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FILE: ▪ Aloe (*Aloe vera*)
▪ Burns
▪ Wound Healing

HC 060371-331

Date: June 29, 2007

RE: Use of Aloe to Heal Burn Wounds

Maenthaisong R, Chaiyakunapruk N, Niruntraporn S, Kongkaew C. The efficacy of aloe vera used for burn wound healing: a systematic review. *Burns*. 2007; epub ahead of print. doi:10.1016/j.burns.2006.10.384.

The gel of the aloe (*Aloe vera*) plant has long been used for many purposes, particularly for burn wound healing. The authors note that in their country of Thailand, aloe vera gel is included in the Thai Herbal Fundamental Public Health Drug List as burn wound therapy. They conducted a systematic review to determine the efficacy of topical aloe vera for the treatment of burn wounds.

An electronical search of the following databases was conducted for relevant studies: Medline, Cumulative Index to Nursing & Allied Health Literature (CINAHL), Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, Database of Abstracts of Reviews of Effectiveness (DARE), HealthSTAR, Health Source: Nursing/Academic Database, ACP Journal Club, Chinese Science and Technology Database, China Academic Database, Thai Theses Online, Thai Index Medicus Database, South-East Asia Index Medicus, Thai Medical Index, and the Medicinal Plant Database. The authors also reviewed the reference lists of retrieved articles and consulted experts in burn therapy. They included both published and unpublished controlled clinical trials of aloe for burn wound healing in any language. Two reviewers independently extracted data on study characteristics, patient characteristics, intervention, and outcome measures.

Of the 1069 articles identified, four studies (with a total of 371 patients) were included in this review: two were conducted in Thailand, one in India, and one in China. One Thai study (Thamlikitkul) compared fresh aloe mucilage with silver sulfadiazine cream, while the other Thai study (Visuthikosol) compared Vaseline gauze alone with gauze saturated with 85% aloe gel. The Indian study (Akhtar) compared aloe cream with framycetin cream. The Chinese study (Sun Ji Hai) compared Vaseline gauze alone with 1% aloe powder wrapped

with Vaseline gauze. None of the studies reported the amount of key active ingredient of aloe gel in the products.

All but 4 of the 371 patients in the four studies suffered thermal burns (the 4 had electrical burns). The severity of the burns and the percentage of the body surface area affected by the burns varied across the studies.

In two of the studies (Visuthikosol and Akhtar), wound-healing time was used as the outcome measure. The authors report that a meta-analysis of those two studies showed that the healing time of the aloe group was 8.79 days shorter than that of the control group (P=0.006).

The other two studies used the percentage of the success rate of wound healing and the rate of epithelialization (measured by the healing size) as outcome measures. In the Thamlikitkul study, the aloe group reported a 95% success rate of wound healing, while the silver sulfadiazine group reported an 83% success rate. The Chinese study reported that the epithelialization rate of burns in those in the aloe with Vaseline gauze group was higher than that of those in the Vaseline only group on both day 5 and day 8 after skin grafting.

According to the authors, a major limitation of this study is possible measurement bias. All patients in two of the studies were evaluated by clinicians who were not blinded.

Referring to the existing evidence, the authors suggest that aloe used in various dosage forms might help accelerate the wound-healing process and increase the rate of success of healing, as well as the rate of epithelialization, in first- and second-degree burns when compared with conventional treatments. However, they also say that the differences in products used and in the outcome measures make it difficult to draw a specific conclusion on effect of aloe on burn wound healing. Further well-designed trials with sufficient details of the contents of aloe products are needed.

—Shari Henson

The American Botanical Council has chosen not to reprint the original article.