

## RESULTS OF TREATMENT OF PATIENTS WITH DIABETIC FOOT ULCERS USING OZONE THERAPY IN THERMAL CENTER CONDITIONS

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### Abstract

**Introduction:** Ozone is a naturally occurring gas, the strongest disinfectant. Ozone treatment is used to treat viral, bacterial and fungal infections. This therapy can also be used to improve the supply of oxygen to the tissues. Both of these mechanisms have a beneficial effect on the healing of chronic wounds. The aim of the presented research is to evaluate the effectiveness of treatment with ulcer therapy in the course of diabetic foot syndrome (DFS).

**Materials and method:** The material is a group of 26 patients with DFS, in this group there were 10 women, with the mean age of  $63.6 \text{ years} \pm 10.2$ . Diabetes duration was on average  $14.9 \pm 8.9$  years. The number of patients with neuropathic, ischemic and mixed type of ulcer was 69.2%, 19.2% and 11.6%, respectively. In the degree of severity of ulcers according to Wagener scale, 50% had grade II, and another 3/4/5 respectively 19.2%/ 7.7%/ 3.8%. Treatment in addition to standard surgical care and antibiotic therapy included administration of ozone-oxygen mixture in intravenous form and in the form of an aerosol bath. Kinesiotherapy and physical treatments (pulsed magnetic field and laser therapy) were appropriately selected. The average duration of treatment was 46 days. The results of the treatment were assessed on a four-level scale: I complete recovery, II improvement with chance to full recovery, III minor improvement, and IV lack of improvement. In addition, changes in metabolic control of diabetes, and lipid parameters were also evaluated.

**Results:** Full recovery was achieved in 26.9% of patients in a further 15.4% improvement in the prognosis of recovery, no improvement was observed in 23.1% of patients. In the subjective evaluation questionnaire, all patients reported improvement - reducing pain and swelling. In additional studies, the statistically significant levels of total cholesterol, LDL-cholesterol, triglycerides and fibrinogen decreased.

**Conclusions:** Based on the obtained results, we conclude that ozone treatment is a valuable method that improves treatment outcomes in patients with diabetic foot syndrome. For the full assessment of the method, it is necessary to plan further randomized trials comparing the treatment with ozone therapy to other reference methods of treatment of diabetic foot ulcers.