The Cochrane Library

Debridement of diabetic foot ulcers

Review

Intervention

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First published:
20 January 2010

Editorial Group:
Cochrane Wounds Group

DOI:
10.1002/14651858.CD003556.pub2 View/save citation

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Abstract

English

Background

Foot ulceration is thought to affect 15% of people with diabetes at some time in their lives. Debridement is widely regarded as an effective intervention to speed up ulcer healing. The most effective method is unclear.

Objectives

To assess the effects of debridement interventions on the healing of diabetic foot ulcers.

Search methods

For this fourth update we searched The Cochrane Wounds Group Specialised Register (searched 21 April 2011); The Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2011, Issue 2); Ovid MEDLINE (2009 to April Week 2 2011); Ovid

MEDLINE (In-Process & Other Non-Indexed Citations, April 20, 2011); Ovid EMBASE (2009 to 2011 Week 15); and EBSCO CINAHL (2009 to 15 April 2011).

Selection criteria

Randomised controlled trials (RCTs) evaluating any method of debriding diabetic foot ulcers and measuring complete healing or rate of healing. There was no restriction on articles/trials based on language or publication status.

Data collection and analysis

Data extraction and assessment of study quality were undertaken by one review author and checked by an Editor of the Wounds Group.

Main results

Six RCTs of debridement were identified: four assessed hydrogels, with an additional study evaluating larval therapy against hydrogel and one evaluated surgical debridement. Pooling the three RCTs which compared hydrogel with gauze or standard care suggested that hydrogels are significantly more effective in healing diabetic foot ulcers (Relative Risk 1.84, 95% Confidence Interval (CI)1.3 to 2.61). Surgical debridement showed no significant benefit over standard treatment. One small trial, available in abstract form only, suggested that larvae resulted in a greater reduction in wound area compared with hydrogel, but this evidence has not been confirmed by publication of full trial results. Other debridement methods such as enzyme preparations or polysaccharide beads have not been evaluated in diabetic foot ulcers.

Authors' conclusions

There is evidence to suggest that hydrogel increases the healing rate of diabetic foot ulcers compared with gauze dressings or standard care. There is insufficient evidence (one small trial, abstract only) of the effects of larval therapy on diabetic foot ulcers. More research is needed to evaluate the effects of a range of widely used debridement methods and of debridement per se.

Plain language summary

English

Surgical and non-surgical methods of cleaning and removing dead tissue from sores on the feet of people with diabetes.

People with diabetes often develop foot ulcers (open sores on the feet that go through the skin), which are a serious complication and can themselves result in serious consequences such as amputation. Cleaning and removing dead tissue and callus from the ulcers is a common procedure also know as "debridement" and can be done in several ways, including surgery and special dressings and gels (such as hydrogels). The review found that hydrogel results in faster healing than gauze or standard care. The evidence for other debriding strategies is unclear.