

## 소아 신증후군에서 rituximab 치료

서울대학교 어린이병원 소아청소년과<sup>1</sup>, 인제대학교 해운대백병원 소아청소년과<sup>2</sup>

이세은<sup>1</sup>, 한경희<sup>1</sup>, 이소희<sup>1</sup>, 이현경<sup>1</sup>, 강희경<sup>1</sup>, 하일수<sup>1</sup>, 최 용<sup>2</sup>, 정해일<sup>1</sup>

### Rituximab Treatment in Childhood Nephrotic Syndrome

Se Eun Lee<sup>1</sup>, Kyoung Hee Han<sup>1</sup>, So Hee Lee<sup>1</sup>, Hyun Kyung Lee<sup>1</sup>  
Hee Gyung Kang<sup>1</sup>, Il Soo Ha<sup>1</sup>, Yong Choi<sup>2</sup>, Hae Il Cheong<sup>1</sup>

Seoul National University Children's Hospital<sup>1</sup>, Inje University Haeundae Paik Hospital<sup>2</sup>

Recently, rituximab (RTX), a chimeric monoclonal antibody against CD20, has been tried in patients with drug-dependent (DDNS) and drug-resistant nephrotic syndrome (DRNS) with promising results. We retrospectively reviewed the experience on RTX treatment in 17 children with intractable DDNS (13 patients, M:F=11:2) and DRNS (4 patients, M:F=1:3) in our hospital.

The mean age at the onset and mean duration of nephrotic syndrome were  $5.0 \pm 2.6$  and  $8.9 \pm 5.4$  years, respectively. A renal biopsy was done in 13 patients; minimal change disease in 9 and focal segmental glomerulosclerosis in 4. RTX treatment consisted of induction treatment (1-4 doses of  $375 \text{ mg/M}^2$  of RTX) and maintenance treatment (booster dose(s) at the time of relapse or reappearance of CD19 (+) cells in the peripheral blood). In 13 patients with DDNS, B cell depletion had lasted  $5.3 \pm 2.8$ ,  $7.0 \pm 2.9$  and  $7.6 \pm 2.5$  months after 1-dose (n=2), 2-dose (n=6) and 4-dose (n=5) induction treatment, respectively. While two patients had continuing remission without any maintenance treatment, remaining 11 patients had continuing remission with 1-4 booster doses. There was no difference in the clinical course according to the number of induction doses. Two children with DRNS showed complete remission after induction treatment and 2 others had no response. None of children developed serious side effects associated with RTX treatment.

In conclusion, RTX is an efficient and safe drug for the treatment of DDNS in children and can also be tried in children with DRNS. One or two doses of RTX are enough for induction treatment. However, the adequate protocol for maintenance treatment remains to be determined.

**Key Words:** Rituximab, 신증후군  
Rituximab, Nephrotic syndrome