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HTLV-I/II Western Blot Seroindeterminates Represent Exposure to Prototype HTLV-I.

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Background: HTLV-I seroindeterminate, i.e., ELISA seroreactive lacking one or more confirmatory Western blot bands for gag (p19 or p24) or env (GD21 or rgp46I) proteins, is commonly observed, but its significance has long been debated.

Methods: We examined 12 healthy blood donors and 12 patients being evaluated for neurological disorders who are Western blot seroindeterminate for detection of HTLV-I by PCR. We also prospectively evaluated seroreactivity and PCR detection of HTLV-I in 66 recipients of HTLV-I-positive blood.

Results: Seroindeterminate results were found in recipients of HTLV-I contaminated blood a few months to few years after transfusion, preceding either seroconversion or seroreversion. Moreover, very low levels (<0.01%) of HTLV-I provirus were detectable by quantitative PCR in a subset of PBMC samples corresponding to seroindeterminate sera. We will also show that HTLV-I specific CTL restricted to the HTLV-I Tax 11-19 peptide could be demonstrated in a seroindeterminate sample from an individual with HLA A*0201.

Conclusions: HTLV-I seroindeterminate may reflect history of exposure or presence of very low levels of HTLV-I infection. While long-term clinical outcomes associated with seroindeterminate results are uncertain, we alert public health practitioners of blood safety by the current screening practices that solely depend on serology alone, particularly in endemic areas.

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Evaluation of Lymphoproliferative Responses to Recall Antigens in HTLV-I Infected Individuals with HTLV-Associated Myelopathy/Tropical Spastic Paraparesis (HAM/TSP) in Salvador, Bahia, Brazil.

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Background: Salvador has the highest prevalence of HTLV (1,7%) in Brazil, 50% of patients with HAM/TSP are infected with HTLV. CD4+ T-lymphocytes are an important target for HTLV and they act as a major viral reservoir in vivo. Spontaneous proliferation of T-lymphocytes is an usual finding in HTLV infected individuals. This phenomenon indicates an immune dysfunction.

Methods: In order to evaluate this question, we assessed the capacity of PBMC from HAM-TSP patients to proliferate against recall antigens: candidine, cytomegalovirus, tuberculin and tetanic toxoid. Specific lymphoproliferative responses of PBMC from 30 HTLV infected individuals with HAM/TSP and 11 non-infected controls were investigated.

Results: In the non-infected individuals, 9 specific responses were observed to candidine, 6 to cytomegalovirus, 8 to tuberculin, and 10 to tetanic toxoid. In contrast, only three out of thirty (10%) HTLV infected individuals had a proliferative response against candidine antigen, seven against cytomegalovirus (23%), five against tuberculin (16%) and three against tetanic toxoid (10%). However, in absence of antigens, PBMC from HTVL infected individuals showed higher proliferation (media 1743 cpm) than non-infected individuals (media 202 cpm).

Conclusions: Our results indicate that PBMC of HTLV patients have a spontaneous proliferation and suggest a dysfunction of immune response in the context of recall antigens.

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The Impact of HTLV-1 in the Immune Response and Clinical Course of Schistosomiasis.

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Background: The immunological response in HTLV-1 infected individuals is characterized by an exaggerated T cell response with high production of IFN-g and TNF-a. In contrast, helminthic infections and in particular chronic schistosomiasis are associated with a predominant type 2 immune response. The main pathological finding in schistosomiasis is liver fibrosis which occurs in about 5%. Pathology of schistosomiasis is depending upon T cell and the type of immune response envolved is not completely understood. Salvador, has a high (1.8%) prevalence of HTLV-1 infection. The Northeast region of Brazil is also endemic for schistosomiasis

Methods: The immune response in patients with schistosomiasis co-infected with HTLV-1 was compared with that observed in patients with only S. mansoni infection. Moreover clinical studies to evaluate liver fibrosis and therapeutic response to praziquntel was performed in these co-infected patients.

Results: Patients co-infected with HTLV-1 and S.mansoni had low levels of IL-5 ($p < 0.05$) and high levels of IFN-g ($p < 0.05$) in stimulated cultures with S. mansoni antigen when compared with patients with schistosomiasis without HTLV-1 co-infection. Liver fibrosis was mild in all patients co-infected and the efficacy of praziquantel was lower in patients co-infected than patients only infected with S. mansoni.

Conclusions: HTLV-1 modify the immune and treatment response of schistosomiasis

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Detection of HTLV-I-Specific T Cells and Novel CD8+ T Cell Epitopes by Acquisition of Peptide/HLA-GFP Complexes.

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