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Compression treatment of patients with venous disease or phlebolympoedema –

Implementation of the new two-layer
compression bandage system JOBST® Compri2*

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Compression treatment of patients with venous disease or phlebolympoedema – Implementation of the new two-layer compression bandage system JOBST® Compri2, May 2015

ABSTRACT

Background:

Compression therapy is the cornerstone of the treatment of venous and lymphatic disorders and has to be combined with moist wound healing to increase the healing rate of leg ulcer significantly. Today multiple compression modalities are available which provide graduated compression to the lower limb in order to improve venous return and reduce oedema. The major criticism aimed at today's compression therapy is the high therapy burden leading to poor patient compliance. To reduce this burden, a new two-layer compression system – JOBST® Compri2 – was developed and implemented in daily practice in Germany and the USA.

Aim:

To evaluate the integration of a newly developed two-layer compression system – JOBST® Compri2 – into daily practice. In particular, ease of application and wearing comfort should be observed by treating patients with chronic venous insufficiency or phlebolympoedema with/without leg ulcers in daily medical practice in different countries.

Methods:

In a pilot study, 21 patients with chronic venous insufficiency (oedema and active venous leg ulcers) and five with phlebolympoedema (three with, two without leg ulcers) were treated for 3 or up to 7 days with JOBST® Compri2 depending on the wound status and patient-specific medical needs.

The two-layer compression bandage system JOBST® Compri2 (provided by BSN medical GmbH, Hamburg) was applied following the instructions for use and the wounds were treated according to the medical protocol of each centre*. Product performance (e.g. slippage) and participant satisfaction (wearing comfort and patient mobility) as well as usability of the product (e.g. ease of application) were monitored with a questionnaire. As a part of the regular clinical routine at the German centres, the circumferences at points B and C were measured before and after compression treatment to analyse its effect on the extent of the oedema.

Findings:

Under the treatment with the new JOBST Compri2 oedema reduction or stabilization was observed in the treated patient's population during the study. As the majority of patients had experienced the limitations of other compression systems, the performance and usability of the new system was rated as very positive by the majority of patients, physiotherapists, nurses and physicians. The patients' well-being improved, resulting in high compliance e.g. some patients even requested the treatment to be continued with the new system after the evaluation.

Conclusion:

Effective compression bandage systems like the new JOBST® Compri2, which are easily applied, provide high wearing comfort and are very well accepted by patients, physiotherapists, nurses and physicians. Finally, JOBST® Compri2 can be easily integrated into the daily clinical and home routine.

Introduction

Compression therapy is the cornerstone of the treatment for venous oedema, venous leg ulceration and lymphatic disorders. Compression, in addition to moist wound therapy, has been shown to be superior for healing of venous leg ulcers.¹⁻⁴ Furthermore it has been demonstrated that high compression levels (30 to 40 mmHg) produced by bandaging and strong compression stockings are most effective at healing leg ulcers and preventing progression of post thrombotic syndrome.⁴ Nevertheless, these findings are given too little attention.^{5,6,7,8}

In 2002, only the minority – approximately 10-20 % – of patients with chronic wounds in Germany received

moist wound therapy,⁶ and up to 25 % of patients with venous leg ulcers did not receive any compression therapy at all.⁵ These findings were confirmed by a survey on the use of compression therapy in combination with contemporary moist wound management which included 45,957 patients. Evidently patients with chronic leg ulcers are not always receiving optimal treatment in Germany.⁶

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Even today, these deficits in the distribution of compression therapy still exist in highly developed countries like Germany.⁹ A recent study investigating the knowledge of bandage materials and its application among German health care providers revealed that most of them were unfamiliar with both. Around 10 % of the medical staff managed to apply the correct level of compression as needed.⁹ Obviously, more training and education are needed to increase knowledge of the appropriate materials and application of compression systems. In addition, easy to understand and use products which are well accepted by the patient will help to treat patients adequately in daily practice. The newly developed two-layer compression system JOBST® Compri2 is designed to provide sustained graduated compression for the management of oedema resulting from both venous and lymphatic disorders. The first layer is used to pad the limb, the 2nd is a cohesive short stretch bandage with an easy to read pressure indicator. The cohesive short stretch ensures maintenance of the pressure and reduces slippage resulting in extended wear time.

Results

In an effort to gain further experience in the implementation of JOBST® Compri2, 21 patients with chronic venous insufficiency (oedema and active venous leg ulcers) and five with phlebolympoedema (three with, two without leg ulcers) were treated for 3 or up to 7 days as part of their daily medical practice in Germany and USA. The age of the patients ranged from 43-90 years (10 men, 16 women). Since the majority of patients (only one exception) had ulcers which had to be controlled regularly, the wound dressings and the compression system were reapplied after 3 days or if possible after 7 days. Prior to reapplication, the fit of the compression system was analysed revealing no or only slight slippage (less or comparable to other compression systems) after 3 and 7 days of treatment. Only three cases of obvious slippage were reported probably due to heavy usage (e.g. active daily activities).

By measuring the circumferences at the points B and C of the legs of the patients, oedema reduction (up to 4.5 cm) or stabilisation in circumferences after three days' of JOBST® Compri2 were observed (Fig. 1) The extent of the oedema reduction varied depending on the individual patient's health condition and former compression treatment.

