



Case study: C098

L-Mesitran®

Diabetic wound *Ps. aeruginosa*/strep-tococcus

A 78 year old male, Diabetes Mellitus Type 2, has a very large wound on his left lower leg. The man is obese and the leg shows venous insufficiency and edema. At the beginning of March he bumped into the stairs and what started as a small wound, at the end of March covered the whole lower leg (pic. 1 & 2).

The patient uses blood pressure-lowering medication (lisinopril 20mg/dg). For his diabetes, he uses metformin (1.000 mg / day) and gliclazid (30mg/3xdg). He also uses regularly paracetamol for the pain. His blood glucose is too high, because he does not keep to his diet.

The wound was infected; swabs showed antibiotic resistant *Ps. aeruginosa* and *Streptococci*. The *Pseudomonas* infection was initially treated with ciprofloxacin. The wound was treated with silver sulphadiazine, collagen (Promogran), paraffin gauze (Jelonet), calcium alginate (Algisite) enzyme products (Fibrolan) and silicon (Mepilex). This treatment method had little to no success.

After a television broadcast on Swiss TV on the added value of topical honey for wound care, the nurse decided to try the honey based ointment. The expectation was that the honey ointment could treat the infection and that it would debride the wound.

Product: L-Mesitran Soft and L-Mesitran Net
Case Study done by: M. Haas, RN, Spitex Glattfelden, Glattfelden, Switzerland

Method & Observations

On March 21, the treatment with honey ointment started. The wound was cleansed first with NaCl and the Net was placed on the wound. On top of this the Soft was applied and covered with an absorbant dressing. After four weeks (pic. 3 & 4) the use of the Net was stopped, because the wound did not produce any excess of exudates anymore and the Net dressing was no longer necessary. The infection was under control and the wound was already closed in some places, it then was a collection of smaller wounds, instead of one large wound. Granulation and epithelization was observed.

On May 26 (2 months after the start with honey) the wound has considerably improved, it was smaller and the peri-wound area looked healthy (pic. 5). A month later (pic. 6) the wound was smaller and the blood circulation was good. The next pictures show the gradual improvement of the woundhealing, the improvement is slow due to the underlying pathology (diabetes/venous insufficiency) and a poor compliance to diet. However, the infection was controlled and healing was clinically achieved in March 2010. Due to the underlying pathology small wounds still occur occasionally and therefore complete healing is in this case an unreachable goal.

Conclusion

Costs spent on Type 2 diabetes and related complications in Switzerland represents a share of about 2.2% of the country's total healthcare expenditures (Schmitt, 2004). With the increase of diabetes in the coming years it is of great importance to have (cost) effective treatment methods for diabetic wounds.

In this case the obesity combined with poor compliance to diet, diabetes, venous insufficiency and age showed a slow healing pro-



1. 21/03/2009



2. 21/03/2009



3. 21/04/2009



4. 21/04/2009



5. 26/05/2009



6. 22/06/2009



7. 30/07/2009



8. 27/08/2009



9. 30/11/2009



10. 05/03/2010

cess. The honey gel however was capable of controlling the infection of antibiotic resistant bacteriae (*Ps. aeruginosa* and *Streptococci*). The wound was debrided and, considering the condition of the patient, woundhealing was quickly promoted. Due to the chronic condition of the patient there is always a danger of new wounds (Weir, 2008). The advice was therefore to regularly (1x/week) apply the honey gel as a preventive measurement (Fatma, 2009).

References

- Fatma A *et al.* (2009) Lower limb complications among diabetic patients. *Bull. Alex. Fac. Med.* 45(2): 587-594
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- Weir G (2008) Management of venous leg ulcers. *Wound Healing Southern Africa* 1(1): 44-47