

Table SI. Demographic data of patients

| Patient                | Disease | Sex | Age at diagnosis (years) | Time from diagnosis to initiation of IVIG (months) | IS* before IVIG (n) |
|------------------------|---------|-----|--------------------------|----------------------------------------------------|---------------------|
| 1                      | PV      | F   | 48                       | 39                                                 | 2                   |
| 2                      | PV      | F   | 57                       | 180                                                | 6                   |
| 3                      | PV      | M   | 44                       | 97                                                 | 3                   |
| 4                      | PV      | F   | 40                       | 2                                                  | 2                   |
| 5                      | PV      | M   | 36                       | 36                                                 | 3                   |
| 6                      | PV      | M   | 65                       | 34                                                 | 2                   |
| 7                      | PV      | M   | 39                       | 9                                                  | 2                   |
| 8                      | PV      | F   | 61                       | 5                                                  | 4                   |
| 9                      | PV      | F   | 35                       | 19                                                 | 2                   |
| 10                     | PV      | F   | 74                       | 9                                                  | 4                   |
| 11                     | PnP     | M   | 72                       | 6                                                  | 3                   |
| 12                     | PF      | M   | 44                       | 132                                                | 2                   |
| 13                     | PF      | F   | 25                       | 8                                                  | 2                   |
| 14                     | PF      | F   | 47                       | 60                                                 | 4                   |
| 15                     | BP      | M   | 58                       | 5                                                  | 4                   |
| 16                     | PnBP    | M   | 61                       | 11                                                 | 2                   |
| Overall, mean $\pm$ SD |         |     | 50.4 $\pm$ 14.1          | 40.8 $\pm$ 52.3                                    | 2.9 $\pm$ 1.2       |

\*Immunosuppressive agents (IS) include: prednisolone, azathioprine, mycophenolate mofetil, dapsone, cyclophosphamide, methotrexate.

IVIG: intravenous immunoglobulins; M: male; F: female; PV: pemphigus vulgaris; PnP: paraneoplastic pemphigus; PF: pemphigus foliaceus; BP: bullous pemphigoid; PnBP: paraneoplastic bullous pemphigoid.

Table SII. Previous treatment before intravenous immunoglobulins (IVIg), reason for IVIg and concomitant drugs under IVIg

