

## Conservative Treatment of Chronic Venous Insufficiency

Antonios G. Angoules\*

Department of Medical Laboratories, Technological Educational Institute of Athens, Greece

\*Corresponding author: Antonios G. Angoules, Department of Medical Laboratories, Technological Educational Institute of Athens, Greece, Tel: 30-6977011617; E-mail: [antoniosangoules@yahoo.com](mailto:antoniosangoules@yahoo.com)

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### Editorial

Chronic venous insufficiency (CVI) is a common ailment affecting particularly patients immobilized for a prolonged period of time which is associated with a significant socioeconomic burden [1].

This nosological entity affects the superficial and the deep venous system of lower extremities and is characterized by valvular incompetence, reflux and the presumable presence of venous obstruction as the result of the distal venous hypertension [2].

Clinical manifestations of CVI include bilateral leg edema, leg discomfort or pain, skin changes e.g. hyperpigmentation and dermatitis, ulcerations and dilated cutaneous veins such as telangiectases and varicose veins [3].

Treatment is primarily conservative consisting of phlebotropic drugs such as coumarins, flavonoids, saponosides and other pharmaceutically processed herbal products [4,5], compression bandages or stockings, mechanical intermittent pneumatic compression, exercise, manual lymphatic drainage and balneotherapy.

Compression therapy using hosiery or bandages based on the mechanism of leg narrowing, remains the mainstay conservative interventions targeting to correct superficial and deep venous insufficiency [6-8]. Mechanical intermittent pneumatic compression may also increase the healing of venous leg ulcers [9].

A better reduction of ambulatory venous hypertension in CVI individuals has been reported with high-pressure bandages in comparison to compression stockings which exert a lower pressure [7]. Moreover although higher pressure bandaging systems appear to be more efficient at ameliorating venous incompetence than lower pressure, the optimal amount and duration of compression is debatable [10]. In a study including patients suffering from venous leg ulcers inelastic material is reported to be more effective at reducing deep venous refluxes than elastic bandages [11]. Stockings provide stable and predictable interface pressure (IP), even though the golden standard of clinically efficient pressure is not well documented [6,12]. In addition despite the fact that their prescription is generally adopted from the medical community there is always the drawback of poor patient compliance attributable to wear-comfort factors and a subtle sense of restriction which debilitates the practicality of this method [6,13]. Finally regarding this kind of compression therapy, Amsler and Blattler performed a meta-analysis including several RCTs and concluded that leg compression within the range of 10–15 mmHg is an effective treatment for chronic venous disease whilst the higher pressure leg garments failed to achieve additional benefit [12].

Poorly functioning calf muscle pump compromises venous hypertension and pump impairments are associated with venous incompetence and venous ulceration in CVI patients [14]. Furthermore limited range of ankle motion is associated with muscle

pump failure and concomitant venous ulceration [15,16]. Home-based exercise programmes which enhance ankle range of motion [17] as well as structured exercise programmes which improve calf muscle pump function and strengthen calf musculature may be beneficial for CVI [18].

Balneotherapy for chronic venous insufficiency is based on the therapeutic effect endowed by some specific properties of the mineral water, like hydrostatic pressure, osmotic pressure and water temperature [19]. Few studies propose that these specific chemico-physical properties could be utilised for the treatment of chronic venous CVI patients [19-26].

Ippolito et al. [23] conducted a study including a group of patients diagnosed with primary varices of the legs. They were subdivided into two groups, videlicet a group treated with hydromassage thermal therapy and another group who wore compressive elastic stockings. Both subjective and objective symptoms stemming from venous stasis were significantly improved in the thermal water group in comparison to the control group. In another randomized, multicenter, controlled trial by Carpentier et al. [21] participated patients with advanced chronic venous insufficiency who underwent a 3-week duration spa. Although spa therapy was not able to reduce the incidence of leg ulcers a significant and substantial improvement in clinical status, symptoms, and quality of life of studied subjects for at least 1 year was demonstrated. Finally Forestier et al. [20] in a recent randomized trial comparing spa therapy versus waiting list patients concluded that balneotherapy appears to improve quality of life of CVI patients.

It is postulated that manual lymphatic drainage increases the venous blood flow in the lower extremity [27]. Consequently significantly reduces the foot volumetry, diminishes limb pain symptomatology and provokes a beneficial effect in the quality of life (QoL), of patients with chronic venous disorder [28-30].

In conclusion, conservative approach of chronic venous insufficiency is the cornerstone of managing this common pathology and the concomitant manifestations of venous stasis. Further well designed research is needed to elucidate the accurate indication and quantity of each one of the aforementioned physical medicine modalities for the treatment of chronic venous insufficiency and leg edema.

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