Brain Disorders/Neurological

Identification of hypometabolic areas in the brain is using brain imaging and Hyperbaric Oxygen.

Near Drown Patients
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Current neurologic assessments consider idling neurons and ischemic penumbras to be metabolically lethargic and electrically nonfunctional or nonviable. Diagnosis, prognosis, and therapeutics of central nervous system dysfunction require differentiation between viable and nonviable neurons. It is necessary to develop and document efficacious and safe technique for reactivating idling neurons.

The author presents a case study of a near drowning 12 years earlier. Using SPECT imaging in conjunction with Hyperbaric Oxygen Therapy (HBOT) the data supports the hypothesis that idling neurons and ischemic penumbras, when given sufficient oxygen identified areas of cortical hypermetabolism. Delayed imaging after HBOT (1 hour, 1.5 atm abs) suggested viable but metabolically lethargic neurons. After HBOT (80 one - hour treatments, 1.5 atm abs), marked improvements in cognitive and motor functioning were demonstrated. are capable of reactivation. Thus, changes in tracer distribution after a single exposure to HBOT may be a good prognostic indicator of viable neurons. HBOT may be viable not only in recovery from anoxic encephalopathy but also from other traumatic and non-traumatic dysfunctions of the central nervous system, including stroke. HBOT in conjunction with physical and rehabilitative therapy may help reactivated idling neurons to remain permanently active.

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