

## Oral Communication Abstract

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### Efficacy and safety of long-term use of Rituximab in pediatric patients with nephrotic syndrome

**NAYE CHOI**<sup>1</sup>, Jeesu Min<sup>1</sup>, Hyeonju Lee<sup>1</sup>, Ji hyun Kim<sup>2</sup>, Hee Gyung Kang<sup>1</sup>, Yo Han Ahn<sup>1</sup>

<sup>1</sup>Department of Pediatrics, Seoul National University Hospital, Korea, Republic of

<sup>2</sup>Department of Pediatrics, Seoul National University Bundang Hospital, Korea, Republic of

**Objectives:** Rituximab (RTX) is an effective therapeutic agent widely used in children with nephrotic syndrome (NS). However, long-term effects after the B cell depleting treatment remain unclear. We investigated the efficacy and safety of long-term use of RTX in pediatric NS patients.

**Methods:** We retrospectively reviewed the medical records of 58 patients with steroid-dependent or steroid-resistant NS who had received more than 3 cycles of RTX. Each cycle consisted of one to four infusions of RTX (375 mg/m<sup>2</sup> per dose) until the depletion of B lymphocytes.

**Results:** The first cycle of RTX was started at the median age of 12.1 (interquartile ranges (IQR) 8.8–14.1) years. Median 5 (IQR 4–8) times of RTX cycles were used during a period of median 4.0 (IQR 2.3–5.9) years. The B lymphocytes recovered to 1% at a median 5.7 (IQR 4.8–6.7) months after the completion of RTX administration. The relapse significantly decreased from median 2.0 (IQR 1.0–3.0) times per year to 0.2 (IQR 0.1–0.5) times per year after long-term RTX treatments ( $P < 0.001$ ). Height growth and hypertension improved significantly compared with prior to the long-term use of RTX. Acute infusion reactions were observed in 21 (36.2%) patients. During long-term RTX treatments, hypogammaglobulinemia developed in 7 (12.1%) patients, and neutropenia was noted in 4 (6.9%) patients. Severe infections which required hospitalization and/or intravenous antibiotic were observed in 6 (10.3%) patients, but no life-threatening infections were identified. No secondary neoplasms or opportunistic infections occurred during the study period.

**Conclusions:** Long-term therapeutic use of RTX could be effective and relatively safe in pediatric patients with NS. However, impaired immunity should be monitored and carefully followed up during the long-term use of RTX.