**Supplementary material**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **serum-IgG** | | | | **serum-IgM** | | | | **serum-IgA** | | | |
| **months** | 0 | 12 | | 24 | 0 | 12 | | 24 | 0 | 12 | | 24 |
| **median (g/l)** | 9.135 | 8.905 | | 8.220 | 1.210 | 1.050 | | 0.9600 | 1.995 | 1.765 | | 1.660 |
| **comparison between** | 0 and 12 | | 0 and 24 | | 0 and 12 | | 0 and 24 | | 0 and 12 | | 0 and 24 | |
| **P-value** | 0.0095 | | 0.0003 | | < 0.0001 | | 0.0002 | | < 0.0001 | | < 0.0001 | |

**Table e-1**

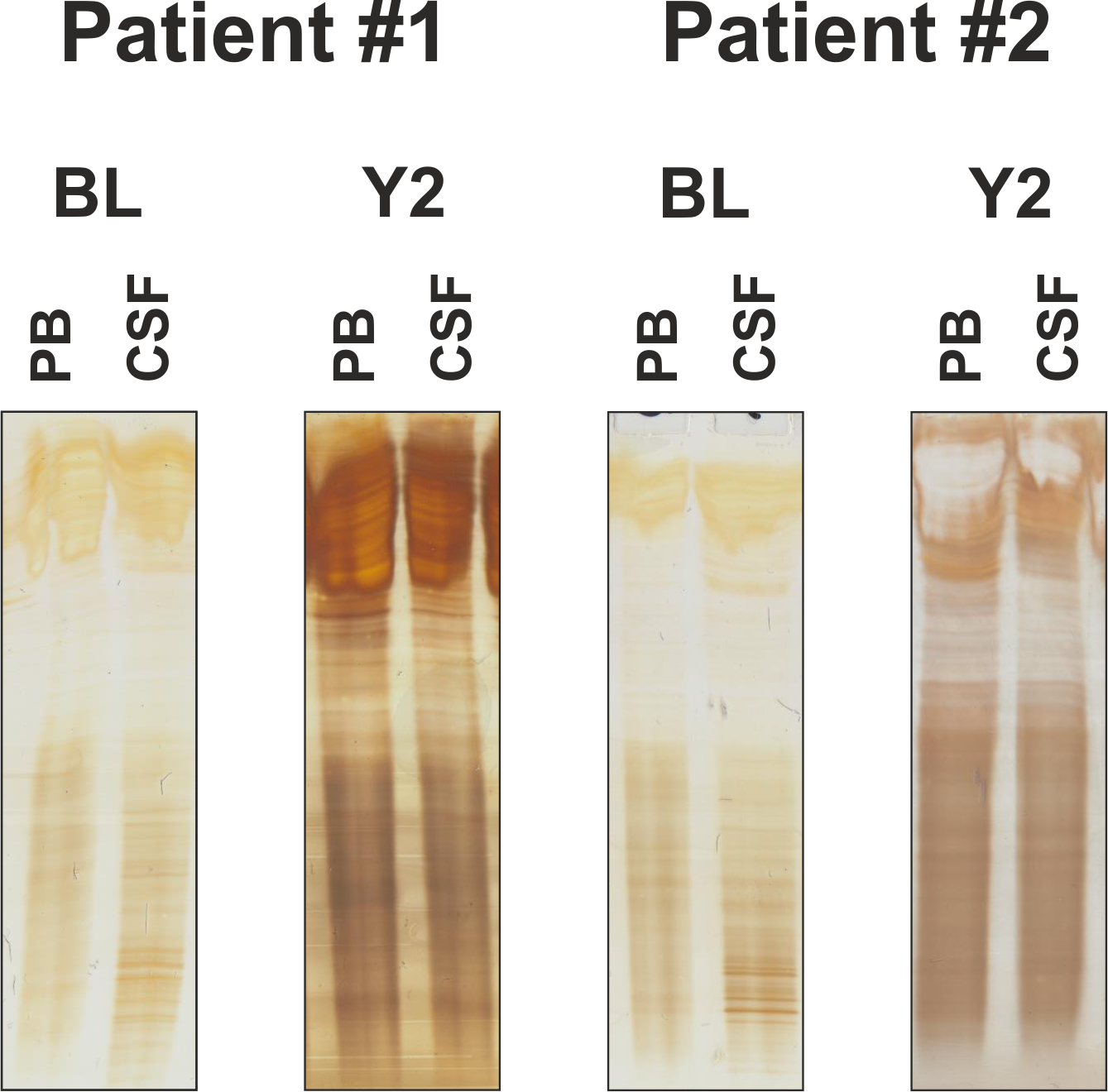
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **CSF-IgG** | | | | **CSF-IgM** | | | | **CSF-IgA** | | | |
| **months** | 0 | 12 | | 24 | 0 | 12 | | 24 | 0 | 12 | | 24 |
| **median (mg/l)** | 36.75 | 29.55 | | 25.75 | 0.5200 | 0.4705 | | 0.2570 | 3.215 | 3.125 | | 2.825 |
| **comparison between** | 0 and 12 | | 0 and 24 | | 0 and 12 | | 0 and 24 | | 0 and 12 | | 0 and 24 | |
| **P-value** | 0.0002 | | 0.0001 | | 0.0016 | | 0.0002 | | 0.0033 | | <0.0001 | |

