Authors' objectives
To explore the effect of corticosteroids and alkylating agents for the treatment of patients with new-onset idiopathic membranous glomerulopathy.

Searching
MEDLINE was searched from 1968 to 1993 and the reference lists of retrieved articles were examined. Only English language articles were included.

Study selection
Study designs of evaluations included in the review
The meta-analysis included randomised controlled trials (RCTs) and prospective studies. The pooled analysis also included case series studies. Studies that did not distinguish between treatment groups with respect to outcome variables were eliminated.

Specific interventions included in the review
Corticosteroids or alkylating agents.

Participants included in the review
Patients with new-onset idiopathic membranous glomerulopathy (proven by renal biopsy) were included.

Outcomes assessed in the review
Renal failure, defined as the start of dialysis, or the time of renal transplantation if prior to dialysis, or the time of renal-related death.

Complete remission of the nephrotic syndrome: the disappearance or normalisation of proteinuria in the urine.

Partial remission: a reduction of proteinuria to a non-nephrotic range or persistent proteinuria in patients presenting with asymptomatic proteinuria.

Nephrotic syndrome: persistent nephrotic syndrome or the development of the nephrotic syndrome in non-nephrotic patients.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
The authors do not state that they assessed validity.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
A fixed-effect model was used in the meta-analyses to combine results of complete remission. Cox’s proportional hazards model was used to conduct a pooled analysis of prospective studies only, as well all available studies, for estimating renal survival. Logistic regression models were used in the pooled analyses for comparison of the odds of attaining a complete remission over partial remission, nephrotic syndrome or dialysis or death.

How were differences between studies investigated?
A test of homogeneity between studies in the meta-analysis was performed. Meta-analysis was performed separately for studies of corticosteroids (4 studies) and alkylating agents (3 studies). The effect of potential prognostic variables (e.g. study design, geographic region, sex, nephrotic patients) was tested in the Cox’s proportional hazards model and the logistic regression model.

Results of the review
Meta-analysis: 3 RCTs (n=333) and 1 prospective study (n=18) comparing corticosteroids with no treatment; 3 RCTs (n=142) comparing alkylating agents with no treatment.

Thirty-two articles were available for the overall pooled analysis: 6 RCTs (n=475), 4 prospective studies (n=123) and 22 case series studies (n=1052).

Renal survival for patients with membranous nephropathy in all groups was 86% at 5 years, 65% at 10 years and 59% at 15 years. There was no significant difference in renal survival between treatment groups (P>0.1). The percentage of males in studies was a significant predictor of renal failure. The percentage of nephrotic patients in each study and geographic region were not significant predictors.

Meta-analyses: There was not a significantly greater number of patients treated with corticosteroids in complete remission at 24-36 months compared to patients in the no-treatment group (relative risk (RR) 1.55 95% CI: 0.99, 2.44). There were significantly more patients treated with alkylating agents in complete remission than patients in the no-treatment group (RR 4.80, 95%CI: 1.44, 15.96).

In the prospective studies, 3% of corticosteroid-treated patients and 12% of those receiving alkylating agents had treatment discontinued due to side-effects.

Authors’ conclusions
Corticosteroids or alkylating therapy did not improve long-term renal survival in idiopathic membranous glomerulopathy. The relative chance of complete remission was not improved for corticosteroid-treated patients, but was improved for patients treated with alkylating agents.

CRD commentary
Little information about the primary studies was given. No attempt was made to contact the study authors for information and missing data. The number of patients included in RCTs was quite small and the type II error may be considerable. The authors did discuss the problem of potential publication bias.

Bibliographic details

PubMedID
7771482

Indexing Status
Subject indexing assigned by NLM
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.