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PASSIVE IMMUNE GLOBULIN THERAPY AND ITS POTENTIAL FOR REDUCING VIRAL BURDEN

N. Haigwood¹, A. Watson¹, J. McClure¹, W. Sutton¹, J. Ranchalis¹, T. Wrey¹, B. Travis¹, S-L. Hu¹, G. Voss², N. Letvin², V. Hirsch³, P. Johnson⁴ and A. Lewis⁴.

¹Bristol Myers Squibb Seattle, WA; ²Harvard University, MA; ³NAID, NIH, MD; ⁴Ohio State University, OH.

The objective of this ongoing study is to test the efficacy of antibodies (IgG) purified from an SIV-infected long-term surviving macaque (SIVIG) to affect the time course of magnitude of primary viremia and disease outcome in newly infected animals. Sixteen *M. mulatta* were infected with a macaque grown stock of SIVsmE660; and 6 treated with SIVIG, 6 with normal Ig (NIG) and 4 controls left untreated. SIVIG and NIG were administered 24 hours and two weeks post infection (PI) at 170 mg/kg. Animals are being monitored for infection by quantitative virus culture, QC-PCR of plasma virus, and p27 antigenemia, for immune responses, and for disease. Levels of reconstituted IgG throughout the first 6 weeks PI were equivalent to levels generated in control animals at 8 weeks PI. Antigenemia (p27) peaked at weeks 2-3 in the infected controls and was not detected in the SIVIG-treated group during primary viremia due to antibody binding to the free virus. De novo anti-SIV an-

tibody production was delayed to week 12 in the SIVIG-treated group, suggesting that the SIVIG obscured the virus from the immune system.

Cumulative virus loads measured by RNA-PCR were 4 to 6-fold lower in the SIVIG-treated animals than in the controls. Plasma viremia was an excellent predictor of disease progression. Post-acute plasma viremia was cleared for at least 20 weeks in most of the SIVIG-treated animals, and there is no sign of disease in these animals; no clearance was seen in the controls.

Resolution of primary viremia in the SIVIG group in the absence of de novo antibodies suggests that clearance is mediated by SIVIG alone or in combination with cell mediated immunity. The results of this experiment should elucidate the role of humoral immunity in controlling viremia and disease, as well as provide data for the efficacy of passive immune globulin therapy.