Aloe vera: a systematic review of its clinical effectiveness

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Authors' objectives
To determine the clinical effectiveness of aloe vera.

Searching
The authors searched the MEDLINE, EMBASE, BIOSIS Previews, and Cochrane Library databases (from their inception to May 1998). The authors also searched the bibliographies of identified studies and contacted other authors working in this area and major manufacturers of aloe vera for additional relevant unpublished and published trials. There were no language restrictions.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) and controlled clinical trials (CCTs) of aloe vera for any indication.

Specific interventions included in the review
Aloe vera (Aloe barbadensis Miller) in topical applications of gel or cream, or oral aloe vera (1 tablespoon twice daily with or without glibenclamide (2 x 5 mg per day for 42 days)) versus other active treatment or placebo. Studies not on aloe vera mono-preparations or of only certain pharmacological constituent(s) of the plant were excluded.

Participants included in the review
Adult patients being treated for facial or other wound healing complications or psoriasis, prevention of radiation-induced skin injury, first genital herpes episode, hyperlipidaemia, or diabetes mellitus.

Outcomes assessed in the review
Time of wound healing (re-epithelialisation), skin lesions (Psoriasis Area and Severity Index), maximum dermatitis severity judged by 1) patient and 2) healthcare provider, mean healing time (genital herpes), blood lipid levels, or blood glucose.

How were decisions on the relevance of primary studies made?
Two authors independently assessed each trial for inclusion.

Assessment of study quality
Methodological quality was assessed using the Jadad score which assessed each trial on seven criteria (see Jadad, in Other Publications of Related Interest no.1). Two authors independently assessed each trial for quality.

Data extraction
The authors do not state who, or how many of the reviewers, performed the data extraction, however the data were extracted in a standardised, pre-defined manner.

Methods of synthesis
How were the studies combined?
The studies were grouped according to intervention and discussed in a qualitative narrative synthesis of the included studies.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.
Results of the review
Ten trials were included with 803 participants (6 trials were RCTs and 4 were CCTs). Two trials addressed facial or other wound healing complications, one trial addressed psoriasis, two trials addressed prevention of radiation-induced skin injury, two addressed first genital herpes episode, one addressed hyperlipidaemia, and two addressed diabetes mellitus.

Two trials suggested that oral administration of aloe vera might be a useful adjunct for lowering blood glucose in diabetic patients (250 to 141 mg % in the treatment groups and no change in the control groups).

One trial reported a reduction in blood lipid levels in patients with hyperlipidemia (decrease in blood choloesterol, LDL, and triglycerides in the treatment groups).

In two trials, topical application of aloe vera was not an effective preventative for radiation-induced injuries (no difference between the treatment and placebo groups).

It might be effective for genital herpes and psoriasis.

Whether it promotes would healing is unclear; one trial reported that wound healing was 72 hours faster while a second trial reported that mean healing time was 30 days longer with aloe vera.

There were no withdrawals due to adverse effects. Some participants reported burning after topical application, contact dermatitis, and mild itching, all of which were reversible.

Authors' conclusions
The authors state that, although there are some promising results, clinical effectiveness of oral or topical aloe vera is not sufficiently defined at present.

CRD commentary
The authors have clearly stated their research question and some inclusion and exclusion criteria. The literature search appears thorough. The quality of the included studies was assessed and the authors have reported on how the articles were selected, but not how many of the reviewers were involved in the data extraction.

The data extraction is reported in tables and text. The narrative synthesis was appropriate. There were no tests for heterogeneity. The authors have discussed several of the methodological and data limitations in the review and the authors state that it is problematic to draw firm conclusions from this review.

The authors conclusions appear to follow from the results but these should be viewed with caution because of the methodological limitations of the trials included in the review.

Implications of the review for practice and research
Practice: The authors do not state any implications for practice.

Research: The authors state that more and better trial data are needed to define the clinical effectiveness of this popular herbal remedy more precisely.

Bibliographic details

PubMedID
10885091
Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
Administration, Oral; Administration, Topical; Aloe /therapeutic use; Anti-Infective Agents /therapeutic use; Anti-Inflammatory Agents /therapeutic use; Complementary Therapies; Controlled Clinical Trials as Topic; Diabetes Mellitus /drug therapy; Female; Herpes Genitalis /drug therapy; Humans; Hyperlipidemias /drug therapy; Hypoglycemic Agents /therapeutic use; Male; Phytotherapy; Plants, Medicinal; Psoriasis /drug therapy

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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.