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Effect of Tacrolimus in idiopathic membranous nephropathy: A meta-analysis

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Background & Aim: The efficacy and safety of immunosuppression for idiopathic membranous nephropathy (IMN) are still controversial. Recent studies showed tacrolimus is effective in the treatment of IMN. To evaluate the efficacy and safety of tacrolimus (TAC) for IMN, we conducted a meta-analysis of published medical literatures.

Methods: Studies addressing the effect of tacrolimus in IMN were searched on PUBMED, EMBASE, The Cochrane Library, and ClinicalTrials.gov (March 2013). Trials comparing tacrolimus with corticosteroid versus control group (cyclophosphamide with corticosteroid) were included. The quality of the studies was assessed using Jadad method. Statistical analyses were performed using Review Manager 5.2 and the results were summarized by calculating the risk ratio (RR) for dichotomous data or the mean difference (MD) for continuous data with 95% confident interval (CI).

Results: A total of four studies (259 patients) were included. It was shown that therapy with tacrolimus plus corticosteroid had a higher complete remission rate compared to therapy with cyclophosphamide plus corticosteroid (RR=1.53, 95% CI: 1.05-2.24, P<0.05) but not significant on total remission, partial remission and adverse effects. Also, no significant alterations were observed in proteinuria and serum albumin level between the two groups. During the entire follow-up period, serum creatinine level remained stable in both groups without $\geq 50\%$ increase in its level.

Conclusions: TAC is more effective than cyclophosphamide (CTX) by achieving complete remission in patients with IMN. Multi-ethnic RCTs are needed to evaluate its long-term efficacy and safety.

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