

HBOT and Neurological Conditions

Dr. Pierre Marois's Abstract.

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The results of the sole double blind study on the use of Hyperbaric Oxygen Therapy (HBOT) in the treatment of cerebral palsy were published last year in "The Lancet". Although the results show substantial and long-term improvements in gross motor function, speech, attention, memory and functional skills, there has been controversy in the interpretation of the causes of these changes. The Government of Quebec and some scientists have chosen to believe that the improvements observed in both groups of children (one treated at 1.3ATA, 21%O₂, and the other at 1.75 ATA, 100%O₂) were due solely to a placebo effect. Unfortunately, this was the conclusion that was presented at the "The American Academy of Developmental Medicine and Cerebral Palsy" meeting in September 2000 in Toronto, Canada. Most of the main researchers involved in the study believe that the cause of these improvements were not clearly identified and postulate that both treatments could have been equally effective. In fact, the changes that were seen in this research were greater, more generalized and obtained in a shorter period of time than most of the improvements measured with any other recognized conventional therapy in the treatment of cerebral palsy including: intensive physical therapy, rhizotomy, Botox injections etc.

The studies done using HBOT to treat C.P. have all shown significant improvements. The 5 recent pilot studies (McGill, Galveston, Cornell, U.S. Army and the Cuban study), the Machado study and the Quebec double blind study have indicated that most of the 400 children evaluated improved significantly. Furthermore, there are more than a thousand anecdotal reports of changes and hundreds of measured improvements that have been documented and described worldwide. There is not a single study that has ever denied these positive effects.

So far, among the numerous research projects conducted in treatment of C.P. there is not a single one that has ever showed a placebo or participation effect. A consistently reproducible and permanent placebo effect has never been documented in any condition, and certainly not with results superior to those obtained with recognized therapies for a given condition.

Hyperbaric oxygen therapy at 1.3 ATA is not by any means a placebo treatment, the effects of the increase in pressure also increases the amount of oxygen dissolved in body tissue by more than 50%. There is an increasing amount of evidence that is demonstrating that low pressure hyperbaric treatment induces permanent changes in a damaged brain. The studies of Dr Heuser at U.C.L.A. and experiences with thousands of cases in Russia, as well as some studies in humans and rats are suggesting that HBOT even at a pressure as low as 1.1 ATA is effective in improving functional skills and SPECT scan imaging.

HBOT is used and recognized for the treatment of many medical conditions. The recognition of its clinical indication has often been based on less scientific evidence and studies than in the case of C.P. and other neurological conditions.

How much more evidence will it take?

The pursuit of research on HBOT in the treatment in C.P. is essential to better define the indications, the dosage, and to understand the underlying mechanisms behind all the impressive changes observed in thousands of patients.