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Abstract (poster session)

Performance of an enzyme immunoassay for the diagnosis of strongyloidiasis

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Objectives: Strongyloidiasis is caused by the parasite Strongyloides stercoralis. This is an intestinal nematode with worldwide distribution, but is especially common in tropical and subtropical areas. The disease usually manifests as intestinal symptoms (diarrhea). S. stercoralis infected patients are particularly at risk for severe complications if they are also immunocompromised. Observation of larvae in the stool of infected patients is the diagnostic method most frequently used. Our study aims to evaluate the effectiveness of a commercial EIA in the diagnosis of Strongyloides. Methods: From July to October 2011, serum and stool samples from patients with eosinophilia remitted from the Tropical Disease Unit of our hospital were studied. Serum samples were tested by a commercial enzyme immunoassay (EIA) (DRG® Strongyloides IgG) and stool samples were tested by microscopic examination of stool issued on three consecutive days and by blood-agar culture. Results: A total of 175 serum samples and 175 stool samples corresponding to 175 patients were included. Sixty-six percent (116) were women and 33% (59) were men. The mean age of the study population was 35.9 (1-81) years and 10.8% (19) of patients were children. Twenty-six (14.9%) serum samples were positive for Strongyloides. Five (2.9%) stool samples were positive by microscopic examination and one (0.6%) by blood-agar culture. The geographic distribution of the five patients confirmed by microscopic examination was: 2 from Guinea Ecuatorial (one corresponding to an eight year old child), 1 R. Dominicana, 1 Perú and 1 Bolivia. The prevalence of Strongyloides' infection was higher in males (60%). Sensitivity of EIA using microscopic examination as the gold standard was 100%. Conclusion: Due to the poor and intermittent elimination of Strongyloides larvae in stool, fecal microbiological culture has low sensitivity. Microscopic observation of three stool samples increases the sensitivity considerably. Serological diagnosis has high sensitivity but low specificity. It would be useful in the diagnosis of S. stercoralis to perform serological screening, subsequently confirmed with microscopic observation of larvae in stool samples. Additional studies are needed with larger number of samples, in order to draw more conclusions about the performance of this EIA in the diagnosis of strongyloidiasis.