

## **Lupus**

### **Early hyperbaric oxygen therapy attenuates disease severity in lupus-prone autoimmune (NZB x NZW) F1 mice.**

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The effects of hyperbaric oxygen (HBO(2)) therapy on the immune system are reported including potential changes to the CD4/CD8 ratio and a decreased proliferation of lymphocytes during exposure. The immunosuppressive effect of HBO(2) had been suggested to be applicable for the treatment of certain autoimmune diseases. (NZB x NZW) F1 hybrid mice, the unique lupus-prone mice, have been used for elucidating the pathogenesis of SLE. To investigate the effect of HBO(2) on NZB/W F1 lupus-prone mice, 32 female mice were divided into four groups. Three groups of mice were treated with HBO(2) (2.5 atm abs (ATA) for 90 min daily over 2 weeks) starting at (A) 3 months, (B) 6 months, or (C) 8 months of age, while the remaining group (D) served as control. Animals were followed until 11 months of age. Experimental parameters included life span, proteinuria, peripheral lymphocytes, anti-dsDNA antibody titers, and renal histopathology. HBO(2) treatment resulted in increased survival, decreased proteinuria, alterations in lymphocyte-subset redistribution, reduced anti-dsDNA antibody titers, and amelioration of immune-complex deposition in groups A and B. Our data demonstrated that HBO(2) therapy attenuated disease severity in NZB/W F1 mice. HBO(2) treatment may be of use in the clinical treatment of lupus patients and would benefit from further study.