Sensitivity of Immunofluorescence Test in Giardiasis

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Introduction

Giardia lamblia - a common causative agent of diarrhea[1] can easily be detected by direct microscopy. Because of intermittent excretion it can however be missed even after repeated stool examination[2,3]. Attempts should therefore be made to evaluate other methods co diagnose giardiasis. This study reports the comparative evaluation of sensitivity and specificity of routine methods with immunofluorescence test.

Materials, Methods and Results

Paecal samples collected from two hundred and twenty-five patients reporting with abdominal pain and persistent diarrhoea were investigated. They were of both sexes with ages ranging from 15-65 years. The methods used for investigations included: a) Direct microscopic examination in wet mount; b) Concentration method using faecal parasite concentrator (FPC) kit (Evergreen Scientific, USA) and c) Immunofluorescence test using Giardia CEL immunofluorescence test (Cellabs Diagnostics Pty. Ltd.). Giardia lamblia was detected by three methods. Positivity rate by immunofluorescence test was 27% (60) followed by direct microscopy 16.4% (37) and concentration method 7% (17). Out of 60 täecal samples positive for giardia lamblia by inimunofluorescence test, 31 were positive by direct microscopy and 17 by concentration method. Out of 165 samples negative by immunofluorescence test, only 16 were positive by direct microscopy and 1 by concentration method.

Table. Sensitivity and Specificity of three Tests for the detection of Giardia Lamblia.

Tests	Sensitivity %	Specificity %
Immunofluorescence	84	85
Direct microscopy	52	96
Concentration method	46	100

Table shows sensitivity and specificity of various methods. Immunofluorescence test appears to be more sensitive but less specific than concentration method for the detection of giardialambha.

Comments

Immunofluorescence test is more sensitive and useful than routine methods for detection of giardia lamblia. Mthough giardia lamblia is diagnosed by direct microscopy but due to its intermittent excretion this parasite can sometime be, missed. Moreover, for direct microscopy three consecutive stool samples have to be examined which is time consuming and the faecal samples should be seen within one hour after defecation otherwise the trophozoites may not be detected[5,6]. Concentration

method is more specific for the detection of giardia lamblia but less sensitive. It is useful for the detection of cysts but the trophozoites are destroyed in the process. Immunofiuorescence test is less specific than concentration method but it detects both the vegetative and cyst forms and 12% more positive cases were picked up by this method. Hence immunofluorescence should be used especially for patients having symptoms of giardiasis and negative routine stool examinations.

References

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