Conservative management of end-stage renal disease without dialysis: a systematic review
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CRD summary
Despite limitations to the review process the authors' conclusion that conservative management should be discussed when counselling patients, with end-stage renal disease, about dialysis seems reasonable.

Authors' objectives
To summarise the evidence on the symptom burden, quality of life, and prognosis, with conservative management, for patients with end-stage renal disease who chose not to start dialysis.

Searching
MEDLINE, CINAHL, and The Cochrane Library were searched up to March 2011; search terms were reported. Abstracts from the most recent (dates not provided) meetings of the American Society of Nephrology, the World Congress of nephrology, the Renal Association and the British Renal Society were searched. Bibliographic references were checked and experts in the field were contacted to identify additional relevant studies.

Study selection
Eligible studies included patients with stage five or end-stage chronic kidney disease, at least some of whom had been managed conservatively, without dialysis. Studies had to report at least one of the following outcomes: prognosis, symptoms, and quality of life. Studies of acute renal failure were excluded.

In the included studies, where reported, the mean age ranged from 58.5 to 83.2 years for dialysis groups, and 77.5 to 84.1 years for conservative management groups. The percentage of patients with diabetes ranged from 6.5 to 34.3 in the dialysis groups, and 13.8 to 38 in the conservative management groups.

One author reviewed the titles and abstracts of the initial search results for relevance and duplicates. Two authors reviewed the selected articles and any disagreements were resolved by discussion.

Assessment of study quality
Some relevant validity criteria were considered in an assessment of the strength of evidence, using the Strength of Recommendation Taxonomy (SORT) system, which mainly assessed the study design. High-quality randomised controlled trials were those with adequate allocation concealment, blinding (if possible), intention-to-treat analysis, adequate size, and over 80% follow-up. High-quality cohort studies had a prospective design and over 80% follow-up.

The authors did not state how many reviewers were involved in this assessment.

Data extraction
Two reviewers independently extracted descriptive data from the selected studies, including the median survival and proportion of patients experiencing specific symptoms. Disagreements were resolved through discussion.

Methods of synthesis
A narrative synthesis was used to combine the study results, with studies grouped by outcome.

Results of the review
Thirteen observational studies were included. Seven were cohort studies, five were cross-sectional studies and one was a before-and-after study. Four studies reported their withdrawal or drop-out rates, with completion ranging from 95% to 100%.

Seven cohort studies reported data on survival with conservative management. The median survival ranged from 6.3 to 23.4 months. The following factors were identified by at least one study as predictive of prolonged survival with conservative management: female gender, lower comorbidity score, albumin greater than 35g per litre, and referral to a nephrologist before stage 5 chronic kidney disease.
Five studies included a comparison group of patients on dialysis. Two studies found little or no survival benefit with dialysis, compared with conservative management, whereas three studies found a significant benefit in favour dialysis. There were substantial differences between study groups in all three studies. In one study patients on dialysis had a lower incidence of diabetes than patients on conservative management and more patients on conservative management were socially isolated or late presenters to nephrology. In the second study dialysis patients were significantly younger than patients on conservative management. In the third study conservative management patients were significantly younger and had more comorbidities.

Six studies described the symptom burden and quality of life. All patients undergoing conservative management reported significant symptom burden; the mean number of symptoms ranged from 6.8 to 17. Three studies included a comparative group of dialysis patients, and both groups in all studies were had a similar symptom burden and similar reduced quality of life.

**Authors' conclusions**
Conservative management should be discussed, when counselling patients with end-stage renal failure, and their families, about dialysis. Patients who decline dialysis could live for months or years with appropriate care.

**CRD commentary**
The review question was supported by clear broad inclusion criteria for participants, intervention and outcomes. Several sources were searched, including grey literature, for relevant studies. It was unclear if this search was restricted by language. Methods to minimise errors and bias were used for the extraction of data and the second stage, but not the first stage of study selection. Aspects of methodological quality were assessed as part of an evaluation of the strength of evidence, but individual details were not reported.

Few study details were reported limiting generalisability of findings. All the included studies were observational, with inherent bias in their design. A narrative synthesis was appropriate given the differences between the included studies, but the synthesis was little more than a description of the individual studies.

Despite limitations to the review process the authors' conclusion that conservative management should be discussed when counselling patients about dialysis seems reasonable.

**Implications of the review for practice and research**
**Practice:** The authors stated that patients considering conservative management should be informed of the high incidence of various symptoms, but they should be reassured that aggressive symptom management would be part of their care. They also stated that patients, primary care providers and the renal community should be educated to raise awareness of conservative management as a strategy.

**Research:** The authors stated that additional head-to-head studies were required to compare symptoms in age-matched patients with or without dialysis.

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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.