A systematic review of the use of hydrocolloids in the treatment of pressure ulcers

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CRD summary
This review included randomised trials comparing hydrocolloid dressings with other types of dressing or one another. The review was largely descriptive, but reported that hydrocolloids were more effective than gauze dressings and less effective than other types for various outcomes. The conclusions were based on one or two small trials of uncertain validity and should be treated with caution.

Authors' objectives
To evaluate the effects of hydrocolloids on the healing of pressure ulcers.

Searching
The authors searched PubMed, EMBASE, Cochrane Central Register of Controlled Trials and CINAHL to January 2007 for studies published in Dutch, English, French or German. Search terms were reported. Wound care manuals and reference lists of included studies were checked and pharmaceutical companies contacted to identify additional studies.

Study selection
Randomised controlled trials (RCTs) in which pressure ulcers were managed with a hydrocolloid in at least one group were eligible for the review. Studies had to report outcomes that could be measured in both hydrocolloid and comparator groups. Included studies compared hydrocolloids with a wide range of other dressing types (including saline gauze, polyurethane foam and hydrogel) and compared different hydrocolloids with one another. Outcomes reported included measures of wound healing (number of healed wounds, time to healing and reduction in wound size), dressing characteristics and adverse events. Study periods, where reported, ranged from 30 to 102 days. The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity, although information on some aspects of validity was presented in the text.

Data extraction
Two reviewers extracted and analysed data; disagreements were resolved by consulting a third reviewer.

Methods of synthesis
Studies were combined in a brief narrative synthesis by outcome. Studies showing significant differences were identified in a table and numbers of studies showing significant differences were tabulated by comparison and outcome.

Results of the review
Twenty-eight RCTs with around 1,626 randomised patients were included in the review. One trial showed hydrocolloids to be more effective than povidine or saline gauze for a number of outcomes. All other dressings with which hydrocolloids were compared were significantly more effective than hydrocolloids (based on one or two studies per outcome) for number of healed wounds, time to wound healing, reduction in wound dimensions, ease of handling the dressing, speed of dressing changes, absorption capacity and pain during dressing changes.

Cost information
Nine studies evaluated costs. Three out of four studies comparing hydrocolloids with gauze dressings found that hydrocolloids were cheaper and the other study found no significant difference. Treatment with hydrocolloids was cheaper in comparison with collagen and more expensive compared with hydrogels, foam dressings and collagenase (based on one or two studies each).
Authors' conclusions
Hydrocolloids were more effective than gauze dressings, but less effective than other forms of dressing for the treatment of pressure ulcers.

CRD commentary
Inclusion criteria for participants, intervention and study design were clear. A wide range of comparators and outcomes were included. The authors searched a range of relevant sources, but some language restrictions were imposed and unpublished studies were not specifically sought, so the review could be at risk of language and publication bias. The authors did not formally assess validity of the included studies; some relevant information was presented in the text, but it was not clear whether this was used in the synthesis. Data were extracted by two reviewers, reducing the risk of errors and bias, but the methods used for study selection were not reported. Adequate details of included studies were presented. Studies were combined in a narrative synthesis, which seemed appropriate in view of the clinical heterogeneity of the included studies. However, the synthesis was brief and largely consisted of counting the number of studies reporting a statistically significant difference between treatments. The authors' conclusions were based mainly on differences reported in one or two small trials of uncertain quality and should, therefore, be treated with caution.

Implications of the review for practice and research
Practice: The authors stated that hydrocolloids should be preferred to gauze dressings.

Research: The authors did not state any specific implications for further research.

Funding
Not stated.

Bibliographic details

PubMedID
18416792

DOI
10.1111/j.1365-2702.2007.02218.x

Indexing Status
Subject indexing assigned by NLM

MeSH
Bandages, Hydrocolloid; Colloids /administration & dosage /economics /pharmacology /therapeutic use; Humans; Inpatients; Pressure Ulcer /drug therapy /physiopathology; Wound Healing

AccessionNumber
12008105105

Date bibliographic record published
23/12/2008

Date abstract record published
20/05/2009

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.