| Patient | Initial dose IS                                                    | Reason for initiation of IVIg      |                         |                                                                        | No response, duration, months | Concomitant drug(s) at initiation of IVIg |
|---------|--------------------------------------------------------------------|------------------------------------|-------------------------|------------------------------------------------------------------------|-------------------------------|-------------------------------------------|
|         |                                                                    | Relapse (dose at time of relapse)  | Time to relapse, months | Side-effects of IS                                                     |                               |                                           |
| 1       | P 150 mg<br>MMF 3 g                                                | <b>P 5 mg</b><br><b>MMF 1 g</b>    | 34                      |                                                                        |                               | P 40 mg<br>MMF 3 g                        |
| 2       | P 150 mg<br>AZT 150 mg<br>*CP 50 mg<br>*D (n.a.)<br>*MT 30 mg/week |                                    |                         | Osteopaenia with pathological fracture L2, toxic cardio-myopathy to CP | <b>168</b>                    | P 40 mg<br>MMF 3 g<br>D 50 mg             |
| 3       | P 100 mg<br>AZT 50 mg<br>*MMF 3 g                                  |                                    |                         | Toxic hepatopathy, path. fracture lower leg                            | <b>94</b>                     | P 40 mg<br>MMF 3 g                        |
| 4       | P 150 mg<br>MMF 3 g                                                | <b>P 80 mg</b><br><b>MMF 3 g</b>   | 1                       | Glaucoma, osteoporosis                                                 |                               | P 100 mg<br>MMF 3 g                       |
| 5       | P n.a.<br>MMF 3 g<br>*D 150 mg                                     |                                    |                         | Toxic hepatopathy                                                      | <b>36</b>                     | P 100 mg<br>MMF 3 g<br>D 150 mg           |
| 6       | P 200 mg<br>*MMF 3 g                                               | <b>P 5 mg</b><br><b>MMF 2 g</b>    | 31                      | Deep vein thrombosis, osteopaenia                                      |                               | P 60mg<br>MMF 3g                          |
| 7       | P 150 mg<br>MMF 3 g<br>*D 100 mg                                   |                                    |                         |                                                                        | <b>6</b>                      | P 40 mg<br>MMF 3 g<br>D 100 mg            |
| 8       | P 130 mg<br>MMF 3 g<br>*D 50 mg<br>*AZT 150 mg                     | <b>P 60 mg</b><br><b>MMF 3 g</b>   | 2                       | TEN, osteoporosis, steroid-induced diabetes                            |                               | P 20 mg<br>AZT 150 mg                     |
| 9       | P 150 mg<br>MMF 3 g                                                |                                    |                         | Diarrhoea, nausea, massive weight loss                                 | <b>5</b>                      | P 30 mg<br>MMF 3g                         |
| 10      | P 250 mg<br>*MMF 3 g<br>*D 100 mg                                  | <b>P 25 mg</b>                     | 6                       |                                                                        | 3                             | P 80 mg<br>MMF 3 g                        |
| 11      | P 250 mg<br>MMF 3 g<br>*D 100 mg                                   |                                    |                         | Steroid-induced diabetes, osteoporosis                                 | <b>2</b>                      | P 50 mg                                   |
| 12      | P 32 mg<br>*Resochin n.a.<br>*P 150 mg<br>*MMF 3 g                 |                                    |                         |                                                                        | <b>124</b>                    | P 80 mg<br>MMF 3 g                        |
| 13      | P 150 mg<br>MMF 3 g                                                | <b>P 80 mg</b><br><b>MMF 3 g</b>   | <1                      | Abdominal cramps                                                       |                               | P 40 mg<br>MMF 3 g                        |
| 14      | P 150 mg<br>AZT 100 mg<br>*MMF 3 g<br>*D 50 mg                     | <b>P n.a.</b><br><b>AZT 100 mg</b> | 15                      |                                                                        |                               | P 70 mg<br>MMF 3 g<br>D 50 mg             |
| 15      | P 150 mg<br>AZT 100 mg<br>*MMF 3 g<br>*D 100 mg                    |                                    |                         | Toxic hepatopathy                                                      | <b>5</b>                      | P 80 mg<br>D 100 mg                       |
| 16      | P 80 mg<br>*P200 mg<br>*MMF 3 g                                    | <b>P 7.5 mg</b>                    | 7                       |                                                                        | 3                             | P 40 mg<br>MMF 3 g                        |

Immunosuppressive agents (IS) include: prednisolone (P), azathioprine (AZT), mycophenolate mofetil (MMF), dapsone (D), cyclophosphamide (CP), and methotrexate (MT).

\*Additional IS were initiated after non-response, relapse or serious side-effects to therapy.

n.a.: detailed data not available because patient was initially treated at another centre; TEN: toxic epidermal necrolysis.

The major reason for the initiation of IVIg is shown in bold.

Table SIII. Incidence of adverse events under intravenous immunoglobulins (IVIg) therapy

