**Methods**

*Patients*

Data were collected retrospectively from the medical records of patients with pemphigus followed up in the immunodermatology clinic of Rabin Medical Center in Petah Tikva, Israel, between 2007 and 2012. All patients had an established diagnosis of pemphigus vulgaris or pemphigus foliaceus according to clinical, immunofluorescence, and histopathological criteria. The study cohort was established using the following protocol: files of all pemphigus patients were manually reviewed for rituximab treatment recommendation. For additional corroboration, the supreme committee for the nonbasket drugs of the Clalit Health Services (the biggest health maintenance organization in Israel) and the institutional pharmacy were queried for the names of pemphigus patients who requested rituximab treatment. The study was approved by the institutional review board. The indications for rituximab treatment at that time were active disease despite treatment with 1–1.5 mg/kg/day of prednisone equivalent for a minimum of 3 weeks with or without a concomitant conventional immunosuppressive drug or severe adverse effects to corticosteroid therapy. Patients were classified into two groups: patients treated with rituximab and patients who were recommended rituximab treatment but did not receive it.

*Assessment of Response to Treatment*

Response to treatment was determined according to the definitions of an international consensus conference: complete remission is the absence of new or established lesions, and partial remission is the presence of transient new lesions that heal within 1 week. Both can be either off or on minimal therapy [11], defined as 10 mg/day of prednisone equivalent and/or minimal adjuvant therapy for at least 2 months. As many patients with severe disease, such as those in our cohort, receive more than 10 mg/day of prednisone equivalent over many months, even following remission, we opted to apply a definition of “moderate therapy” at a maximum of 40 mg/day prednisone equivalent, instead of minimal therapy. Patients who failed to achieve a remission following a single cycle of rituximab and received additional cycles within 12 months were defined as nonresponders. Relapse was defined as the appearance of 3 or more new lesions a month that do not heal spontaneously within 1 week. The pemphigus disease area index was assessed at baseline and after rituximab was indicated or given.

*Treatment Protocol*

Rituximab was administered either at the “rheumatoid arthritis dosage” (2 rituximab infusions at a dose of 1,000 mg on days 1 and 15) or at the “lymphoma dosage” (375 mg/m2 once a week for 4 consecutive weeks). The majority of the patients were treated with concomitant immunosuppressive therapy during rituximab treatment.

*Study End Points*

The primary end point was the rate of remission (partial or complete, on or off moderate therapy) 12 months after rituximab. The secondary end points were time to remission, relapse rates, and adverse effects of treatment. In accordance with the US Food and Drug Administration, an adverse event was considered severe if it resulted in a life-threatening adverse event, inpatient hospitalization or prolongation of existing hospitalization, a persistent or significant incapacity, or substantial disruption of the ability to conduct normal life functions.

*Statistical Analysis*

Baseline characteristics and clinical outcomes were summarized using descriptive statistics and compared by *t* test and Fisher’s exact test, as appropriate.