

Delayed seroconversion to STLV-1 infection is associated with mutations in the pol and rex gene

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Two *Cercopithecus aethiops tantalus* and 2 *Erythrocebus patas* monkeys from Central African Republic were transfused with intraspecies whole blood from monkeys naturally infected with simian T-cell lymphoma/leukemia virus -1 (STLV-1). Followup studies conducted over 2 years indicated that all 4 monkeys remained healthy despite being infected with STLV-1, as determined by PCR, cloning and sequencing analyses. ELISA and Western blot analyses indicated that both patas monkeys seroconverted within 2 months of transfusion, while one tantalus monkey required one year to seroconvert and the other never fully seroconverted. This latter animal failed to react to HTLV-1 p24 gag antigen. Sequence analyses indicated that, while unique, the deduced p24 gag amino acid sequence of the STLV-1 Tan 90 strain used to infect this animal was still highly homologous to the HTLV-1 p24 gag amino acids present in the ELISA and WB assays. However, a mutation in the pol sequence of STLV-1 Tan 90 encoded a putative stop codon, while a common deletion in the pol/rex regulatory gene causes significant changes in the Pol, and Rex p24 proteins. These same mutations were also observed in the viral DNA of both recipient infected tantalus monkeys and were not present in the STLV-1 Pat 74 strain. The data suggest that seroconversion to STLV-1 infection may be prolonged due to such mutations, and that compensatory molecular events vis-a-vis the pol stop codon must have occurred to allow for virus transmission.

Biography

Syamalima Dube completed her Ph.D in Biochemistry from Calcutta University. She did postdoctoral studies in University of Chicago and Fox Chase Cancer Center, Philadelphia. She was a research Assistant Professor in the Department of Medicine, University of Washington, Seattle. Currently she is a Research scientist in the Department of Medicine, Upstate Medical University, and Syracuse, NY. She has published more than 80 papers in reputed journals like PNAS, JBC, and New England Journal of Medicine.

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