A STUDY TO EVALUATE THE AG OXYSALTS DRESSING IN THE MANAGEMENT OF VENOUS LEG ULCERS

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Introduction
Venous leg ulcer prevalence rates fall into the range 1.2 – 3.2 per 1000 people. One of the main factors affecting the repair process is the presence of infection. This study aims to demonstrate that the Ag Oxysalts dressing* (Crawford Healthcare) has a role in reducing the signs and symptoms of infection in venous leg ulcers.

Method
A clinical evaluation was undertaken on 15 patients. The mean age was 73 years and there was a total of 17 wounds within this group. All patients had adequate perfusion demonstrated by an ABPI > 0.7 and were able to ambulate in their home environment or clinic with or without mobility aids. All wounds included in this study had a surface area of between 1 – 20cm².

The results of the 4 week study were captured on a weekly basis and the changes of each individual wound were reported. The following aspects were monitored, wound size, level and type of exudate, level of odour, pain, integrity of periwound, appearance of dressing on removal, wear time, pH values and changes in tissue type.

Results
The data shows that the wounds decreased in size over the 4 week treatment period.

Figure 1 shows the reduction in mean wound area as a percentage of initial wound area at time 0 to week 4. At week four, the mean percentage had reduced to 48.4% of the original size (+/- SEM 8.14), a 52% reduction in area.

Figure 1: Graph showing percentage change in wound area over time
Exudate Level

The study reported a large change in exudate levels over the 4 week treatment period. At time 0 only 6% of the wounds were classed as low exuding whereas the remaining 94% were classed as moderate to high exuding. After 4 weeks of treatment only 6% of wounds were classed as high exuding whereas 53% of the wounds were classed as low exuding.

Exudate Type

There is a large movement away from purulent exudate which dominated the wounds at time 0 to serous exudate which dominates the wounds after 4 weeks. This indicates that the infected wound percentage has demonstrated a large decrease.

Level of Odour

The odour levels have dramatically reduced over the 4 week treatment period. At time 0, 94% of the wounds were odorous, 18% significantly so. After 4 weeks treatment 82% of wounds were assessed as being not odorous.
Integrity of Periwound Skin
One of the clinical challenges of colonised or infected chronic wounds is protecting the surrounding skin from the effects of moisture. The chronic wound will produce increased amounts of wound fluid. If not absorbed or controlled by reducing the bio-burden it will lead to maceration and wound deterioration. At the beginning of the study the surrounding skin in 18% of the wounds was healthy, 18% macerated, 35% had erythema and 24% was oedematous. At the end of the study there was a significant improvement on the surrounding skin with 71% reporting health skin.

pH Levels
The pH level of a wound can be a clinical indication to healing. During this study simple litmus paper was applied to the wound fluid at dressing changes. A pH of 7 represents neutral; a pH below 7 is acidic representing a higher hydrogen concentration, while a pH value above 7 is termed base or alkaline and represents a lower hydrogen concentration. The pH values were assessed at each time point and are shown in table 1.

Pain
Figure 10 shows that over the 4 week treatment period pain reduction was seen at each of the 3 assessment points. Pain decrease is an indication that infection is being managed.
Case Studies
Samples of Patient Photographs Demonstrating Effectiveness of the Ag Oxysalts dressing.

Patient: JM

Patient: RM

Patient: PR

Patient: HP
Conclusion

The results from this study indicate that the Ag Oxysalts* dressing meets the requirements for infected leg ulceration. Considering the indicators used for the identification of infected wounds in this study, the use of the Ag Oxysalts* dressing resulted in:

- 52% mean healing rate after 4 weeks; predictors of healing state that if they reduce in area by 40% in 4 weeks the wound will track to healing (Kimmel, 2013)
- A reduction in moderate to high levels of wound exudate from 94% at week 0 to 47% at week
- A 79.5% reduction in purulent exudate from week 0 to week 4
- Decreasing levels of pain at all time-points assessed (upon application, during wear and upon removal). This reduction in pain is indicative of a decrease in infection (Cutting, 2008)
- An improvement in the condition of periwound skin. At week 0, only 18% of wounds were associated with healthy periwound skin at week four, 71% of periwound skin was healthy, and no maceration, erythema nor oedema was noted
- A stable pH level of the wounds; this may be a clinical indication to healing. At all time points in this study, most wounds remained pH neutral or above.

This study has produced positive results demonstrating that the Ag Oxysalts* dressing both stimulates healing, as shown in the wound area data, and also reduces the signs of infection as demonstrated in the other assessments.

References

* Brand Name: Ag Oxysalts Dressing, KerraContact Ag