

## [OP008] COMPRESSION IN PATIENTS WITH ARTERIAL INSUFFICIENCY DOES NOT DECREASE TOE PRESSURE

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Free Paper Session: Leg Ulcer 1

**Aim:** It is generally recommended to avoid compression therapy in patients with ankle brachial pressure index (ABPI) below 0.5, as compression potentially decreases peripheral blood pressure. The aim was to determine the effect of increasing external compression pressure on toe pressure in healthy adults and in patients with arterial- or mixed arterial and venous insufficiency with low ABPI.

**Patients and methods:** In this experimental study, patients acted as their own controls, as measurements from the same leg were compared. Patients with arterial insufficiency were included (ABPI < 0.8) = group A. Toe pressure was obtained using the Strain Gauge technique, initially without compression to obtain baseline values before applying external compression. A compression boot with known external pressure was applied. Systolic toe pressure was measured with increasing external pressure (Group A: 25 mmHg, 40 mmHg, 55 mmHg). For comparison, similar measurements were carried out among healthy young adults with an ABPI > 0.8 = group B (Group B: 25 mmHg, 40 mmHg, 60 mmHg and 80 mmHg).

**Results:** In group A none of the patients showed reduction in toe pressure (N=9, External pressure range: 25-55 mmHg). In group B there was a pressure-related reduction with a maximum of 20% at 80 mmHg (n=17).

**Conclusion:** Increasing levels of external compression decreased toe pressure in healthy controls whereas no decrease in toe pressure was seen in low-pressure patients despite external compression at 55 mmHg. These results indicate that compression can be safe to use in patients with low toe pressure values.

**[OP009] CLINICAL USE OF AUTOLOGOUS PLATELET CONCENTRATES FOR STIMULATION OF REGENERATION OF VENOUS ULCERS**

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Free Paper Session: Leg Ulcer 1

**Aim:** Estimate the clinical effectiveness of the developed method of using autologous platelet concentrate (APC) in complex treatment of patients with venous ulcers.

**Method:** Evaluated the immediate and long-term results of treatment of 58 patients with venous ulcers. After surgical correction patients were divided into 2 groups. In the study group used the developed way to use APC: platelet-rich fibrin matrix (PRFM) and platelet-rich plasma (PRP). After surgery the obtained PRFM was applied to an ulcer surface. Additionally PRP was injected around the ulcer.

**Results:** Statistically significant differences in wound surface area formed by the 21-th day of observation: the area of the ulcer in the main group decreased by 46.7% from baseline and by 35.1% in comparison with the value of the comparison group by this time ( $p < 0,05$ ). The use of APC allowed to increase ( $p < 0,05$ ) rate of epithelialization to 0.09 (0.04; 0.16)  $\text{cm}^2/\text{day}$ , which is 3 times exceeded the level of the comparison group (0.03 (0.02; 0.04)  $\text{cm}^2/\text{day}$ ). Time for complete healing of ulcers using APC was significantly lower ( $p < 0,05$ ) for 10 days, relative to the comparison group (64.0 (58; 70.5) and 54.0 (41.0; 65.0) days, respectively). According to the results of the questionnaire CIVIQ-20 the long-term (6 months) was observed to improve the quality of life of patients compared with baseline in the study group (39.5 (28.0; 53.0) and 24.5 (21.0, 36, 0),  $p < 0,05$ ), as well as in the control group (44.0 (34.0; 50.0) and 37.0 (26.0; 43.0),  $p < 0,05$ ).

**Conclusions:** The developed method of treating patients with venous ulcers based on the stimulating effect of APC, improves the efficiency of complex treatment.

## [OP010] DIFFERENTIAL DIAGNOSIS OF BURULI ULCER: DATA FROM AKONOLINGA, CAMEROON

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Free Paper Session: Leg Ulcer 1

**Aim:** Diagnosis of Buruli ulcer (BU) due to *Mycobacterium ulcerans* can be challenging. We aimed at specifying the differential diagnosis of skin lesions in an endemic area for BU and identifying clinical predictors.

**Method:** We conducted a prospective diagnostic study in Akonolinga, Cameroon. Patients presenting with a skin lesion suspect of BU were included in the absence of previous treatment. In addition to clinical examination, swabs or fine needle aspirates were tested by Ziehl-Neelsen, PCR and culture for *Mycobacterium ulcerans*. For ulcerative lesions, punch biopsies were performed. Photographs of the lesions were reviewed independently by two dermatologists. Final diagnosis was agreed upon by consensus, combining the results of laboratory tests and expert opinion.

