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Effect of immunosuppressive agents on clinical outcomes in idiopathic membranous nephropathy

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Objectives: Immunotherapy is recommended for high risk patients with idiopathic membranous nephropathy (iMN). However, Comparative studies for the effect of immunosuppressive agents in patients with iMN are limited. We evaluated the effect of immunosuppressive agents on clinical outcomes in patients with iMN.

Methods: Among the 2,027 iMN patients, data from 489 patients who received conservative or immunosuppressive treatment at four university based hospitals in Korea between 2001 and 2020 were retrospectively analyzed. Primary outcomes were complete or partial remission of proteinuria, and secondary outcomes were renal or patient survival, and infection.

Results: The mean age of total patients was 56.2 ± 13.5 years and 266 (54.4%) were male. Of 489 patients, 357 (73.0%) received immunosuppressive agents. Immunosuppressant treatment group had shown significantly lower albumin level (2.6 ± 0.6 vs. 3.3 ± 0.8 g/dL), higher total cholesterol (287.9 ± 101.2 vs. 234.0 ± 90.8 mg/dL), heavier proteinuria level (6.5 ± 4.7 vs. 3.8 ± 4.3 g/g) and higher proportion of nephrotic-range proteinuria (60.5% vs. 34.1%) compared to conservative treatment group. One-hundred ninety eight (55.5%) of 357 patients reached complete or partial remission at 12 months in immunosuppressant treatment group, whereas 51 (38.6%) of 132 patients reached in conservative treatment group ($p=0.002$). When analyzed according to the type of immunosuppressant, cumulative incidence of remission was significantly higher in patients treated with cyclophosphamide compared to cyclosporine ($p=0.005$). Renal and patient survival were similar between immunosuppressant and conservative treatment group. Immunosuppressive treatment group (21.8%) had significantly higher incidence of infections compared to conservative treatment group (13.6%, $p=0.03$).

Conclusions: The cumulative incidence of remission was significantly different between immunosuppressive and conservative treatment group as well as according to the immunosuppressive agents. Infection was significantly higher in immunosuppressive treatment group compared to conservative treatment group.