

Hyperbaric oxygen therapy for stroke

Golan et al. tested the [hypothesis](#) that if [SPECT/CT](#)-detected volumes of active and inactive parts of [brain tissue](#) present correlation with the results of [hyperbaric oxygen therapy](#) (HBOT) of [ischemic stroke](#), SPECT imaging may serve as a selective tool for post-stroke patients to indicate cases that may significantly benefit from HBOT. A retrospective analysis was conducted on 62 consecutive patients administered for HBOT after the ischemic stroke episode. All patients received 60 daily hyperbaric sessions consisting of 90 min of exposure to 100% oxygen at a pressure of 0.2 MPa. The results of the treatment were assessed in correlation with SPECT/CT-detected changes of volumes of the [penumbra](#) area around the [stroke](#) zone. Patients who significantly benefitted from HBOT (n = 24) by an improvement of their clinical neurologic status and quality of life had the large penumbra zone (363 ± 20.5 ml) that was significantly diminished during HBOT. Patients who did not benefit from HBOT (n = 20) had a relatively small volume of the penumbra zone (148 ± 29.3 ml) and its further diminishing during HBOT was insignificant. The HBOT results were unclear in 18 patients with penumbra volumes between these values. These findings support our hypothesis that the large volume of the penumbra area around the stroke zone can serve as a significant predictor for positive clinical outcome following HBOT in post-stroke patients. The SPECT/CT-based assessment procedure of the volume of the penumbra may serve as an effective selecting tool when HBOT is administered for patients with ischemic stroke ¹⁾.

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Golan H, Makogon B, Volkov O, Smolyakov Y, Hadanny A, Efrati S. Imaging-based predictors for hyperbaric oxygen therapy outcome in post-stroke patients. Report 1. Med Hypotheses. 2019 Nov 26;136:109510. doi: 10.1016/j.mehy.2019.109510. [Epub ahead of print] PubMed PMID: 31846850.

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Last update: **2024/06/07 02:56**

