

Influence of sorbion sachet S, a wound dressing with Hydration Response Fibers, on wound bed preparation in patients with VLU

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INTRODUCTION

Debridement lays out the fundament for wound healing, preparing the wound bed. The body's way of debridement is an autolytic one, but especially in stagnating chronic wounds it may be slowed down due to the pathological chronification process. So a dressing for chronic wounds should ideally support autolytic debridement.

OBJECTIVES

A 10 patient evaluation was performed to find out if the use of sorbion sachet S as a primary wound contact dressing supports the body's autolytic debridement process by significantly reducing the percentual presence of slough on the wound, by lowering the presence of oedema in the wound which often causes maceration and inflammatory processes like excoriation, and by normalizing the wound's pH level down to more physiological levels.

METHODS

10 patients (age 18 to 80) with one or more venous leg ulcers and at least medium levels of exudation were evaluated. Their wounds persisted for at least 4 months to 4 years (average about two years), with mainly static healing processes.

Upon inclusion of the patients the only change in treatment regimen was the choice of the primary dressing. sorbion sachet S was used as a primary dressing on all patients. The dressing was used for 4 consecutive weeks.

Wound size and tissue distribution was analyzed by a digital wound documentation software with 2D-3D measurement device, transepidermal water loss at wound edge was measured using a Vapometer (Delfin Technologies Ltd). Additionally the wound surface pH, amount of exudate, odour and pain were measured.

Case 3: Male patient, 70 years old with venous leg ulcer



Visit 0 (29.01.09):

Wound area: 18,25 cm²,
Moderate exudation,
Moderate wound odour,
TEWL (g/h • m²): 45,3, pH: 8,1



Visit final (11.03.09):

Wound area: 3,2 cm²,
None exudation,
None wound odour,
TEWL (g/h • m²): 40,6, pH: 7,2

Case 5: Male patient, 45 years old with venous leg ulcer



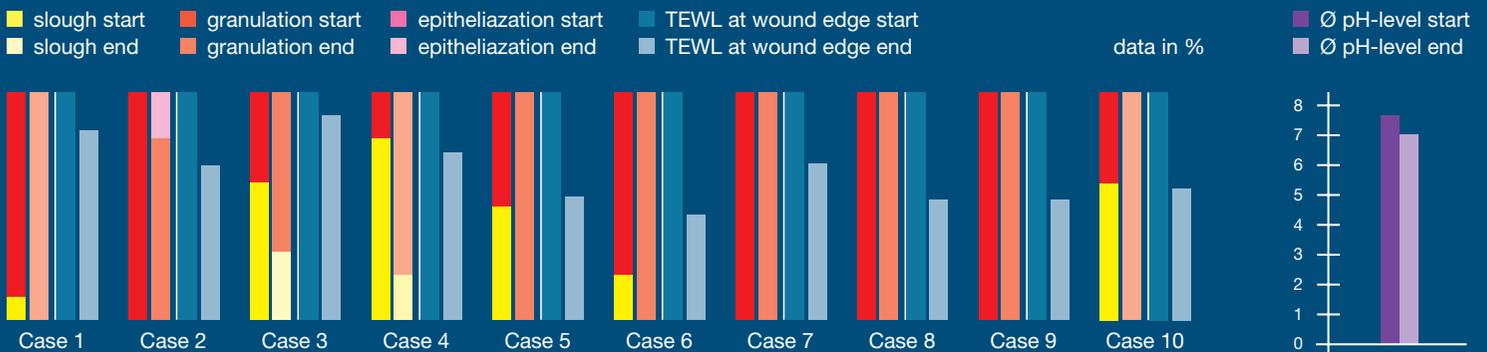
Day 0 (09.02.09):

Wound area: 104,4 cm²,
Moderate exudation,
Moderate wound odour,
TEWL (g/h • m²): 64,1, pH: 7,5



Day 28 (09.03.09):

Wound area: 86,1 cm², None exudation,
Moderate wound odour,
TEWL (g/h • m²): 34,6, pH: 6,02
Wound bed completely granulated
Epithelisation on the skin edges



RESULTS

In 10 out of 10 cases a significant change of tissue types were observed. A stark reduction of presence of slough was seen, which is removal of wet necrosis. This is furthermore important as slough is considered to be a good matrix for the formation of pathological biofilms which are discussed to delay wound healing. Granulation tissue presence was significantly improved.

As a parameter for the measurement of oedema in the deeper tissue of the wound the transepidermal water loss was measured at the beginning and at the end of this study. In 10 out of 10 cases a significant reduction of TEWL was documented, and the wound edges appeared stabile at the end of the trial. This reduction indicates that during the evaluation excessive exudate was extracted by the dressing.

As a parameter for the metabolic status of the wound bed the pH level was measured. In 10 out of 10 patients initially high pH levels were found, which indicates a sum of pathological processes, including a higher activity of MMPs. At study end the pH level was significantly lower in all 10 cases and came close to normal skin levels, which as well has a moderating effect on MMP activities. In 10 out of 10 cases the patients' comfort was rated as good or excellent, and nearly in all cases the overall effect on the patient's quality of life was documen-

tated to be good. All 10 patients showed a preference for sorbion sachet S over the previous dressing which included also hydrofiber dressings or PU foams. In 10 out of 10 patients a reactivation of healing processes were observed, and in 2 out of 10 cases the wound bed preparing actions allowed a skin graft application.

CONCLUSION

Major clinically relevant properties of sorbion sachet S were seen on debriding performances with effect on wet necrosis, improvement of peri-wound skin, reduction of pathologic oedema in the wound region with effect on the negative influences of static exudate, and improving the metabolic status of the wound with effect on inflammatory proteases; all of these observations were attended by significant healing signs such as reduction of wound size and increased percentage of granulation tissue. As an overall impression, effective wound bed preparation was performed at a high clinicians' and patients' satisfaction. In addition, the frequency of dressing change was significantly reduced which indicates, especially together with the healing rates, good cost efficiency of the use of this dressing.