

# OXYGEN-OZONE THERAPY IN INFLAMMATORY BOWEL DISEASES

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## RESUMO

**Introduction.** Oxygen-ozone therapy is gaining attention for its potential benefits in managing inflammatory bowel diseases (IBDs), such as Crohn's disease and ulcerative colitis. This therapeutic approach utilizes a mixture of oxygen and ozone to modulate the immune response and reduce inflammation. Oxygen-ozone therapy can help modulate oxidative stress and inflammatory processes, which are central to the pathology of IBDs. The therapy's anti-inflammatory effects are primarily due to its ability to stimulate the production of antioxidant enzymes and reduce pro-inflammatory cytokines like TNF- $\alpha$ , IL-1 $\beta$ , and IL-6. The aim of this work was to study the effect of ozone in the treatment of inflammatory bowel diseases. **Material and methods.** 98 patients, aged between 55 - 89 years (mean  $74 \pm 2.5$  years), with suspected inflammatory bowel disease (IBD) were examined. Endoscopic investigations and interventions were performed at an expert qualitative level, on the Olympus® Evis Exera III endoscopic system. In all cases, the meticulous examination of the mucosa was carried out using advanced imaging: HD-Near Focus-WLE-NBI+. The patients received combined treatment of major autohemotherapy and rectal insufflation per visit. The numbers of visits were three times per week for eight weeks followed by twice per week for twelve weeks. Investigations were repeated after 12 and 24 weeks of treatment. **Results.** According to biopsy results, ulcerative colitis was present in 75% of patients (n=73). Crohn's disease was detected in 23% of patients (n=23), in 2% (n=2) the intestinal mucosa was without pathology. Diverticular disease was present in 42 % of the patient group, with diverticular bleeding being the most common complication to mimic IBD. The patients showed significant improvement in clinical symptoms and a reduction in inflammatory markers after ozone therapy, in 45% after 8 weeks and in 89% after 24 weeks. **In conclusion,** oxygen-ozone therapy shows potential treatment for inflammatory bowel diseases, offering anti-inflammatory and immune-modulating benefits. Continued research will help clarify its role and ensure it can be safely and effectively integrated into clinical practice for managing IBD.

**PALAVRAS-CHAVE:** Oxygen-ozone treatment, Crohn's disease, ulcerative colitis, major autohemotherapy, rectal insufflation

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