

The role of a HydroBalance* dressing+PHMB in wound debridement and disinfection

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Introduction:

The patient, an 86-years-old woman, was hospitalized for an extensive bruise that covered almost all of her lower right leg. She had a known allergy for iodine. The frail elderly patient had anemia, cardio- and peripheral vascular disease, bleeding disorders and venous hypertension. After debridement of the hematoma the ulcer became infected and was extremely painful.

In a first step, surgical evacuation of the hematoma, was performed in the operation room. The wound was then covered with an alginate dressing. After 15 days of treatment the wound showed the presence of local signs of infection. Bacteriological samples were taken and confirmed a wound infection and the presence of *Staphylococcus aureus*. Given the poor cardiovascular condition of the patient, which did not allow for another radical surgical debridement session under anesthesia, treatment with the HydroBalance* dressing and PHMB (X+PHMB) covered with a film* dressing was started.

Objective:

Evaluation of X+PHMB*, a HydroBalance dressing* combined with an antimicrobial agent PHMB (PolyHexaMethylene Biguanide). The dressing allows for removal of necrosis or fibrin, while absorbing excess exudate. The dressing supports granulation and epithelialization and combined with PHMB can be used for infected wounds in all stages of healing.

Materials and methods:

Materials: X+PHMB*, 14 cm x 20 cm, film on a role (10 cm x 10m), Saline and bandages*.

Methods: The ulcer was cleansed with saline and mechanical debridement was carried out using a curette to remove residues of the hematoma. (fig.1) X+PHMB* (employed as a primary dressing) was applied on the ulcer with an overlap on the edematous peri-wound skin of about 4 cm. (fig.2) Film* was used as a secondary dressing.

The whole was covered with bandages* to give support and to secure the dressing stayed in place.



Fig. 3 and fig. 4: Removal of the first dressing after 2 days (48 h in situ) : The dressing is completely saturated with black exudate. There is no malodour upon dressing removal. After cleansing and mechanical debridement of the residue of hematoma with a curette, the wound bed looks well vascularised and clean. (fig. 4)

Fig. 3



Fig. 4



Complete cleansing and debridement was obtained upon the 4th dressing change. (day 7). The wound bed looks clean and the inflammation at the peri-wound skin is no longer present. (fig. 5)

Fig. 5



End of inflammatory stage

A well vascularized wound bed, covered with granulation tissue and partly epithelialized, with no signs of infection or inflammation was achieved after 7 dressing changes.(fig. 6)

Fig. 6



Results:

Complete debridement was achieved within 7 days of treatment and only 4 dressing changes with X+PHMB. After 21 days and a total of 7 dressing changes, the wound bed had been well prepared for a skin graft.

Conclusion:

- § The use of X+PHMB for the infected ulcer of this frail elderly patient resulted in complete debridement and allowed for early closure with a skin graft within 21 days of treatment;
- § Moreover the patient reported a significant reduction in pain with application of the dressing;
- § Although the effectiveness of the dressing was evaluated in only a single clinical case, it is proposed that X + PHMB is effective both at the level of debridement and management of infection.
- § The inflammation present at the peri-wound skin was successfully managed with overlapping the HydroBalance* dressing X+PHMB on the affected areas.

* Hydrobalance dressing: Suprasorb® X; X+PHMB: Suprasorb® X+PHMB; film: Suprasorb® F; bandages: Velpeau® crepe bandage, Lohmann & Rauscher