

Effect of combined therapy with hyperbaric oxygen and antioxidant on infarct volume after permanent focal cerebral ischemia.

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AUTHORS- Acka, G; Sen, A; Canakci, Z; Yildiz, S; Akin, A; Uzun, G; Cermik, H; Yildirim, I; Kokpinar, S

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CORPORATE AUTHOR- Department of Neurosurgery, Mersin University Medical Faculty, Mersin, Turkey.

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The aim of the present study was to evaluate the efficiency of combination of **hyperbaric oxygen** (HBO) and an antioxidant on permanent focal cerebral ischemia. Male Wistar rats underwent permanent middle cerebral artery occlusion (MCAO). Then, animals were randomly assigned to one of four groups: the control group (n=9) received no treatment, HBO group (n=9) was treated for 90 min at 2.5 absolute atmosphere for 3 days, the U-74389G group (n=8) received single U-74389G injection (3 mg/kg), the HBO + U-74389G group (n=8) received both HBO and U-74389G treatments. Treatments were initiated within the first 10 min after MCAO. After 3 days, the infarct volumes in rat brains were measured. The infarct ratios were 25.6±6.5 % for the control group, 21.9±6.4 % for the HBO group, 15.7±5.7 % for U-74389G group and 12.5±3.8 % for HBO + U74389G group. The infarct volumes were significantly reduced in rats treated with U-74389G (p<0.05) and combination therapy (p<0.05). HBO failed to reduce infarct volume significantly. We concluded that 1) U-74389G is more beneficial than HBO on permanent MCAO in rats, and 2) a combined therapy failed to significantly improve infarct volume more than either single treatment.
