SURGICAL HYPOTHESIS

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A role for topical insulin in the management problematic surgical wounds

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There is anecdotal evidence of a role for insulin in promoting wound healing. The senior author (CJK) gained experience in using topical insulin in the management of intractable wounds during his training days, often in the face of stern resistance, with excellent results. An empirical dose of 20 units of U-80 strength soluble insulin was used without clinical trial, and found to be an adequate dose to promote healing in diverse wounds, such as chronic pressure sores and amputation stump ulcers, without systemic hypoglycaemia.

Thus, recently, in the face of a chronic non-healing wound following laparotomy in an 80-year-old female patient (Fig. 1), that had resisted all conventional attempts with various dressings and a 3-week trial of negative-pressure vacuum pump dressing, after taking fully informed consent from the patient and relatives, dressings were replaced by daily irrigation with 20 ml normal saline containing 2 units of human soluble insulin (actrapid) for 7 days. There was visible improvement (Fig. 2) in wound healing with no change in other patient variables such as nutritional status. There were no episodes of hypoglycaemia.

A review of the literature demonstrates that, despite evidence of a significant role for topical insulin in the promotion of wound healing in several animal models,¹⁻⁶ there has been little work done in humans.⁷ More research is needed to investigate a potential role for topical insulin in the management of wound healing.

Figure 1 Chronic non-healing wound following laparotomy in an 80-year-old female patient.

Figure 2 Wound following daily irrigation with 20 ml normal saline containing 2 units of human soluble insulin (actrapid) for 7 days.

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