

THE IMPORTANCE OF COVASNA NATURAL THERAPEUTIC FACTORS FOR THE IMPROVEMENT OF PERIPHERAL ARTERIAL OCCLUSIVE DISEASE (PAOD)

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Abstract

Introduction. Covasna is the spa resort of mofettes and mineral waters, situated in an intramontane depression, with high levels of ozone in the air rich in resinous aerosols and negative ions, and a tonic-stimulating climate suitable for the treatment of a wide range of diseases including peripheral arterial disease. Of natural gases, carbon dioxide (CO₂) has been recognized to be beneficial and used since ancient times for its therapeutic effects. The property of carbonic acid to rapidly and intensely induce vasodilatation in the entire arterial system makes it a valuable “drug” for patients with deficient arterial circulation. It is demonstrated that CO₂ application can stimulate dermal blood circulation in concentrations ≥ 60 mg/l. In the case of concentrations higher than 60 mg/l, CO₂ proved to have therapeutic effects in circulatory disorders such as intermittent claudication, Raynaud’s syndrome, Buerger’s disease. Complementarily, CO₂ baths applied to an ischemic limb can lead to local augmentation of vascular endothelial growth factor (VEGF), with the formation of new nitric oxide (NO)-dependent capillaries and associated mobilization of endothelial progenitor cells. Objective. To study the effect of mofettes and carbonated mineral water baths in peripheral arterial occlusive disease.

Material and methods. The study included 54 patients diagnosed with peripheral arterial occlusive disease (PAOD), treated for 2 weeks with natural therapeutic factors, carbonated mineral water baths, mofette therapy, kinesiotherapy, aerotherapy. The patients were evaluated before, at the end of treatment, and subsequently over the phone for 6 months. The quality of life scale, the visual analogue scale, the walking distance and speed were used.

Results An improvement of pain and an increase in the walking distance were observed. The vasodilatory effect of baths and mofettes was visible from the first sessions of treatment associated with the Burger physical therapy program for lower limb circulation, diminishing claudication in the lower limbs.

Conclusion. Following treatment with baths and mofettes in Covasna spa resort, an increase in peripheral circulation with the improvement of changes in skin temperature and color, an amelioration of trophic disorders, an improvement of pain symptoms, and an increase in the walking distance were observed.