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LETTER TO THE EDITORS

Rituximab-induced hypogammaglobulinemia in nephrotic syndrome: what is the true burden?

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To the editor,
I read with great interest the article by Choi et al. entitled "Efficacy and safety of long-term repeated use of rituximab in pediatric patients with nephrotic syndrome" [1]. In this single-centre retrospective study, 50 children with nephrotic syndrome treated with repeated courses of rituximab were evaluated. The authors concluded that this treatment strategy was efficacious and safe.

Of note, only 8% patients in this study were reported to develop hypogammaglobulinemia. Indeed, hypogammaglobulinemia is a frequent complication following rituximab and can occur in up to 14–58% of children with nephrotic syndrome [2, 3]. While rituximab is used in various paediatric glomerular diseases, the risk of hypogammaglobulinemia appears to be higher in nephrotic syndrome owing to heavy proteinuria and immunosuppression use [3]. In addition, monitoring and definition of hypogammaglobulinemia were variable among previous trials. Consequently, it is difficult to accurately assess the incidence and significance of rituximab-induced hypogammaglobulinemia.

In the current study, the low rates of hypogammaglobulinemia may be accounted for by the fact that immunoglobulins were monitored only in 31% of patients. It is also unclear how frequently these patients were monitored, whether concomitant immunosuppression was used, and if there was pre-existing hypogammaglobulinemia. Although the levels of immunoglobulin do not correlate closely with infection [2], these values would be of interest to the readers to understand the severity of hypogammaglobulinemia. In conclusion, immunoglobulin G, A and M should be monitored regularly before and after rituximab, and intravenous immunoglobulin replacement may be considered in selected symptomatic patients with hypogammaglobulinemia.

References

1. Choi N, Min J, Kim JH et al (2024) Efficacy and safety of long-term repeated use of rituximab in pediatric patients with nephrotic syndrome. Pediatr Nephrol 39:771–780
2. Chan EY-H, Yap DY-H, Colucci M et al (2023) Use of rituximab in childhood idiopathic nephrotic syndrome. Clin J Am Soc Nephrol 18:533–548
3. Chan EY-H, Ma AL-T, Tullus K (2022) Hypogammaglobulinaemia following rituximab therapy in childhood nephrotic syndrome. Pediatr Nephrol 37:927–931

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