1137 HUMAN UMBILICAL CORD BLOOD (HUCB) AND EFFECT ON SOD MICE (AMYOTROPHIC LATERAL SCLEROSIS)

N. Ende, R. Chen, F. Weinstein, L. Bagtas-Ricafort, M. Ende,
UMDNJ–School of Medicine, Newark, NJ

Background: Having previously established that: 1) Human Umbilical Cord Blood (HUCB) could effect the disease of MRL Lpr/Lpr mice that have an autoimmune disease similar to lupus. 2) That survival of lethally irradiated mice is directly related to the log of the number of HUCB mononuclear cells administrated. 3) When HUCB is stored at 4 °C in gas permeable bags there is a marked drop off of the mixed lymphocyte culture reaction while maintaining a significant number of primitive cells capable of producing replatable colonies and allowing the combination of samples to provide large number of cells.

Design: The SOD1 expected lifetime is 130 days. 21 mice were divided into three groups: a control of 4 mice received no treatment; another control of 6 mice received antikiller sera, 800 cGy of irradiation and 5×10^6 bone marrow cells from congenic mice [B6SJL-TGN (SOD1) 2GUR] transgenic for the human CuZn super-oxide dismutase gene but do not develop paralysis. 11 mice received antikiller sera, 800 cGy of irradiation and a total of $34.2\text{-}35.0 \times 10^6$ mononuclear cells over a two-day period obtained from HUCB previously stored for 17-20 days at 4°C in gas permeable bags.

Results: The control mice, average age at death was 127 days. The mice receiving 800 cGy of irradiation and congenic bone marrow; average age at death was 138 days The mice receiving HUCB and irradiation was 148 days, ($P<0.001$, HUCB vs. control, $p<0.01$ HUCB vs BM).

Summary: These results although preliminary may not only indicate that ALS is an autoimmune disease, but may also indicate a possible treatment for a devastating disease. **(Supported by Abraham S. Ende Research Foundation)**