Treatment of a patient with hard-to-heal leg ulcers

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Introduction

Chronic venous insufficiency (CVI), a consequence of lower extremity valvular reflux, produces hypertension in the dermal microcirculation. Increased venous pressures causes distension of capillary beds leading to extravasation of red blood cells, and macromolecules into the dermis (1). The result is inflammation, leading to ulceration (1). Venous ulcers may be multiple or single and are typically painful and shallow. Ulcers can vary significantly in size and be difficult to manage, particularly if they are painful, complicated with dermatitis, or if they drain profusely. Compression is the standard treatment for venous ulcers (1,2).

The dressing evaluated in this case study is a *biosynthetic cellulose (BWD) dressing, which has the ability to both donate and absorb moisture (3). The dressing is combined with polihexanide (PHMB) for reduction of bacterial load and to support wound cleansing.

For compression a short stretch bandage system** was applied and after the edema had reduced, compression was continued with a tubular ***compression bandage.

The patient

The 56-years old male patient is morbid obese (141 Kg/ 1,58m) and has multiple pathologies: hypertension, diabetes melitus type 2, renal failure (dyalisis since 2007), dyslipidemia, sleap apnea, chronic venous insufficiency, elephantiasis, right inguinal hérnia and Pick Wick Syndrome.
Since 1999 he has had multiple hospitalisations for e.g. dyspnoea, erysipelas and cellulitis. In 2009 he received a gastric balloon, at this time his weight was 141 kg. At present (01/2010) his weight has gone down to 105 kg.

Aim

Attend to the patient's multiple pathologies, reducing the oedema in his legs, attempting to close the large ulcers, improving his quality of life.

Method

After various local therapies have been attempted, following treatment was started in December 2008: The wounds were cleansed with saline and covered with BWD + polihexanide (PHMB), after which the short stretch bandage system with a foam underpadding layer was applied. In February 2009 the oedema had reduced to a minimum and the ulcers were markedly smaller. Compression maintenance was then performed with a tubular compression bandage.

Results

Upon starting the treatment, both lower legs had circumferential ulcers. Fig 1 and Fig 2. The aetiology is venous with a lymphatic component. There is massive oedema present and heavy exudation. The left leg shows signs of inflammation. Fig 1.
After 8 days of treatment the inflammation had reduced. Fig 3 and fig. 4. After 14 days the exudate production has reduced and the ulcers are much smaller. Fig 6.
After 2 months of BWD + PHMB application, the ulcers were much smaller and the oedema had reduced to a level where a tubular compression system could be applied. The patient was walking regularly which was of benefit for his overall condition.

Conclusion

Good adherence to the regime and an effective treatment using BWD and compression lead to ulcer closure. This improved the patients' quality of life significantly.

References

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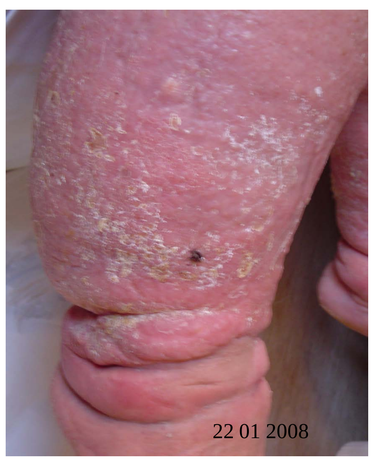
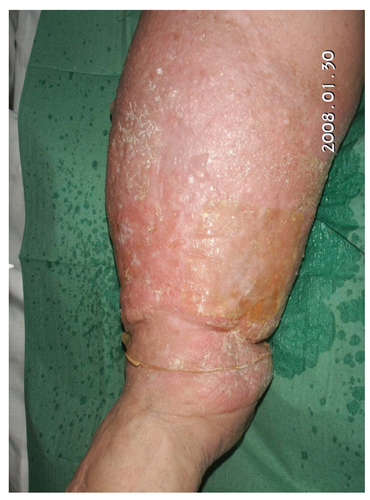
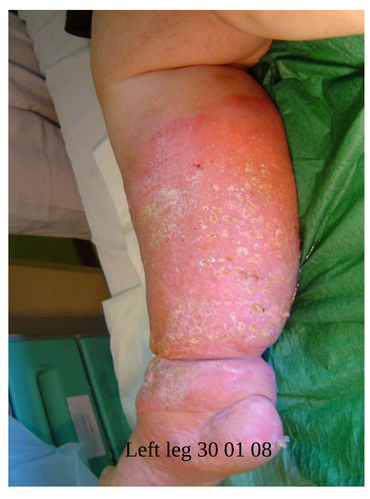


