Tripterygium wilfordii Hook F treatment for idiopathic refractory nephrotic syndrome in adults: a meta-analysis
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CRD summary
This review assessed Tripterygium wilfordii Hook F (TwHF) efficacy compared with placebo or cyclophosphamide for treating idiopathic refractory nephrotic syndrome in terms of recovery rate. The authors concluded that TwHF showed a beneficial effect, but studies with larger sample sizes of patients with mild and severe histopathological change were warranted. These conclusions reliably reflect the very limited evidence presented.

Authors' objectives
To assess the efficacy of Tripterygium wilfordii Hook F (TwHF) in the treatment of idiopathic refractory nephrotic syndrome.

Searching
MEDLINE, EMBASE, CNKI, Chinese Biomedical Database, VIP and The Cochrane Library were searched up to April 2008 with no language restrictions. Search terms were reported. Reference lists of retrieved papers were reviewed.

Study selection
Randomised and quasi-randomised trials (RCTs) that assessed the efficacy and safety of TwHF given alone or in combination with other drugs in the treatment of idiopathic refractory nephrotic syndrome in adults were eligible for inclusion. Trials that did not report the number of patients who recovered or deteriorated were excluded.

The included trials evaluated various dosing schedules and regimens of TwHF. Outcomes were recovery rate, total efficacy and incidence of adverse events. Participants in all the trials also received prednisone.

Two reviewers independently applied the inclusion criteria and selected the studies; the authors did not state how any disagreements were resolved.

Assessment of study quality
Quality of included trials was assessed using the Jadad criteria of randomisation, blinding and loss to follow-up. Some authors were contacted for clarification or for additional data. The overall quality score of each study was reported; achievable scores ranged from 0 (low quality) to 5 (high quality).

The authors did not state how many reviewers were involved in quality assessment and how discrepancies, if any, were resolved.

Data extraction
Odds ratios (OR), with 95% confidence intervals (CIs) were extracted for the outcomes of interest.

Two reviewers independently extracted data; the authors did not state how any disagreements were resolved.

Methods of synthesis
Dichotomous outcome data were combined as odds ratios with 95% CI using a fixed-effects model (Mantel Haenszel method). Where heterogeneity was present, the DerSimonian and Laird random-effects model was used. Between-trial heterogeneity was assessed using the Q-statistic. Publication bias was assessed by a funnel plot and Begg's test.

Results of the review
Three RCTs (n=150) met the inclusion criteria. All the trials were double-blind. Two trials scored 4 and one trial scored
3 with on the Jadad scale. One trial compared TwHF with placebo and two trials compared TwHF with cyclophosphamide.

Sixty-eight patients out of 82 (82.9%) in the TwHF group recovered completely compared with 43 out of 68 (63.2%) in the control group (OR 2.81, 95% CI 1.26 to 6.30; three trials, n=150). Seventy-five patients out of 82 (91.5%) in the TwHF group achieved total efficacy compared with 52 out of 68 (76.5%) in the control group (OR 3.25, 95% CI 1.20 to 8.76; three trials, n=150). Evaluation of publication bias and heterogeneity did not demonstrate a significant effect.

Side effects could not be evaluated because they were poorly reported in the two trials that assessed this outcome.

**Authors’ conclusions**

TwHF showed beneficial effects on remission of idiopathic refractory nephrotic syndrome.

**CRD commentary**

This review addressed a well-defined question in terms of participants, interventions and study design. The search included appropriate electronic databases. Attempts were made to minimise language bias. There was no apparent search for unpublished data, which raised concerns about whether all relevant studies were included. Two reviewers independently selected trials and extracted data in order to minimise bias during the review process. Characteristics of the individual trials were presented. Validity was assessed with an appropriate validity assessment tool. Potential sources of heterogeneity were explored and reported. The wide confidence around the effect estimates and lack of data on adverse events made interpretation of data difficult. The authors recommendations for research were appropriate, given that this review included only a small number of small-sized trials. The conclusions reflected the very limited evidence presented and are likely to be reliable.

**Implications of the review for practice and research**

**Practice:** The authors stated that evidence supported use of TwHF in clinical practice, but the small numbers in the trials and lack of safety data raised concern.

**Research:** The authors stated that studies with larger sample sizes and that included patients with mild and severe histopathological change were needed to further assess the effects of TwHF in idiopathic refractory nephrotic syndrome.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.