Introduction

Iodine is a natural element that has been used as an antiseptic preparation in wound care since the 19th Century. Iodine dressings contain a modern iodine preparation called Povidone Iodine (PVP-I) which slowly releases low concentrations of iodine into the wound bed over a period of time. Iodine has become less popular over recent times due to perceived issues with cytotoxicity and systemic absorption which could affect healing, although the evidence for this is inconsistent. There is, however, substantial evidence to suggest that modern iodine preparations are effective anti-microbials and can actually improve healing.

Iodine dressings are indicated for use on many different wound types as a means of treating local or spreading infection or as a preventative measure for infection in patients particularly at increased risk. This case series concentrated on chronic leg ulcers particularly prone to infection to ascertain if clinically iodine dressings manage bacterial burden and encourage healing.

Method

Fourteen patients with difficult-to-heal lower leg ulcers of between 4 months and 5 years duration were followed for 4-11 weeks. All patients included had either indolent wounds with a history of recurrent wound infections or localised infection as evidenced by an unhealthy wound bed +/- increased exudate, pain and odour. Iodine dressings were applied in conjunction with standard therapy, such as compression bandages. Patients were assessed weekly with wound tracings and photographs recorded. Dressing changes were performed at least twice weekly depending on exudate levels, and using the colour change of the dressing from brown to white as an indication of the required frequency for dressing changes. Use of the iodine dressings was re-evaluated frequently and discontinued when appropriate.

Results

Three patients achieved complete re-epithelialisiation of their venous leg ulcers after 4-6 weeks use of iodine dressings. Seven patients’ wounds decreased in size after between 4 and 10 weeks of using iodine, with associated increased percentage of granulation tissue to the wound bed. Nine of these 10 patients did not experience any episodes of wound-related infections while using the iodine dressings. Four patients developed either a local or systemic wound infection after commencing iodine dressings with either no improvement or deterioration in size or condition of wound bed which warranted discontinuation of the dressing. No adverse effects were reported by patients when using the dressing, and treating clinicians found the dressing easy to apply and remove.

Discussion

71% of the patients included had a successful outcome when using iodine dressings alongside standard therapy over a sustained period of time, either in terms of complete healing or in promotion of healthy tissue to the wound bed with decreased wound size. While acknowledging that five patients continued to experience symptoms of wound infection during use, this is an encouraging result in a complex group of patients with particularly chronic episodes of ulceration prone to infection. Only one patient experienced an episode of spreading infection which required treatment with systemic antibiotics, which is promising in an age of increasing antibiotic resistance. The dressing was easy to use and tolerated well by patients.

Conclusion

This case series suggests that iodine dressings have the ability to effectively reduce bioburden in locally infected, difficult-to-heal leg ulcers, preventing deterioration to spreading infection, promoting formation of healthy granulation tissue and progress to healing.