**Table e-2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **third course** | **control** | **naïve** | ***p*** |
| **Patients, no.** | *8* | *9* | *9* | *-* |
| **Age, yr., median (range)** | *30 (21-44)* | *35 (19-58)* | *33 (20-40)* | *0.7814\** |
| **Male sex, no. (%)** | *3 (37.5)* | *3 (33.3)* | *3 (33.3)* | *0.6667#* |
| **MS duration, yr., median (range)**  - since manifestation  - since diagnosis | *2.5 (0-10)*  *1 (0-9)* | *5 (0-12)*  *2 (0-12)* | *3 (0-8)*  *0 (0-1)* | *0.5484\**  *0.4109\** |
| **Previous DMTs, no., median (range)** | *1 (0-3)* | *1 (0-6)* | *0* | *0.7271\** |
| **Baseline EDSS, median (range)** | *2.0 (1-4)* | *2.5 (0-4)* | *2 (0-4)* | *0.6110\** |
| **Relapses within past 2 years, median (range)** | *3 (0-6)* | *3 (1-5)* | *2 (1-2)* | *0.6968\** |

**Table e-3**

\*: statistical significance was calculated using Kruskal-Wallis test with Dunn’s post-test (Kruskal-Wallis statistics are shown; no significant differences were observed between columns with Dunn’s post-test); #: statistical significance calculated using Fisher’s exact test.



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Patient #1 | | Patient #2 | |
|  | BL | Y2 | BL | Y2 |
| IgG Serum | 9,85 | 8,81 | 8,33 | 6,06 |
| IgG CSF | 27,5 | 19,2 | 20,7 | 14 |
| IgA Serum | 2,33 | 2,14 | 8,33 | 4,06 |
| IgA CSF | 3,27 | 2,86 | 3 | 2,88 |
| IgM Serum | 0,64 | 0,49 | 1,26 | 0,64 |
| IgM CSF | 0,557 | 0,26 | 0,392 | 0,254 |
| Albumin Serum | 39,6 | 38,3 | 48,3 | 48 |
| Albumin CSF | 244 | 238 | 193 | 258 |
| Protein CSF | 474 | 508 | 382 | 521 |
| CSF cells | 2 | 0 | 1 | 1 |

**Figure e-1: Alemtuzumab treatment results in disappearance of previously detectable oligoclonal bands in two patients**

**A**: Determination of CSF and serum oligoclonal bands by isoelectric focusing in polyacrylamide gels with consecutive silver staining in two exemplary alemtuzumab treated patients. **B**: CSF cells, CSF protein concentration as well as IgG-, IgA-, IgM-, and albumin-levels in serum and CSF of the two patients mentioned in A. BL: baseline; CSF: cerebrospinal fluid; PB: peripheral blood; Y2: year 2