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## **Relapse During and After Regular Single-Dose Rituximab Treatment in Adult Patients with Steroid-Dependent Nephrotic Syndrome**

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**Objectives :** 30 Patients with primary NS who started regular RTX treatment at our department between December 2014 and March 2021 were included. The inclusion criteria were as follows: 1) patients aged 18 years or older, 2) those who achieved NS remission with immunosuppressive treatment including GC, and 3) those receiving GC due to relapse at least twice after the GC dose was tapered or GC treatment was discontinued.

**Methods :** Patients received regular single-dose rituximab (500 mg/body) intravenously every 6 months. Rituximab treatment was discontinued after four to six doses if there was no recurrence of nephrotic syndrome. Glucocorticoid discontinuation with remission, first relapse after rituximab initiation, and relapse after regular rituximab treatment discontinuation were evaluated.

**Results :** Of 30 patients, 27 underwent renal biopsy, and 24 had minimal change disease. Three patients presented with focal segmental glomerulosclerosis. The median age upon rituximab treatment initiation was 38 (range: 18–67) years. In total, 17 and 19 patients were men and women, respectively. Prior to rituximab treatment, the median number of nephrotic syndrome relapses in the patients was 5 (range: 2 to >20). The median observation period after starting rituximab treatment was 51 (range: 18–105) months. The 1-year discontinuation rate of glucocorticoids with remission was 83%. All patients discontinued glucocorticoid treatment at least once until 3 years and 7 months. During regular rituximab treatment, only one patient relapsed, and the 2-year relapse rate was 3%. Twenty-five patients discontinued regular rituximab treatment after a median number of six (4-12) doses. Six patients relapsed after discontinuing rituximab, and the 1- and 2-year relapse rates were 9% and 25%, respectively.

**Conclusions :** All patients who received regular single-dose of rituximab could discontinue glucocorticoid treatment with remission. Three-fourths of the patients remained in remission for >2 years after discontinuing rituximab treatment. Therefore, rituximab treatment discontinuation should be considered in patients with long-term remission.