

Hyperbaric Oxygen Therapy in the long term treatment of Meniere's disease

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Endolymphatic hydrops is the histopathological substrate characteristic of Meniere's disease. Besides the classical treatment with diuretics and/or osmotic drugs for some time, now treatment in a "pressure chamber" (OTI) has also been applied.

The oxygen administered in the hyperbaric chamber can reduce the hydrops both by increasing the hydrostatic pressure and by mechanically stimulating the flow of endolymph toward the duct and endolymphatic sac. In addition, an increase is seen in the amount of O₂ dissolved in the labyrinthine fluids and this contributes to recovering cell metabolism and restoring normal cochlear electrophysiological functions.

Between 1992 and 1996 40 patients with monolateral Meniere's disease were studied: 15 underwent oxygen therapy at a constant pressure (2.2 ATA) (HOT), 25 with a continuous variation in pressure (from 1.7 to 2.2 ATA) (Alternobaric therapy, AOT). During the acute phase the patients underwent daily OTI treatment for 15 days in a row. The maintenance treatment called for one treatment cycle (one session a day for 5 days in a row) a month for 1 year, followed by for one treatment cycle (one session a day for 5 days in a row) every three months during the 2nd, 3rd and 4th years. The controls consisted of a group of 18 patients treated with 10% glycerol i.v. (during the acute phase) and betahistine (8 mg x 3/die) between episodes. A comparison was made of the average hearing threshold for the frequencies 500-3000 Hz (PTA), how frequently episodes of dizziness arose and extent of hearing loss in the three groups after the initial 15 days of treatment and at the end of the 4-year follow-up, in compliance with the criteria laid down by the Committee on Hearing and Equilibrium in 1995. At the end of the first 15 days of treatment, there were no statistically significant differences between the three groups. At the end of the follow-up, on the other hand, Hyperbaric treatment, and in particular alternobaric therapy, enabled a significant reduction in the episodes of dizziness as compared to the control group. PTA and deafness also improved significantly in the patients who had undergone hyperbaric treatment.

The results of the present work show that HBOT, and in particular AOT, offer a valid alternative to drugs in the treatment of Meniere's disease.

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