Fig. 1: Front left lower leg. Fig. 2: Both lower legs
Situation upon the start of the new treatment regime





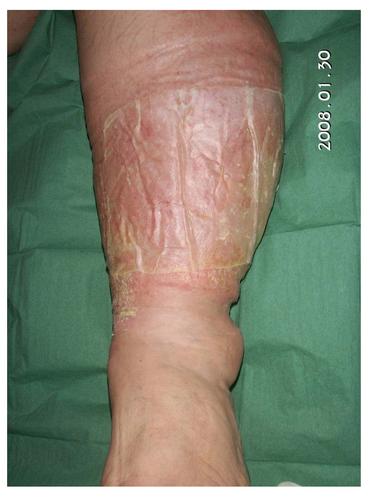


Fig 3 and fig 4: Left leg, the inflammation has reduced. Fig 5: Right leg with the dressing in place.
Situation after 8 days of treatment

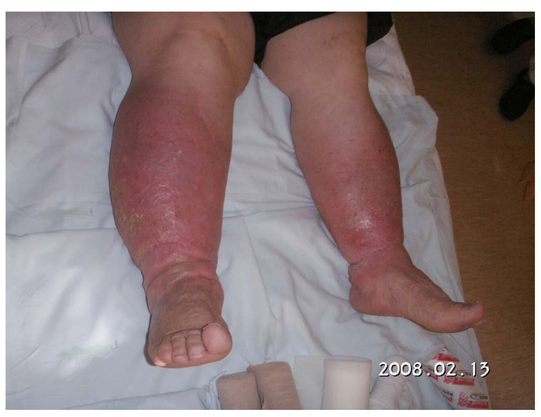
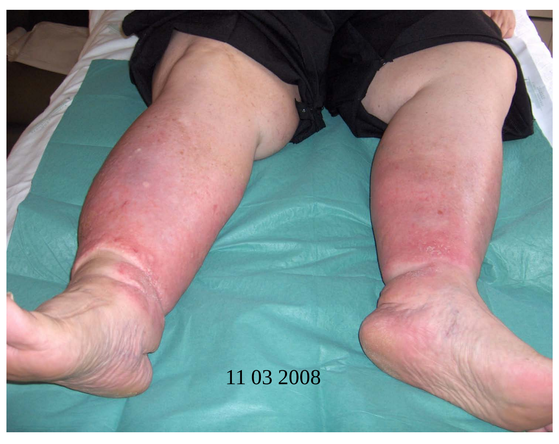


Fig 6: There is less exudate and the ulcers are smaller. Fig 7: Both legs with the bandages in place.
Situation after 14 days of treatment



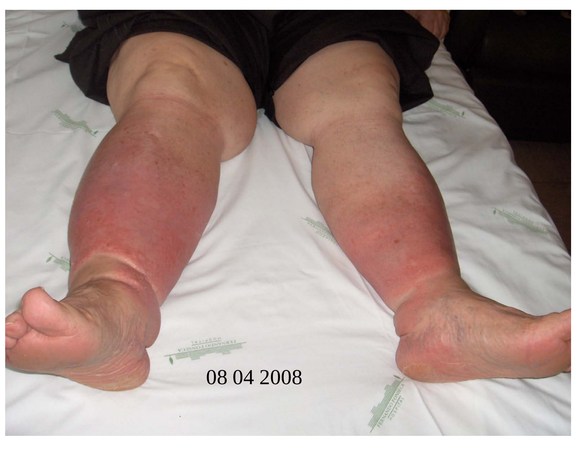


Fig 8: Situation after 26 days of treatment

Fig 9: Situation after 54 days of treatment
compression was continued with tubular bandages

*Suprasorb® X + PHMB, **Rosidal® Sys, ***Rosidal® Mobil are products of Lohmann & Rauscher GmbH, Rengsdorf, Germany

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