Dental Research Directory

Biological effects of hyperbaric oxygen on human severe periodontitis. Dental


Department of Periodontology, Stomatological Research Center, Si Chuan Bei Road 2111, Shanghai, PR. China 200081.

This paper reports the effects of Hyperbaric Oxygen (HBO2) in a controlled study of periodontitis in 24 patients. The patients received either HBO2 or no HBO2, and study teeth were divided into 4 groups based on treatment: 1-HBO2 therapy, 2-HBO2 + scaling, 3-scaling, 4-control. We measured indices of periodontal disease and gingival blood flow (GBF). The microorganisms in a periodontal pocket were stained and the percentage of straight rods (Rods), curved rods (Cur), fusiforms (Fusi) and spirochetes (Spiro) were observed. The numbers of anaerobic organisms were measured by routine anaerobic culture. Highly significant differences in Gingival Indices (GI), Sulcus Bleeding Indices (SBI), Probing Depth (PD), Attachment Loss (AL), Plaque Index (PLI), and GBF were seen in the HBO2, the HBO2 + Scaling and the Scaling Groups compared to the Control Group (P < 0.01). The number of subgingival anaerobes as well as the number of Rods, Cur, Fusi, and Spiro were reduced markedly in these three treatment groups. Statistically greater differences in clinical indices, GBF, subgingival anaerobe number and number of Rods, Cur, Fusi and Spiro were found by comparison of HBO2 + Scaling and HBO2 Groups, as well as between the HBO2 + Scaling and Scaling Groups, but no significant differences were observed in GI, SBI, PD, or AL between the HBO2 and Scaling Groups.

In conclusion, HBO2 had beneficial therapeutic effects on severe periodontitis. HBO2 therapy combined with scaling and root planing was the most beneficial in the treatment of periodontitis. Clinical follow-up suggests that this treatment effect could last more than 1 year.

Printed with Permission

Legal Disclaimer

The content and information provided within this site is for informational and educational purposes only. Consult a doctor before pursuing any form of therapy, including Hyperbaric Oxygen Therapy. The information provided within this site is not to be considered Medical Advice. In Full Support of the F D A., Hyperbaric Oxygen Therapy is considered Investigational, Experimental, or Off Label.
Please consult with your Treating Medical Physician