

DECUBITUS ULCERS

The following study found that phenytoin demonstrated rapid results in all aspects of ulcer healing - "Topical phenytoin treatment of stage II decubitus ulcers in the elderly" (Ann Pharmacother. 2001 Jun;35(6):675-81).

OBJECTIVE: To compare the healing of stage II decubitus ulcers with topically applied phenytoin sodium with two other standard topical treatment procedures in a long-term care setting; and to assess the extent of systemic absorption after topical application in the phenytoin group.

METHODS: Forty-seven nursing home patients with stage II decubitus ulcers were chosen for this study. The patients were matched for age, gender, and size and severity of wounds, and randomly assigned to each treatment group. Clinical assessment of decubitus ulcers was performed at the beginning of treatment and at each dressing change. Ulcers were examined for the presence of healthy granulation tissue, reduction in surface dimensions, and time to healing. Two phenytoin sodium plasma concentrations were to be obtained on all patients in the phenytoin group.

RESULTS: Topical phenytoin therapy resulted in a shorter time to complete healing and formation of granulation tissue when compared with DuoDerm dressings or triple antibiotic ointment applications ($p < \text{or} = 0.05$). The mean \pm SD time to healing in the phenytoin group was 35.3 \pm 14.3 days compared with 51.8 \pm 19.6 and 53.8 \pm 8.5 days for the DuoDerm and triple antibiotic ointment groups, respectively. Healthy granulation tissue in the phenytoin group appeared within two to seven days in all subjects. Patients in the standard treatment groups required six to 21 days to produce new granulation tissue. Serum phenytoin sodium concentrations were nondetectable. No patient withdrew from the study secondary to adverse treatment effects.

CONCLUSION: Both the phenytoin and standard treatment groups showed progress over the study period. However, the phenytoin group demonstrated more rapid results in all aspects of ulcer healing. PMID: 11408983

An example of how you might prescribe follows:

COMPOUNDED MEDICATION

Phenytoin 5%

Topical Gel

90gm

Apply to affected area 2-3 times per day

The following review suggests that topical phenytoin may have a positive effect on wound healing in a variety of wounds -"The clinical effect of topical phenytoin on wound healing: a systematic review" (Br J Dermatol. 2007 Nov;157(5):997-1004).

BACKGROUND: Oral phenytoin was first introduced as an antiseizure medication in 1937. Over 60 years investigators have shown an interest in how topical phenytoin may be used to promote wound healing in a variety of chronic wounds.

METHODS: Systematic searches were carried out in PubMed (1963-2005), Medline (1966-2005) and Cinahl (1982-2005) for the years listed and in the Cochrane Library and the University of York NHS Centre for Reviews and Dissemination. The search terms used the following key words alone and in combination: phenytoin, wounds and injuries, wound healing, and wound care. Secondary hand searching was also carried out using relevant journal articles and reference lists, historical books, conference proceedings and theses in the area of wound healing. Papers were included if they described randomized controlled trials (RCTs) on humans and if the primary aim was wound closure, with a secondary aim of measuring wound healing over time. The methodological quality of the papers in this systematic review was assessed using the van Tulder method and in addition best-evidence synthesis was carried out. The magnitude of the effect of phenytoin therapy in the studies included in the systematic review was investigated in four of the 14 trials.

RESULTS: Fourteen RCTs were included in the systematic review. Two papers were of high and 12 papers of low to moderate methodological quality. Most papers failed to describe randomization, treatment allocation and blinding techniques adequately. There was moderate evidence presented to support the use of phenytoin for the treatment of leg ulcers, leprosy wounds, chronic wounds and diabetic foot ulcers. There was a positive percentage treatment effect in favour of the phenytoin-treated group in one study investigating diabetic foot wounds and one study on chronic wounds. There was limited evidence for the use of phenytoin on burns and war wounds.

CONCLUSIONS: Overall it would appear that studies investigating the effect of topical phenytoin on wound healing are of moderate methodological quality, and these suggest that there may be a positive effect on wound healing in a variety of wounds. PMID: 17854378

We have the ability to compound phenytoin as a topical gel in a variety of strengths.