**Results / Discussion:** Between October 2011 and December 2013, 364 patients were included, for 422 lesions. Median age was 34 years (0 to 87), 64% were males, and 18% HIV-positive. Most lesions (90%) were ulcerative. Buruli was considered the final diagnosis for 27% of the lesions. Main differential diagnoses were vascular lesions (25%), bacterial infections (19%), post-traumatic (7%), fistulated osteomyelitis (6%), neoplasia (5%), inflammatory lesions (4%), hemopathies and other systemic diseases (4%) and other infections (1%).

Duration of symptoms, Buruli in the vicinity, age, sex, localization and size of the lesion, itching, undermining, characteristic smell, fibrin and epidermization areas in the ulcer were all associated with Buruli diagnosis.

**Conclusion:** We specified the differential diagnosis of skin lesions in a BU-endemic area. Epidemiological and clinical characteristics were identified and may help clinicians to make a correct diagnosis.

## [OP011] IMPROVING THE TREATMENT OF VENOUS LEG ULCERATION IN THE HOME ENVIRONMENT

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Free Paper Session: Leg Ulcer 1

**Aim:** To improve the standard of wound debridement, cleansing, healing and application of effective compression for those with venous leg ulcers in a home environment.

**Method:** A total of 34 house bound patients undergoing compression bandaging for venous leg ulceration had their care plans changed. Wounds were assessed, debrided and cleansed using a unique debridement cloth and a new compressive device was applied. Staff training was conducted and patient questionnaires were completed at each home visit. Patients and carers were advised on how to participate in their care plan.

During each visit the following were recorded:

- Details of wound
- Leg measurements
- Patient perception using Visual Analogue Scale (VAS scale)
- Frequency and duration of visits
- Comparison of application methods
- Costs comparisons of the care plans

**Results / Discussion:** The average duration of venous leg ulceration of these patients was 29 months. Significant savings were realized in the cost of debridement and compression and reduced reliance on absorbent dressings with the new care plan. Weekly visits were reduced from 86 to 53, the average duration of visits reduced from 43 minutes to 24 minutes per patient leaving more time to care. 5 patients healed within the time and were therefore discharged.

Benefits were also seen with an instant return to conventional footwear, improved mobility and increased range of movement at the ankle.

**Conclusion:** The combination of these devices has improved the patient experience, allowed independence, promoted healing and reduced the physical work load of the District Nurses in the area, all in addition to saving money.

**[OP012] USE OF COMPRESSION TREATMENT IN VENOUS LEG ULCERS: NATIONWIDE SURVEY ON 9 MILLION PERSONS IN GERMANY.**

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Free Paper Session: Leg Ulcer 1

**Aim:** Chronic venous diseases are the most common causes of leg ulcers. Compression treatment (CT) is a central component of venous leg ulcer (VLU) therapy based on guidelines and clinical evidence. However, large-scale data on the use of CT are rare. In particular, there have not yet been published nationwide data for Germany.

**Method:** Analysis of data from a large German statutory health insurance (SHI) with about 9 mio., insured persons. Data between 2009 and 2012 from all persons with an incidental diagnosis of venous leg ulcers were analyzed. Active state of ulcers was derived from wound-specific treatments prescribed at least twice within a year. Compression stockings and bandages were identified by specific SHI medical device codes. Global German numbers were derived after adjustment for age and gender. Moreover, regional rates of CT use were assessed based on postal codes.

**Results / Discussion:** In 2012, the rate of active venous leg ulcers was 0.19% of all insured persons, and the incidental rate was 0.06%. Adapted to Germany, 155,000 persons per year would have active ulcers and 48,900 would have developed an incidental new VLU. Across Germany, only 40% of all patients received compression treatment. Among these, 68% were stockings, 29% bandages and 2% multilayer systems. Compression rates showed no significant differences between gender and age but large regional variations on a state level with the greatest proportions being prescribed in Bremen (53.2%) and Hamburg (48.2%) and the smallest numbers being found in Sachsen-Anhalt (33.8%) and Saarland (32.0%).

**Conclusion:** Though recommended by guidelines, there still is an under provision of care with compression in incidental leg ulcers in Germany.

