A prospective evaluation of the use of honey dressings to manage burn wounds

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Introduction

Several factors contribute to burn wound infection, notably, the destruction of the skin barrier, the presence of necrosis and sero-sanguinous exudate, and impaired immune function (Desantis 2005). The risks are commensurate with the depth and extent of the burn, the health and age of the patient, local perfusion of the tissues and use of systemic antibiotics (Best Practice Statement 2011). Traditionally burn wounds have been managed with topical silver based dressings, but a Cochran Review suggests that there is evidence to show that honey may have a role to play (Jull et al 2008). Honey has been used for over 2000 years to treat wounds, and whilst having a recent resurgence in popularity, it may still not be given its deserved recognition. The combination of Manuka honey and Manuka oil has been demonstrated in vitro to be effective against a number of major wound infecting organisms including MRSA, VRE and Providencia stuartii.

Method

Algivon Plus® is comprised of a calcium alginate fleece impregnated with Medical Grade Manuka honey. The alginate fibres retain their structure when wet, swelling to absorb exudate and forming a soft gel that ensures a moist wound environment and prevents adhesion. Actilite® is a light viscose net dressing coated with antibacterial Manuka honey & Manuka oil. The dressing is designed to protect a wound, promote healing and allow the passage of exudate. The study was a prospective evaluation of the use of honey products in burns. The primary objective was to assess the performance of Actilite® or Algivon Plus® on burn wounds. This was assessed by patient comfort while wearing the dressing, pain during dressing changes, ease of product application and removal, product conformability and non-adherence to wound, and the ability to manage wound exudate. The secondary objective was to promote the education of ward staff concerning suitability of honey dressings for burn wounds and to assess the longer term development of abnormal scarring. 20 patients were included in the evaluation, 10 had Algivon Plus® dressings and 10 had Actilite® dressings, and these were assessed using our existing evaluation structure. A 10 point likert scale was used to assess a range of factors and a minimum of 3 dressing changes were performed. All patients were followed up 1 month post healing to assess for the longer term development of abnormal scarring.

Case Study 1

Mr X is a 23 year old man who works as a circus performer. He sustained 85% burns from a gas explosion in October 2012 and initially was treated with split thickness skin grafts using the Meek Mesher. The majority of areas were healed by December 2012 but some areas of breakdown appeared on both arms and thighs following a Staphylococcus Aureus infection, one of the most commonly isolated organisms in burns (Subrahmanyam et al 2003). He was treated with a range of products including some regrafting or areas on the upper arms. As can be seen from the graph, Algivon Plus® appeared to out perform Actilite®. However, the most important aspect was patient selection. A number of patients who had Algivon Plus® applied had to have it removed within 30 minutes. This happened more frequently with new burns even those that were deep dermal/full thickness. With Actilite® no patients refused to have the dressing reapplied, but it seemed to perform better on patients with wound breakdown rather than newer burns.

Results

Pain was assessed using a 10 point likert scale with 0 being no pain and 10 being the most painful. As can be seen the mean scores for both dressing were relatively low with only Actilite® being more painful on removal as it had often adhered and had to be soaked off.

The dressings were assessed using a 10 point likert scale with 1 being poor and 10 being excellent. As can be seen from the graph, Algivon Plus® appeared to out perform Actilite®. However, the most important aspect was patient selection. A number of patients who had Algivon Plus® applied had to have it removed within 30 minutes. This happened more frequently with new burns even those that were deep dermal/full thickness. With Actilite® no patients refused to have the dressing reapplied, but it seemed to perform better on patients with wound breakdown rather than newer burns.

Discussion and Conclusion

As can be seen from the graph, Algivon Plus® appeared to out perform Actilite®. However, the most important aspect was patient selection. A number of patients who had Algivon Plus® applied had to have it removed within 30 minutes. This happened more frequently with new burns even those that were deep dermal/full thickness. With Actilite® no patients refused to have the dressing reapplied, but it seemed to perform better on patients with wound breakdown rather than newer burns. All patients that achieved healing were followed up 3-4 weeks post healing and to date none of them have developed hypertrophic or other abnormal scarring.

There is a need to greater understand which wound types work better with which product, patient acceptability of Actilite® was higher with 100% of patients stating the product was happy. Algivon Plus® was used on the right arm and shoulder.

References


Advancis Medical

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