

Superabsorbent dressing - a combined approach at peak exudate times.

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Introduction

Absorption of wound exudate is a crucial part of good wound management strategies. There are various superabsorbent dressings available that have been developed with the aim of providing the fluid management technologies required to manage varying exudate levels. Superabsorbent dressings are often used as a management strategy for venous leg ulceration (VLU), in particular to control exudate (Stephen-Haynes, 2011).

Wound exudate under normal circumstances is beneficial to wound healing in that it contains many components such as biochemical modulators, growth factors and cells, such as macrophages, which are intimately involved and beneficial to the healing process (Jones ML, 2014, Power G et al 2017).

However, in some hard-to-heal wounds there is dysfunction and prolongation of normal phases and this can lead to further damage of tissue within and around the wound area by, for example, matrix metalloproteinase (MMPs) (Zhao R, et al 2016 ,Krishnaswamy VR, et al 2017).

The superabsorbent dressing used in this study is indicated for the treatment of moderate-to high exudate in acute and hard-to-heal wounds, including pressure ulcers, diabetic foot ulcers, venous leg ulcers (VLU) and arterial ulcers. It is a low-profile slim dressing that is based on superabsorbent polymers contained inside a polypropylene cover. The superabsorbent polymers can absorb many times their own weight and retain the absorbed fluid. When the wound fluid meets the superabsorbent polymers, it will attach to the polymer chains and form a complex network structure, resulting in visible swelling and gelling (Hindhede, 2010).

Method

Two patient case study to evaluate the exudate management capabilities of a superabsorbent dressing to manage exudate and encourage wound healing in two leg ulcer patients in a Swedish wound clinic. The clinical evaluation was undertaken using a case study evaluation form and all appropriate patient consent obtained.

Results

Case Study 1

87 year old female with multiple illness and arterial and venous insufficiency presented with a history of **240 days without healing** of her VLU which was stuck in inflammatory phase. It was difficult to control copious amounts of exudate leaking on clothes, bandages and bedding impairing her quality of life. Wound and peri wound region were extremely painful and severely macerated.

Clinician stated that she felt helpless and had run out of options.

The superabsorbent dressing effectively transported exudate away from wound therefore reducing risk of maceration. The dressings soft comfortability allowed close wound contact and reduction in leakage.

As the dressings can be layered, this allowed the option of managing the worst fluid peaks seen in the inflammatory phase of healing.

The dressing absorbs well under pressure so worked optimally with compression therapy and dressing changes were reduced to 1-2 times a week.

At the end of the first week's evaluation there was a marked improvement in both the wound bed and periwound skin. By day ninety, wound area and depth had reduced, and exudate levels ceased.



Day 1



Day 60



Day 90

Case Study 2

77 year old male with Venous leg ulcer **8 years duration**. Non healing, leaking ulcer impairing quality of life (QOL). Clinician again had run out of options.

Excellent exudate and periwound management. Patient able to tolerate the uncomplicated dressing regime. Stagnated wound healed in 150 days.

In both cases patient and clinician felt that they had a new option with the very well received and high performing superabsorbent dressing that improved both patients QOL. Clinical objectives were achieved in both cases of long standing hard to heal wounds.



Day 1



Day 30



Day 60



Day 170

Discussion

The properties of this dressing minimised the risk of maceration, as demonstrated by the increased wear time under compression. No reported infection or peri-wound maceration. The low adherent contact layer conformed well, and there was no record of the dressing adhering to the wound.

Patient experience was enhanced in that there was little pain associated with the wound or at dressing change throughout the evaluation.

Dressings flexibility/conformability allowed for greater comfort and patient satisfaction aligned with increased QOL under light compression were considered to have a clinically significant outcome for patients and the confidence in knowing that this dressing offers patients a choice.

Conclusion

In this small study, both the patients and clinicians rated fluid handling better or improved with the superabsorbent wound dressing achieving the primary objective relating to wound exudate management whilst also allowing undisturbed healing and preventing damage to periwound skin. The reduced need for clinic attendance also reduced costs in travel and inconvenience for the patients. This also frees up valuable clinic spaces for other patients.

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