

Hyperbaric oxygen in the treatment of acute ischemic stroke: an unsettled issue.

1997 Sep 1

Nighoghossian N, Trouillas P.

Department of Neurology, Cerebrovascular Disease and Ataxia Research Center, Lyon, France.

Therapy for acute ischemic stroke can be approached in two basic ways: first, by an attempt to restore or improve blood flow in an occluded vascular territory and, second, via therapy directed at the cellular and metabolic targets. As local anoxia and energy failure are the initiating cellular stage in ischemia, the inhalation of oxygen at increased atmospheric pressures might be effective. Treatment of acute focal cerebral ischemia with hyperbaric oxygen (HBO) has been reported in animals and humans. In general, the results of research in animals have suggested a promising role for the use of HBO. More than 400 cases of human ischemic stroke treated with HBO have been reported. In about half of the cases, improvement in status has been claimed on clinical or electroencephalographic grounds. In fact, the effectiveness of HBO in most disease processes other than carbon monoxide poisoning and decompression sickness is a subject of major ongoing debate. This short review will attempt: (1) to recall some early experiments involving HBO in the treatment of acute ischemia; (2) to point out some conflicting results regarding the role of HBO on cellular and metabolic disorders; and (3) to determine the possibility of a future role for HBO therapy in acute ischemic stroke. PMID: 9260854 [PubMed - indexed for MEDLINE]