

Supplemental Methods

Study Design, Setting, and Participants

The present retrospective study was conducted at the Department of Nephrology, Post Graduate Institute of Medical Education and Research, Chandigarh, India. In the current study, adult patients aged 18 years or older, enrolled in the 'Primary Membranous Nephropathy Registry,' who were either resistant/refractory to or relapsed after an initial treatment with *cyclical* cyclophosphamide/Corticosteroids (CYC/CS), rituximab, or both were included. These patients had a minimum gap of nine months between initiating primary therapy and their inclusion in the study. Exclusion criteria included an eGFR of <15 ml/min/1.73 m², active lupus nephritis, ANCA-associated vasculitis, and membranous nephropathy in patients testing positive for hepatitis B, hepatitis C, or HIV-I/II. The Institute's Ethics Committee approved the study.

Protocol

The treatment protocol consisted of oral CYC, two doses of rituximab, and oral prednisolone, with steroids tapered to 15 mg/day within five weeks, as outlined in Supplemental Table 1. All patients received prophylaxis against *Pneumocystis jirovecii* pneumonia (cotrimoxazole) and peptic ulcer disease. Monthly follow-ups were conducted quarterly, and data were collected on blood pressure, blood glucose, proteinuria, serum creatinine, and serum albumin.

Outcomes and Definitions

Outcome: remission rates (complete remission (CR) and partial remission (PR)) at 6, 12 months and at the last follow-up.

Nephrotic syndrome: Proteinuria ≥ 3.5 g/day or ≥ 2 g/day with serum albumin <2.5 g/dL.

CR: Proteinuria <0.5 g/day with normal serum albumin and serum creatinine (or eGFR >60 mL/min/1.73 m²).

PR: Proteinuria ≥ 0.5 g/day but <3.5 g/day, reduced by >50% from baseline, with normal serum albumin (≥ 3.0 g/dL) and stable serum creatinine.

Resistant: Patients who failed to achieve CR or PR, developed ESKD, required additional therapy, or died, regardless of remission status.

Immunological remission: Anti-PLA2R <14 RU/ml in a patient previously testing positive (≥ 14 RU/ml) for anti-PLA2R antibodies.

Clinico-serological dissociation: Immunological remission with clinically persistent nephrotic syndrome or vice-versa.

Statistical Analysis

Data are presented as numbers, percentages, and mean with standard deviations (for normally distributed variables) or median with interquartile ranges (for non-normally distributed variables). Statistical analysis was performed using GraphPad Prism Version 10.0 (La Jolla, California, USA).