Research on Anti-Aging

New Frontiers: Anti-Aging Properties of Hyperbaric Oxygen Therapy" By Richard A. Neubauer, M.D. and Pavel I. Yutsis, M.D.

As the world is becoming more industrialized it is also "going gray." Globally, the life span has reached a level of 63 years. Obviously, the geriatric population is growing; so are many detrimental effects of aging: strokes, heart attacks, dementia, arthritis, etc. Therefore improvement of quality of life becomes a real issue among millions of aging folks. The medical and scientific world has started taking a deep look into different therapeutic modalities to extend one's life and improve its quality: diets, nutritional supplementations, growth hormone therapy, cellular therapy, and chelation therapy among many others.

Restoring brain functioning is one of many important goals of anti-aging therapies. According to the late Dr. Richard A. Neubauer, M.D., one of the authors of this article suggested in the late 70's that Hyperbaric Oxygen can stimulate a reactivation of the zone around a special region surrounding the central areas of a stroke or brain injury site known as "ischemic penumbra." The diminished oxygen supply to the "penumbra" is one of a few causes for the loss and inadequacy of bodily functions. Hyperbaric Oxygen Therapy may restore function in areas of the brain that are hypoxic (low in oxygen pressure) and are primarily vascular in origin. The ischemic penumbra of the surrounding zone may well be responsible for many of the symptoms which are reversible with Hyperbaric Oxygen Therapy (HBOT), even in cases with onset 12-13 years prior to the treatment. However, in the cases of Alzheimer's Disease (a non-vascular, pathological process) Hyperbaric Oxygen Therapy (HBOT) will not be beneficial or efficacious. Dr. Neubauer also pioneered the use of SPECT scans (Single Photon Emission Computerized Tomography) as an objective monitoring tool to determine success or failure of Hyperbaric Oxygen Therapy (HBOT) by determining the rate of blood perfusion and metabolic changes in suspected regions before, during and after HBOT.

Many such patients are inadvertently classified as having Alzheimer's disease. Alzheimer's disease is primarily a problem of the young, between the ages of 50 and 60, associated with neurofibrillary-tangles. They present a specific pattern on the SPECT scan and they are not responsive to hyperbaric oxygenation. It is felt that there are thousands of mis-diagnosed Alzheimer's patients in the United States. The diagnosis is made either with SPECT scan, PET scan, brain biopsy, or autopsy. The terminology of such patients should be "Alzheimer's-like." Such patients are vasculary in origin with many small strokes, hardening of the arteries, and are responsive to hyperbaric oxygen therapy rather dramatically. These cases have clearly shown that with the use of Hyperbaric Therapy the lifestyle of these people has been improved and they have obtained a much better quality of life. Moreover their SPECT scans before and after HBOT showed the correction of the basic pathology.
Additionally, in many other patients that we have treated for other than anti-aging purposes, the symptoms of aging were evident and subsequently cleared by HBOT. At this point it is our opinion that in order to really scientifically ascertain the efficacy of HBOT, the series of SPECT scans should be done before, during and after therapy with subsequent clinical correlation. The Purpose of this report is to present the idea of using HBOT for anti-aging purposes and to stimulate a new study and accumulation of scientific documentation. We feel that the future of Hyperbaric Medicine must be appropriately explored both in the laboratory and in a clinical setting.