Angiostrongyliasis: Analysis of antigens of Angiostrongylus costaricensis adult worms versus IgG from infected patients with Angiostrongylus cantonensis

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Abstract
The possibility of cross-reactivity was previously investigated by indirect ELISA with sera from Angiostrongylus cantonensis infections, normal controls and A. costaricensis antigen. 5 μg/ml of crude antigen from both sexes of each species reacted with diluted serum samples (1:800) of each of 20 cases of angiostrongyliasis and normal controls, and further with anti-human IgG conjugate at 1:1.000. The mean absorbance values were evaluated as follows: normal controls showed a value of 0.033 using A. costaricensis antigen lower than (0.085) A. cantonensis antigen. Both mean values of angiostrongyliasis cases were rather close (0.491) using A. castaricensis antigen and the other antigen (0.518). The present study continued with a crude antigen of 13 A. costaricensis females and males. Serum samples were analyzed: 27 sera of angiostrongyliasis, 30 negative controls and 193 cases of other parasitic infections (91 cases of nematodiasis; 45 cases of cestodiasis; 47 cases of trematodiasis and 10 cases of HIV) and 7 cases of other brain infections. This antigen was evaluated for ELISA with a concentration of 5 μg/ml, serum dilution 1:400 and anti-human IgG conjugate at 1:2.000. The test gave sensitivity and specificity at cut-off value 0.261: 92.59% and 73% respectively. The antigen was cross-reactive with 30 cases from 9 out of 10 different kinds of nematodiasis (gnathostomiasis, strongyloidiasis, ascariasis, hookworm infections, trichinosis, toxocariasis, trichuriasis, onchocercosis and Wuchereria bancrofti infections. Five cases from 3 of 6 kinds of cestodiasis (neurocysticercosis, echinococcosis and Hymenolepis nana infections) and 18 cases of 4 out of 5 kinds of trematodiasis (Paragonimus heterotremus infections, opisthorchiasis, schistosomiasis and fascioliasis). One case of other brain infections was observed. The crude antigen of A. costaricensis showed a high percentage sensitivity with serum antibodies of angiostrongyliasis cases. Low specificity of the test was observed by reactions of those serum antibodies with various kinds of antigenic molecules. This study provides baseline data for further immunodiagnosis of human angiostrongyliasis.

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