



Effects of *Tripterygium wilfordii* glycosides on regulatory T cells and Th17 in an IgA nephropathy rat model

F. Chen*, Y.L. Ma*, H. Ding and B.P. Chen

Department of Nephrology, Henan University Huaihe Hospital, Kaifeng, China

Corresponding author: B.P. Chen
E-mail: baopingchencn@163.com

*These authors contributed equally to this study.

Genet. Mol. Res. 14 (4): 14900-14907 (2015)

Received April 9, 2015

Accepted July 13, 2015

Published November 18, 2015

DOI <http://dx.doi.org/10.4238/2015.November.18.55>

ABSTRACT. In this study, we examined the effects of *Tripterygium wilfordii* glycosides (TWGs) on Th17 and regulatory T cells (Tregs) in an immunoglobulin A nephropathy (IgAN) rat model. IgAN model rats were randomly divided into the model group, TWG treatment group, and prednisone group. Normal rats were included as controls. There were 6 rats in each group. The urine protein levels and the number of red blood cells in urine were analyzed at 24 h. IgA deposition in renal tissue was detected by fluorescence microscopy. The concentration of interleukin-17 in serum was detected by an enzyme-linked immunosorbent assay and the number of Tregs in blood was analyzed by flow cytometry. TWGs and prednisone significantly reduced urine protein levels and urine red blood cells at 24 h in IgAN model rats ($P < 0.01$), but prednisone had a greater effect than did TWGs ($P < 0.05$). TWGs and prednisone reduced IgA deposition in renal tissue, but prednisone had a greater effect than TWGs. *T. wilfordii* glycosides and prednisone significantly decreased the serum IL-17 level in an IgAN rat model and increased the number of Tregs in the blood ($P < 0.01$). There was no significant difference between prednisone and TWGs

($P > 0.05$). In conclusion, TWGs had therapeutic effects on IgAN model rats and may regulate the immune balance of Th17 and Tregs.

Key words: Immunoglobulin A nephropathy; Regulatory T cells; Th17 cells; *Tripterygium wilfordii* glycoside