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Prognostic Implications of Dynamic Change in Glomerular C3 Deposition in Membranous Nephropathy

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Objectives : Membranous nephropathy (MN) is a leading cause of nephrotic syndrome in adults, with complement activation playing a key role its pathophysiology. However, the prognostic significance of glomerular C3 deposition, particularly in follow-up biopsies, remains unclear. This study evaluates the impact of changes in C3 deposition on clinical outcomes in MN patients following intravenous methylprednisolone (MPD) therapy.

Methods : This retrospective study analyzed 11 patients with pathologically diagnosed MN who achieved remission after intravenous MPD pulse therapy and underwent follow-up kidney biopsies. Patients were stratified based on the presence or absence of glomerular C3 deposition in the follow-up biopsy. Clinical, laboratory, and histopathological data were analyzed to assess treatment response and long-term outcomes.

Results : Eight patients showed resolution of C3 deposition, while three exhibited persistent C3 deposition. Both groups experienced significant proteinuria reduction. However, patients with persistent-C3 deposition had higher recurrence rates and minimal histological improvement, whereas those with resolved C3 deposition maintained remission. Over a mean follow-up of 5.3 years, all patients in the no-C3 deposition group remained relapse-free, whereas all patients in the persistent-C3 deposition group experienced relapse.

Conclusions : MPD pulse therapy remains a promising therapeutic modality for MN cases resistant to conventional oral steroid therapy. Although larger studies are necessary, the disappearance of glomerular C3 deposition may serve as a prognostic marker for treatment response, rather than proteinuria resolution, in MN.

Figure 1..jpg

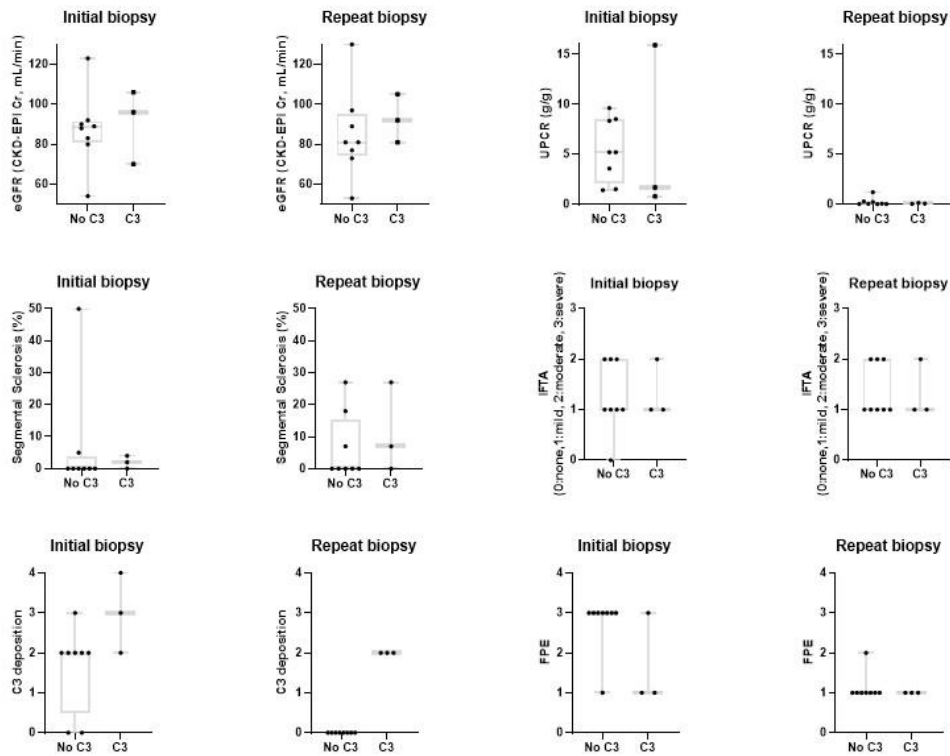


Figure 1..jpg