In addition usability of the compression system was also analysed by monitoring ease of application. All practitioners rated the ease of application as excellent, very good or good independently of their former experience with other systems e.g. UrgoK2 (Urgo GmbH), Coban2 (3M), Rosidal TCS (Lohmann & Rauscher) or country-specific modalities (Germany, USA) and expressed their satisfaction. Furthermore, the patients were asked about their restriction of movement

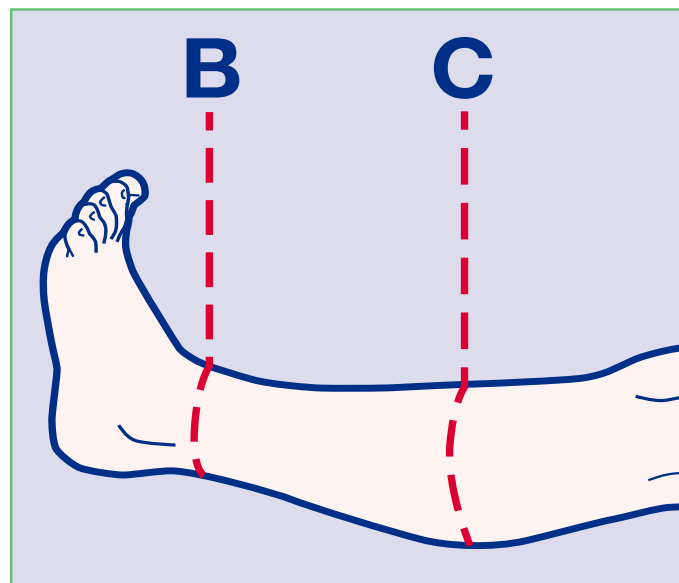


Fig. 1: Measurements of the circumference at B the ankle and C the calf

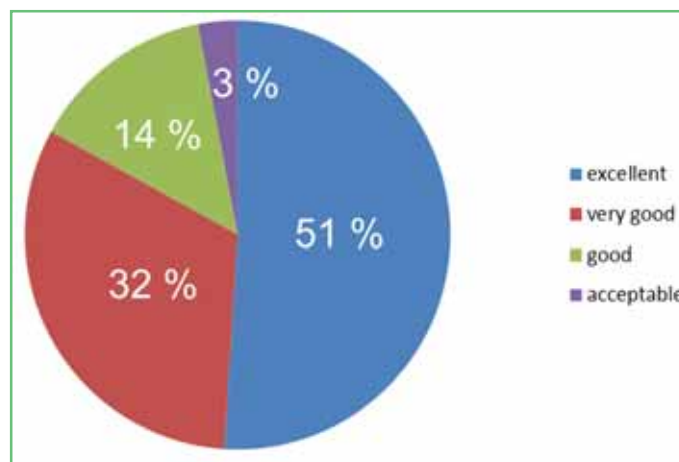


Fig. 2: Summary of wearing comfort using JOBST Compri2 rated by patients (including wearing time 3 days and 7 days)

associated with the use of the compression system and about the wearing comfort, which revealed high patient satisfaction (see Fig. 2). They reported that they could wear their own shoes.

Only in one case was the patient (4 %) not satisfied (mentioned that the compression system is too tight). In contrast to this patient, other patients wanted to continue the compression therapy with JOBST® Compri2 after the end of this evaluation. For example, the patient shown in Fig. 3 very much liked the JOBST® Compri2 and even preferred this two-layer compression bandage system to recently used products. In addition, some patients greatly favoured JOBST® Compri2 because they had experienced itching under the compression bandage system Rosidal TCS (Lohmann & Rauscher) which did not occur with JOBST® Compri2.

In conclusion, practitioners and most of the patients readily accepted JOBST® Compri2 compression techniques and successfully integrated the new system into their medical routine.

Discussion

The use of compression for the management of lower extremity oedema and venous leg ulcer is well documented in the medical literature. However as highlighted earlier there is inconsistent use and application of appropriate compression. The ideal compression system is one that can be easily and consistently applied, reduces venous hypertension thereby promoting venous and lymphatic return enhancing oedema reduction and/or management, and is comfortable and tolerable to the patient requiring minimal alterations in daily routine.

In the study, oedema was reduced or recurrence prevented in all cases, which supports the efficacy of JOBST® Compri2 for management of oedema in this patient population.

Since most of the patients (n=25) were treated with other compression systems or compression garments prior to the compression with JOBST® Compri2, this outcome received a very positive rating by the practitioners.

Furthermore the high comfort and excellent mobility during the use of JOBST® Compri2 resulted in high patient satisfaction and compliance.

Although this is only a first and preliminary report on JOBST® Compri2, it already provides valuable insights into the use of this compression system. Monitoring of the efficiency and performance of the systems will be continued.



A: *Ulcus cruris venosum* prior to the use of JOBST® Compri2 compression system.



B: Directly after application of JOBST® Compri2 compression system (5.12.2014).



C: After 3 days' application of JOBST® Compri2 compression system (8.12.2014).

Fig. 3: 61-year-old patient with history of a non-healing *ulcus cruris venosum* for 17 years was treated with moist wound care and compression therapy using JOBST® Compri2 for 3 days. In this case, additional padding was used for the toes. This patient had been treated previously with several other compression systems e.g. short stretch bandages and recently (1.4.14) with the two-layer compression system Rosidal TCS (Lohmann & Rauscher)



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