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 mellitus type 2, renal failure (dialysis since 2007), dyslipidemia, sleep apnea, chronic venous insufficiency, elephantiasis, right inguinal hernia 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.

The study was supported with an educational grant from Lohmann & Rauscher GmbH, Rengsdorf, Germany

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

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