| Adverse event                           | Pemphigus (14) (PV, PnP, PF) |                           | Pemphigoid (2) (BP, PnBP) |                           | Overall (16)             |                           |
|-----------------------------------------|------------------------------|---------------------------|---------------------------|---------------------------|--------------------------|---------------------------|
|                                         | Patients<br><i>n</i> (%)     | Infusions<br><i>n</i> (%) | Patients<br><i>n</i> (%)  | Infusions<br><i>n</i> (%) | Patients<br><i>n</i> (%) | Infusions<br><i>n</i> (%) |
| Headache                                | 6 (42.9)                     | 80 (27.1)                 | 1 (50.0)                  | 1 (2.1)                   | 7 (43.8)                 | 81 (23.6)                 |
| Fatigue                                 | 5 (35.7)                     | 7 (2.4)                   | 2 (100)                   | 4 (8.3)                   | 7 (43.8)                 | 11 (3.2)                  |
| Back pain                               | 4 (28.6)                     | 30 (10.2)                 | 1 (50.0)                  | 1 (2.1)                   | 5 (31.3)                 | 31 (9.0)                  |
| Increased blood pressure                | 2 (14.3)                     | 7 (2.4)                   | 2 (100)                   | 6 (12.5)                  | 4 (25.0)                 | 13 (3.8)                  |
| Decreased blood pressure                | 4 (28.6)                     | 37 (12.5)                 | 0 (0)                     | 0 (0)                     | 4 (25.0)                 | 37 (10.8)                 |
| Nausea                                  | 3 (21.4)                     | 4 (1.4)                   | 0 (0)                     | 0 (0)                     | 3 (18.8)                 | 4 (1.2)                   |
| Circulatory problems (vertigo/sweating) | 3 (21.4)                     | 8 (2.7)                   | 0 (0)                     | 0 (0)                     | 3 (18.8)                 | 8 (2.3)                   |
| Thoracic discomfort                     | 0 (0)                        | 0 (0)                     | 1 (50.0)                  | 2 (4.2)                   | 1 (6.3)                  | 2 (0.6)                   |
| Blurred vision                          | 1 (7.1)                      | 1 (0.3)                   | 1 (50.0)                  | 4 (8.3)                   | 2 (12.5)                 | 5 (1.5)                   |
| Skin symptoms                           | 1 (7.1)                      | 1 (0.3)                   | 0 (0)                     | 0 (0)                     | 1 (6.3)                  | 1 (0.3)                   |
| Allergic reaction                       | 0 (0)                        | 0 (0)                     | 0 (0)                     | 0 (0)                     | 0 (0)                    | 0 (0)                     |
| Overall                                 | 12 (85.7)                    | 175 (59.3)                | 2 (100)                   | 18 (37.5)                 | 14 (87.5)                | 193 (56.3)                |

Table SIV. Efficacy of intravenous immunoglobulins (IVIg) in 4 half-year (HY) periods during the first 24 months of therapy

| Disease (n)     | HY 1                     |          |          |         | HY 2                     |          |          |     | HY 3                     |          |         |          | HY 4                     |          |         |          | HY 1-4   |          |
|-----------------|--------------------------|----------|----------|---------|--------------------------|----------|----------|-----|--------------------------|----------|---------|----------|--------------------------|----------|---------|----------|----------|----------|
|                 | Score <sup>a</sup> n (%) |          |          |         | Score <sup>a</sup> n (%) |          |          |     | Score <sup>a</sup> n (%) |          |         |          | Score <sup>a</sup> n (%) |          |         |          | Score    | Mean ±SD |
|                 | 1                        | 2        | 3        | 4       | 1                        | 2        | 3        | 4   | 1                        | 2        | 3       | 4        | 1                        | 2        | 3       | 4        |          |          |
| PV (7-10)       | 4                        | 3        | 3        | 0       | 7                        | 2        | 1        | 0   | 5                        | 1        | 0       | 2        | 4                        | 2        | 0       | 1        | 1.6±0.76 |          |
| PnBP (1)        | 0                        | 1        | 0        | 0       | 1                        | 0        | 0        | 0   | 0                        | 0        | 1       | 0        | 0                        | 0        | 0       | 1        | 2.5      |          |
| PF (2-3)        | 2                        | 1        | 0        | 0       | 3                        | 0        | 0        | 0   | 2                        | 0        | 0       | 0        | 2                        | 0        | 0       | 0        | 1.1±0.14 |          |
| BP (1)          | 0                        | 0        | 0        | 1       | 0                        | 0        | 1        | 0   | 0                        | 1        | 0       | 0        | 0                        | 0        | 1       | 0        | 3.0      |          |
| PnBP (1)        | 1                        | 0        | 0        | 0       | 1                        | 0        | 0        | 0   | 1                        | 0        | 0       | 0        | 1                        | 0        | 0       | 0        | 1.0      |          |
| Overall (12-16) | 7 (43.8)                 | 5 (31.3) | 3 (18.8) | 1 (6.3) | 12 (75.0)                | 2 (12.5) | 2 (12.5) | (0) | 8 (61.5)                 | 2 (15.4) | 1 (7.7) | 2 (15.4) | 7 (58.3)                 | 2 (16.7) | 1 (8.3) | 2 (16.7) | 1.6±0.8  |          |

<sup>a</sup>Score: 1 (very good); 2 (good); 3 (satisfactory); 4 (unsatisfactory) (for further information see Material and Methods).

PV: pemphigus vulgaris; PnBP: paraneoplastic pemphigus; PF: pemphigus foliaceus; BP: bullous pemphigoid; PnBP: paraneoplastic bullous pemphigoid.