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Hyperbaric Oxygen Therapy in Cancer Care

William S. Maxfield, M.D. FACNM

Senior Medical Director, Hyperbaric Oxygen Corporation, Coquitlam, BC, Canada; Chief of Nuclear Medicine, Ocean Medical Center, Lauderdale-by-the-Sea, Florida.

INTRODUCTION

Treatment of bone and soft tissue radionecrosis is an approved use of hyperbaric oxygen therapy (HBOT). Less well recognized is the value of HBOT in treating extravasations of chemotherapy agents.

METHODS

The ability of HBOT to reduce edema and speed healing is documented. HBOT has significantly decreased the morbidity of chemotherapy extravasations and should also decrease morbidity of the hand and foot syndrome that is a complication of capecitabine chemotherapy.

RESULTS

The use of HBOT is routine treatment of carbon monoxide poisoning and decompression illness. There is growing recognition of the value of HBOT for treatment of other neurological conditions such as cerebral palsy, stroke, autism, Lyme disease, ataxia-telangiectasia, brain trauma and encephalopathies from meningitis and hypoxia. Benefits from HBOT in neurology is documented by clinical response and objective improvement demonstrated by the SPECT brain scans obtained before and after HBOT. As in our neurological conditions, HBOT has cleared symptoms of the recently described chemo brain. Acute blood loss anemia is a recognized indication for HBOT. Therefore, stimulation of hematopoietic tissue by HBOT can be a significant factor in treating the anemia of cancer and could be synergistic with erythropoietin anemia of cancer. HBOT has benefited the patient with chronic fatigue syndrome and should help the cancer patient with fatigue. As reported from Japan in 1999, HBOT given immediately prior to radiation therapy for brain tumors showed a 50% increase in survival for these patients. This technique works as I used it over 20 years ago for difficult cases such as synovial cell sarcoma. The concern that increased oxygen might stimulate the growth of cancer is countered by the years of data from HBOT use in Osteoradionecrosis. The cancer recurrence rate for patients receiving HBOT as part of the reconstructive process is significantly less than those who did not receive HBOT. Also, there is experimental animal data showing that HBOT decreases the implantability of cancer cells.

CONCLUSION

Bases on the concepts outlined, there is significant need to expand the use of HBOT in the field of cancer care