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Effects of hyperbaric oxygen therapy on children with spastic diplegic cerebral palsy: a pilot project.

McGill University, Hopital Sainte-Justine, Montreal, Quebec, Canada. Hyperbaric oxygen (HBO2) therapy for children with cerebral palsy (CP) is not new. Research documenting the effects in this population has been anecdotal. We evaluated the effects of HBO2 therapy for 25 children ($X = 5.6 \pm 1.6$ yr) with a functional diagnosis of spastic diplegic CP. Pre- and post-HBO2 evaluations consisted of the following measures: gross motor function measure (GMFM), fine motor function (Jebsen test for hand function), spasticity (modified Ashworth scale), video analysis, and parental questionnaire. The protocol for HBO2 therapy was 20 treatments of 95% oxygen at 1.75 atm abs for 60 min. The Wilcoxon matched-pairs signed-rank test for non-parametric measures was used to compare pre- and post-treatment data. Results showed improved gross motor function in three of the five items in the GMFM test, improved fine motor function in three of the six hand tests, reduced spasticity in three of four muscle groups when assessed by a physician specializing in CP, and improvements for four of nine questions posed to parents.

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