A comparison of different methods used for Diagnosis of Giardia lamblia in Children Fecal Specimens

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Abstract:

Abstract Background: Giardia lamblia, a flagellate protozoon, is a common causative agent of parasitic diarrheal diseases of humans. Laboratory diagnosis mainly consists of direct microscopic examination of stool specimen for trophozoite and cysts of Giardia. However, due to intermittent fecal excretion of parasite, the case may be miss diagnosed and the patient may continue excreting the parasite and infecting others. Therefore, other methods of diagnosis are needed, which should overcome the above drawbacks of microscopy used alone. Objectives: The present study was done to evaluate the efficacy of immunoassay by RIDASCREEN Giardia and Immunochromatographic tests in comparison to direct microscopy in the diagnosis of Giardia lamblia in stool specimens from patients with diarrhea and other gastrointestinal symptoms. Materials and Methods: At the Children Hospital, Faculty of Medicine, Assiut University, Assiut, Egypt, a total of 200 patients were included in this cross-sectional study and each fecal specimen was taken from each patient which was divided into two parts. One part was used for direct wet mount examination and second part was used for the quantitative and qualitative EIA RIDASCREEN Giardia and Immunochromatographic immunoassays, respectively. Results: Out of 200 stool samples, 60 specimens (30%) were found to be positive for Giardia lamblia by immunoassay that was significantly better than the conventional direct wet mount microscopy (20% detection). Maximum cases were detected by RIDASCREEN Giardia test with a sensitivity of 100% and a specificity of 91.5%. Conclusion: RIDASCREEN Giardia test is a rapid and effective method with high sensitivity and specificity and detects Giardia antigens in stool specimens even when the count of parasite is low, thus reducing the chances of missing even the asymptomatic cases.

Keywords:

Key Words: Direct wet mount microscopy, Giardia lamblia, RIDASCREEN Giardia test, Immunochromatographic test, Stool concentration, Diagnosis.

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