

Hyperbaric oxygen in chronic cluster headaches: influence on serotonergic pathways

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A controlled study was done with the aim of assessing the efficacy of hyperbaric oxygen (HBO<sub>2</sub>) in cluster headache and of studying the possible influence of this therapeutic approach on serotonergic pathways. Fourteen patients, aged between 26 and 56 yr, suffering from the chronic form of cluster headache were treated with HBO<sub>2</sub> (n = 10) or environmental air (placebo) (n = 4) during the 15 sessions of exposure (lasting 30 min each) in the hyperbaric chamber. The influence of this procedure on serotonergic pathways of pain was monitored by means of study of serotonin binding to mononuclear cells before and after the treatment for both subgroups. All of the treated 14 chronic cluster headache patients completed the study. In the subgroup treated with the placebo, no particular modifications on the number of attacks and of analgesic consumption as well as no change in the specific binding curve of serotonin to mononuclear cells were observed, whereas in the subgroup treated with HBO<sub>2</sub> the clinical effectiveness and the appearance of plateau in the binding curves indicated that the oxygen therapy could act through serotonergic pathways.