
RESEARCH NOTE

Evaluation of Enzyme-Linked Immunosorbent Assay for the Serodiagnosis of Tuberculosis in Patients with AIDS in Cuba

Ernesto Montoro, Raúl Díaz, Miguel Echemendía, José A Valdivia

Instituto de Medicina Tropical "Pedro Kourf" (IPK), Laboratorio Nacional de Referencia de Mycobacteria y Tuberculosis, Apdo 601, Marianao 13, Ciudad de La Habana, Cuba

Key words: ELISA - tuberculosis - AIDS - PPD - Cuba

Tuberculosis is a major complication of AIDS, and the diagnosis of tuberculosis in patients with AIDS is difficult because the presentation of the former disease is often not typical and because the yield of standard microbiological techniques may be low (TM Daniel et al. 1994 *Tubercle Lung Dis* 75: 33-37).

Recently, we used an Enzyme-Linked Immunosorbent Assay (ELISA) for detection of IgG antibodies to purified protein derivative (PPD) antigen of *Mycobacterium tuberculosis* for the diagnosis of pulmonary tuberculosis. The specificity and the sensitivity were 95.33% and 82% respectively. We used a cut off point of 0,320 (E Montoro et al. 1994 *Rev Cub Med Trop* 46: 90-93).

In this paper we applied the ELISA from sera (25) of patients of tuberculosis with AIDS in Cuba during an outbreak from July 1993 to March 1994. Sera (25) from patients with tuberculosis without AIDS were also included. In all cases, diagnosis was bacteriologically confirmed at the same time.

Positive results in the ELISA test were obtained in 5 out of 25 sera (20%) from patients with AIDS-tuberculosis, however in 21 sera (84%) from patients with tuberculosis without AIDS were positive. As it is noted the sensitivity of the test in AIDS-tuberculosis patients was much lower than in our previously described study (Montoro et al. *loc. cit.*).

Our results agree with other reports using ELISA for detection of PPD as antigen and showing severely diminished sensitivity in AIDS patients (IN Kantor et al. 1990 *Am Rev Respir Dis* 141: A264, L Barrera et al. 1992 *Tubercle Lung Dis* 73: 187-191). This could be explained by the profound changes in cell immunity and the impairment of humoral immunity in AIDS patients (JFC Figueiredo, AA Machado 1992 *Braz J Med Biol Res* 25: 611-618).

In Uganda, a country with high rates of AIDS and tuberculosis infections, Daniel et al. (*loc. cit.*) studied an ELISA for IgG antibody to a 30,000 dalton antigen of *M. tuberculosis*. Test sensitivity dropped from 62% in non HIV infected tuberculosis patients to 28% in HIV infected patients. However, although the prevalence of both infections, is low in Cuba, and in spite of the small number of sera studied here our results coincide with Daniel regarding this technique in AIDS patients with tuberculosis.

In summary, our findings show that the sensitivity of ELISA technique may decrease when applying it in AIDS patients, independent of the rate of prevalence of both diseases.

This work received financial support from SAREC (Sweden).

Received 3 March 1995

Accepted 9 November 1995

