Successful therapy of critically-colonised or locally infected wounds with a new HydroBalanced biocellulose-based wound dressing* with polihexanide on out-patients

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Introduction:

Bacterial overload can block the wound healing process in the inflammatory phase. In case of a critically colonized or infected wound, the reduction of the bacterial load to a normal contamination is an important task of a wound dressing.

The aim of our work was to evaluate the antimicrobial version (PHWD)[1] of a new HydroBalanced biocellulose-based wound dressing (HWD)[2], which can absorb exudate and donate moisture as well as has antimicrobial effects by polihexanide (PHMB) on critically colonized or infected vascular leg ulcers of out-patients.

Material and Methods:

60 out-patients affected by vascular leg ulcers were treated with HWD[2] for wound bed preparation and wound healing. A sub-group of 11 out-patients with critically colonised or locally infected venous or mixed leg ulcers (W.I.>60) was treated with PHWD[1] (primary dressing) and a foam[3] or a high absorbing dressing[4] (secondary dressing). As soon as the infection was cured HWD[2] was used. A short stretch multi-layer compression system[5] or a ready-to-wear compression device[6] (in 3 cases) were used for compression treatment. The dressing change and bandage repositioning were performed according exudate amount and pain; it was weekly in all but one patient. Ulcer surface reduction or healing, bacterial burden and pain control (Visual Analogue Scale, VAS) were evaluated.

Results:

- 1 patient suddenly died (stroke)
- 3 patients were submitted to skin grafting (as a good wound bed preparation was achieved) and healed.
- 7 patients healed in 13.4 ± 2.1 weeks

After three dressing changes the bacterial burden decreased from **765000 (±345000) to 50000 (±15000) cfu** (fig. 1).

A pain reduction (VAS) was observed from **7.3 (±1.9) to 2.8 (±0.8)** within **3.4 ±0.8 weeks** (fig. 2). The pain gradually decreased simultaneously with the reduction of infection-inflammation.

The wound dressing was well tolerated and no damages of the peri-wound skin were seen.

Conclusion:

PHWD[1] is effective in infection control, pain reduction, wound bed preparation in out-patients even when changed weekly. Due to these properties the dressing is effective in promoting the wound closure. It is generally well tolerated.

1: Suprasorb® X+PHMB; 2: Suprasorb® X; 3: Suprasorb® P; 4: Vliwazell®;
5: Rosidal® sys; 6: Rosidal® mobil; Lohmann & Rauscher products

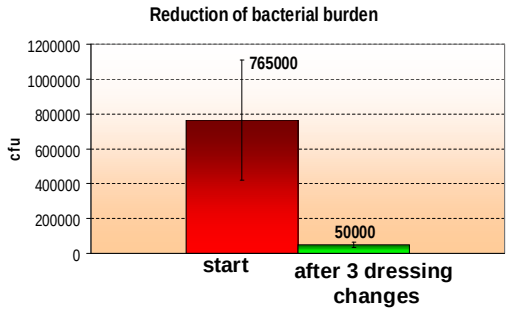

Fig. 1:
Significant reduction of bacterial burden after 3 dressing changes (n=11)

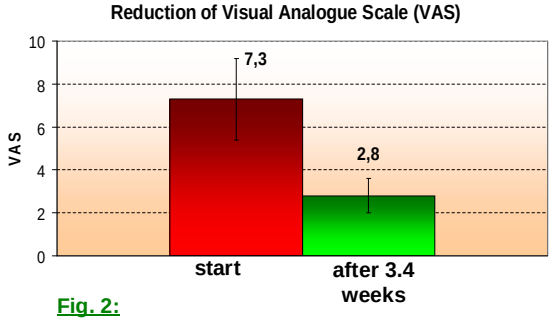

Fig. 2:
Significant reduction of VAS after 3.4±0.8 weeks (n=11)

Case 1:
Male
Locally infected superficial venous insufficiency
Treatment before: hydrocolloids
Ulcer duration: 5 months
VAS before/after 3.4 weeks: 10/2
Healed after 115 days

Healed after 115 days

Case 2:
Female
Locally infected superficial venous insufficiency
Treatment before: hydrocolloids
Ulcer duration: 4 months
VAS before/after 3.4 weeks: 8/1
Healed after 106 days

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