycoprotein antibody-associated disease: MOGAD; noninflammatory neurologic diseases: NIND; soluble interleukin-2 receptor: sIL-2R

Supplemental table 3. Differences of serum sIL2-R levels between attack types in patients with AQP4-IgG+NMOSD, AQP4-IgG-NMOSD, and MOGAD

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| EMM in AQP4-IgG+NMOSD in IU/ml (95%-CI) | | | | | | |
| Attack type | Yes | | No | | Marginal R2 | p value |
| Optic neuritis | N = 2 | 630 (326-1,214) | N = 5 | 602 (357-1,016) | 0.01 | 0.773 |
| Myelitis | N = 5 | 745 (313-1,769) | N = 2 | 638 (234-1,741) | 0.01 | 0.773 |
| EMM in AQP4-IgG-NMOSD in IU/ml (95%-CI) | | | | | | |
| Optic neuritis | N = 2 | 466 (355-1,098) | N = 5 | 466 (192-1,133) | 0.17 | 0.436 |
| Myelitis | N = 5 | 527 (289-963) | N = 2 | 553 (295-1,036) | 0.00 | 0.848 |
| Encephalitis | N = 1 | 675 (233-1,949) | N = 6 | 432 (283-659) | 0.19 | 0.323 |
| EMM in MOGAD in IU/ml (95%-CI) | | | | | | |
| Optic neuritis | N = 21 | 768 (384-1,533) | N = 13 | 592 (342-1,023) | 0.00 | 0.221 |
| Myelitis | N = 13 | 848 (448-1,605) | N = 21 | 536 (299-958) | 0.11 | **0.014** |
| Encephalitis | N = 6 | 687 (320-1,470) | N = 28 | 661 (392-1,117) | 0.00 | 0.894 |
| ADEM | N = 1 | 947 (316-2,840) | N = 33 | 479 (373-616) | 0.01 | 0.204 |

Some patients had more than one attack type at the time of the sIL-2R measurement.

Abbreviations: acute disseminated encephalomyelitis: ADEM; aquaporin 4-IgG seropositive neuromyelitis optica spectrum disorders: AQP4-IgG+NMOSD; aquaporin 4-IgG seronegative neuromyelitis optica spectrum disorders: AQP4-IgG-NMOSD; confidence intervals: CI; estimated marginal means: EMM; myelin oligodendrocyte glycoprotein antibody-associated disease: MOGAD; soluble interleukin-2 receptor: sIL-2R