APPLICATION OF NPWT, GRAFTING AND COMPRESSION FOR TROPHIC VENOUS LEG ULCER PATIENTS

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Introduction :

Patients with trophic venous ulcers present a special group. They are often treated in the hospital, following Doppler examination, there is consultation of a vascular surgeon and if required of other specialists.

Aim :

Achieve ulcer closure in these complex cases.
Two patients are shown to illustrate the typical approach in these trophic venous leg ulcers.

Method :

Preoperative treatment: Oral #antiaggregants and compression bandaging. Surgical intervention was carried out in two stages, excision of the ulcer followed with single-step bandaging of the perforating veins (Cockett)[1] and debridement by using an *ultrasonic surgical instrument. **NPWT was applied following surgical excision of the ulcer. It has the following advantages: Effective evacuation of wound exudate; reduction of bacterial contamination; stimulation of local blood flow and granulation. An ***alginate dressing containing silver was used as a primary wound contact layer under NPWT. The system was covered with a ****film. Patients continued with oral antiaggregants, intravenous ##L-lysine aescinat and intravenous ###Actovegin. After wound bed preparation was completed, surgical wound closure
was performed with an autologous graft. Patients were mobilized using crutches. Upon discharge from the hospital the patients continued with oral antiaggregants, ####Flavonoids and Actovegin for another 2 months. For compression a *****short stretch bandaging system or a ******tubular compression system was used, depending on the amount of edema that was present.

Case 1:

Patient N. aged 54 has been suffering from post-thrombotic syndrome of the right lower extremity. He had 3rd grade CVI for eight years, edema and recurrent ulcers. About four years ago he developed two trophic ulcers on his right shin. He had received repeated and long duration in-patient and ambulatory treatment. One month before he was admitted to the hospital he underwent endo-videodisection of incompetent perforating veins, without clinical effect. On day 2 excision of the ulcer was performed followed by single-step bandaging of the perforating veins (Cockett [1]) and debridement using an *ultrasonic surgical instrument, on day 3. The day following the first stage of surgical intervention **NPWT was started, using a ***calcium alginate with silver as a contact layer and a ****film as a secondary dressing. NPWT was continued for 14 days. On day 16 the wound was debrided and a skin graft was applied. Duration of hospital treatment was 24 days. After discharge from the hospital treatment continued with a *****short stretch compression bandage system.

Case 2:

Patient K, aged 53, has CVI grade 3 of the right lower extremity, due to post-thrombotic syndrome and recurrent venous ulcers for 12 years. She received repeated and long duration in-patient and ambulatory treatment. On day 2 the ulcer was excised and single-step bandaging of perforating veins (Cockett[1]) and debridement using an *ultrasonic surgical instrument was performed. The following day NPWT was started as described for case 1, for 13 days. On the 15th day, debridement and skin grafting was performed. At day 23 the patient was discharged from the hospital.

Case 1:

Fig. 1.1:
Day 0: Situation upon admission

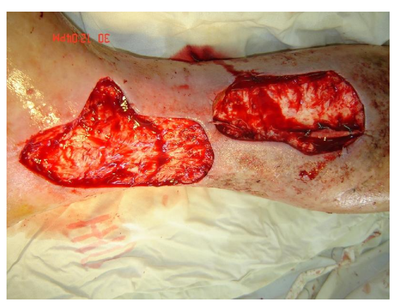

Fig.1.2:
Day 3: Ulcer excision, bandaging of perforating veins and debridement.

Fig. 1.3:
Day 3: NPWT in situ

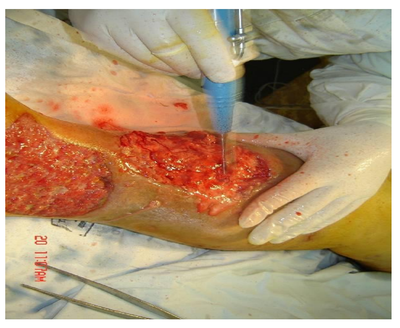

Fig.1.4 :
Day 17: Debridement and grafting

Fig.1.5:
Day 17: situation after grafting

Fig.1.6 :
Day 24: Discharge from the hospital

Fig.1.7:
Follow up at 6 months

Fig.1.8:
Compression bandages in place

Case 2:

Fig. 2.1:
Situation upon admission

Fig. 2.2:
Surgical excision of the ulcer

Fig. 2.3:
Day 3: NPWT in situ

Fig.2.4:
Day 15: Situation before grafting

Fig.2.5:
Day 15: Debridement and grafting

Fig. 2.6:
Day 16: 1 day after grafting

Fig. 2.7:
At day 23:Discharge from the hospital

Scientific grant: Lohmann & Rauscher GmbH, Rengsdorf, Germany

*Sonoca-185, Soring; #Bayer aspirin; ##L-lysine aescinat ®, Multitran; ###Quercetin, Genistein & Daidzen; ####Actovegin® Nycomed

Suprasorb® CNP-; *"Suprasorb A+Ag; ****"Suprasorb F; "*****Rosydal ® sys; ******Actico® Silk
are products of Lohmann & Rauscher GmbH, Rengsdorf, Germany

Reference:

Chilvers F. Outpatient skin grafting of venous leg ulcers. The Lancet, Vol 294; Issue 7830; p. 1087-1088

EWMA Congress, 25, 26, 27 May, 2011, Brussels, Belgium