

DETECTION OF PARASITE ANTIGENS IN DIFFERENT  
BIOLOGICAL FLUIDS.

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The presence of free and antibody-bound antigens in sera from animals infected with *T. cruzi* and in human patients of Chagas' disease has been reported by Araujo et al ( 1981 ), Marcipar et al ( 1982 ) and Kahn et al ( 1983 ). Urinary antigens have been detected in mice and dogs, infected with *T. cruzi* (Bongertz et al 1981). They have also been detected by ELISA in 100% of young and newborn children with congenital Chagas' disease. In the same patients, blood antigens were detected only in 80% of the cases. The urinary antigens were partially characterized as glycoproteins of MW 80kDa, pI 6 to 6.5; and 55kDa, pI 6.5 to 7; by Freilij et al ( 1987 ).

Recently we have developed an effective method for the concentration of urinary antigens using a micelar suspension of nitrocellulose, followed by a latex-type agglutination. The test was positive in 54 out of 58 chronic Chagas patients ( Katzin et al 1988 ). The antigens were characterized as glycoproteins of M.W. 100kDa, pI 5 to 5.5; 80kDa, pI 6; and 50kDa, pI 6.5 to

7. Sera from horses immunized against epimastigotes were capable of recognizing these antigens and also proteins of similar M.W. from the surface of culture trypomastigotes.

Monoclonal antibodies raised against epimastigotes and metacyclic trypomastigotes from culture and specific for surface proteins of these stages ( M.W. 150kDa to 25kDa in epimastigotes and M.W. 150kDa to 50kDa in metacyclic trypomastigotes ) identified a 100kDa protein in the urine of 84% of chronic Chagas' disease patients.

Therefore it seems that the detection of urinary antigens is a suitable method for the diagnosis of Chagas' disease being comparable or superior in efficacy to the other available diagnostic methods such as hemoculture and xenodiagnosis. Antigenuria detection can also be used in conjunction with serological tests to clarify diagnostic uncertainties in immunosuppressed patients. The detection of urinary antigens, due to its simplicity and short time processing, can be also of use in epidemiological studies.

Detection of urinary antigens was also performed in patients of Malaria. In this case we used a double sandwich dot-blotting technique using non-concentrated

urine samples. It was found positive in 41 out of 45 patients infected with Plasmodium falciparum and 30 out of 35 infected with P. vivax. The urinary antigens were found to have a M.W. 200kDa, 180kDa, and 96kDa in P. falciparum. Preliminary evidence suggests that these antigens may correspond to the 5 antigens of P. falciparum. In P. vivax patients the antigens seem to have 200kDa.

Detection of urinary antigens in Malaria patients may be an alternative diagnostic method and may also serve for the clinical evaluation of kidney involvement and as useful tool in the understanding of the immunopathology of the disease.

Thus, the detection of parasite antigens in urine or other biological fluids may be a valuable aid for the diagnostic of the above mentioned disease and possible for other parasitic infections.

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