Supplementary Table 1. Frequency of relapse MRI findings over the total of relapses

|                          | NMOSD (+) | NMOSD (-) | MOG-AD |
|--------------------------|-----------|-----------|--------|
| STM                      | 16 (12.5) | 5 (5.1)   | 3 (11.1)|
| LETM                     | 54 (42.9) | 65 (58.9) | 12 (46) |
| Optic nerve lesions      | 38 (30.4) | 31 (28.2) | 14 (55.6)|
| Area postrema lesions    | 2 (1.8)   | 3 (2.6)   | -      |
| Diencephalic lesions     | 2 (1.8)   | 3 (2.6)   | -      |
| Hemispheric white matter lesions | 2 (1.8) | 3 (2.6) | - |
| Other                    | 2 (1.8)   | -         | -      |
| Unknown                  | 2 (1.8)   | 3 (2.6)   | 6 (22.2)|

STM: short-segment transverse myelitis, LETM: longitudinally extensive transverse myelitis, NMOSD (+): AQP4-ab-positive NMOSD, NMOSD (-): AQP4-ab-negative NMOSD, MOG-AD: MOG-associated diseases.

Supplementary Table 2. Long-term treatment of the studied cohort.

|                          | NMOSD (-)  (N=45) | NMOSD (+)  (N=75) | MOG-AD  (N=11) |
|--------------------------|-------------------|-------------------|----------------|
| First treatment          |                   |                   |                |
| MMF                      | 1 (2.2)           | 3 (4)             | 1 (9)          |
| Rituximab                | 7 (15.6)          | 17 (22.7)         | 2 (18.2)       |
| Azathioprine             | 27 (60)           | 46 (61.3)         | 3 (27.3)       |
| Other                    | 3 (6.6)           | 1 (1.3)           | 1 (9)          |
| Untreated                | 7 (15.6)          | 6 (8)             | 4 (36.3)       |
| Switched first treatment | 17 (44.7)         | 28 (40.6)         | -              |
| Reason for interrupting first treatment | New relapse | 8 (47) | 14 (50) | 1 (50) |
|-----------------------------------------|-------------|--------|----------|--------|
| SE                                      | 1 (5.9)     | 4 (14.3) | -       |
| Other                                   | 8 (47)      | 10 (35.7) | 1 (50) |
| Second treatment                        |             |         |          |        |
| MMF                                     | 1 (2.2)     | 2 (2.6) | -        |
| Rituximab                               | 8 (17.8)    | 20 (26.6) | -     |
| Azathioprine                            | 31 (69)     | 49 (65.3) | -     |
| Other                                   | 1 (2.2)     | 3 (4)   | -       |
| Untreated                               | 4 (8.8)     | 1 (1.3)  | -       |
| Switched second treatment               |             |         |          |        |
|                                         | 1 (11.1)    | 8 (30.7) | -       |
| Current treatment                       |             |         |          |        |
| MMF                                     | 4 (8.9)     | 4 (5.3)  | 1 (9)    |
| Rituximab                               | 13 (28.9)   | 38 (50.6) | 6 (54.5) |
| Azathioprine                            | 23 (51.1)   | 29 (38.7) | 3 (27.3) |
| Other                                   | 1 (2.2)     | 2 (2.7)  | -       |
| Untreated                               | 4 (8.9)     | 2 (2.7)  | 1 (9)    |

MMF: mycophenolate mofetil; SE: side effect.
Supplementary table 3. Predictors of complete remission in NMOSD (positive and negative) patients from relapses

|                                         | OR  | 95%CI       | P       |
|----------------------------------------|-----|-------------|---------|
| Age at disease onset                   | 2.27| 2.11-4.12   | 0.002   |
| Female                                 | 0.57| 0.12-2.52   | 0.461   |
| Symptom at onset                       | 0.77| 0.43-1.23   | 0.862   |
| Time from onset of relapse to start of treatment | 0.95| 0.82-1.56   | 0.885   |
| Duration of long-term immunosuppressive treatment | 0.88| 0.65-1.65   | 0.421   |
| First line treatment for relapse       | 1.03| 0.67-1.78   | 0.223   |

Supplementary table 4. Predictors of complete remission in MOG-AD patients from relapses

|                                         | OR  | 95%CI       | P       |
|----------------------------------------|-----|-------------|---------|
| Age at disease onset                   | 1.56| 1.22-2.01   | 0.03    |
| Female                                 | 0.54| 0.34-2.13   | 0.237   |
| Symptom at onset                       | 1.12| 0.34-3.12   | 0.652   |
| Time from onset of relapse to start of treatment | 1.29| 0.65-2.65   | 0.126   |
| Duration of long-term immunosuppressive treatment | 0.96| 0.23-3.14   | 0.17    |
| First line treatment for relapse       | -   | -           | -       |