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Prophylactic Ribavirin Treatment of Dengue Type 1 Infection in Rhesus Monkeys.
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Ribavirin (RBV) is a broad-spectrum antiviral nucleoside analog of therapeutic value in the treatment of several viral hemorrhagic fevers.

In a blinded, placebo-controlled study, 20 adult rhesus monkeys were infected with the Western Pacific strain of dengue virus type 1 one day after the initiation of RBV therapy. A maximum safe dose of RBV was administered IM; 50 mg/kg initially, then 10 mg/kg every 8 hr for 11 days.

All monkeys developed viremia by direct plaque assay on C6-36 Aedes albopictus cells. Peak viremia developed between days 3 and 9. Peak viral titers (PFU/ml of serum) ranged from 141 to 1587 in the placebo group and 229 to 4410 in the RBV-treated group; averaging 510 and 1602, respectively. Serum liver enzymes were elevated in all monkeys.

8/10 placebo- and 7/10 RBV-treated monkeys developed regional adenopathy and elevated temperatures. RBV caused a predictable and reversible anemia and thrombocytosis.

No significant differences in time of onset, duration, or level of viremia were found between the RBV and placebo groups. These results suggest that this maximum safe dose of RBV does not prevent dengue type 1 replication in sub-human primates.

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Experimental Infection of Pigtailed Macaques with the Simian T-Cell Leukemia Virus (STLV-I): Model for the Etiopathogenesis of Human T-Cell Leukemia Virus (HTLV-I) Infection and Associated Disease. R.M. Bauer, M.G. Lewis, C.S. Dezzutti, J.R. Blakeslee, R.G. Olsen, Dept. Vet. Path., The Ohio State Univ., 1925 Coffey Rd., Cols, OH 43210, USA.

HTLV-I infection is associated with adult T-cell Leukemia (ATL), systemic lupus erythematosus (SLE), and tropical spastic paraperesis (TSP). The etiopathogenesis, in terms of the virology, immunology and pathology of the virus-host relationship however, remains unclear. In order to study this relationship we have inoculated three pigtailed macaques (Macaca nemestrina) with the antigenically cross-reactive simian virus (STLV-I). STLV-I shares approximately 95% genome homology with HTLV-I and STLV-I seropositive primates are found both in wild and in captive populations. Furthermore, spontaneous lymphomas and leukemia as well as chronic wasting disease has been found in STLV-I infected animals. Here we found that the animals rapidly seroconverted, peripheral blood leukocytes became infected and in vitro immunologic functions were impaired following STLV-I challenge. Significantly, mitogen-stimulated blastogenesis was suppressed as much as 35% and polymorphonuclear neutrophil function suppressed as much as 55% following STLV-I challenge. These results indicate that early events occuring following STLV-I challenge, such as immune dysfunction, may contribute to the pathogenesis of disease. In addition, these events may be markers of a preleukemic state.