DIAGNOSIS OF AMOEBIASIS BY COPROANTIBODY DETECTION

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ABSTRACT

The first site of Entamoeba histolytica infection in man is the large intestine. Copicantibodies are formed during acute intestinal amoebiasis Serological direction those antibodies helps in the quick diagnosis of present suffers of amoebiasis, for timely treatment and cure of the disease Indirect haemagglutination test using standard axenic E. hisinlytisa antigen has been found to be very-satisfactory in the detection of anti-E. histolytica antibodies in the faeces and also to eliminiate non-amoebic parasitic infections.

INTRODUCTION

In Indian where amoebiasis is endenric[1], quick and correct diagnosis of the disease is highly essential for timely treatment and cure. For cases of intestinal amoebiasis, especially in non-invasive cases, serological diagnosis by the detection of humoral antibodies often do not give positive results in such cases coproantibodies cecection by iHA test has been found to be satisfactory. The present communication deals with the detection of amoebic coproantibodies in 865 out door patients who attended the local K. G. Medical College, Lucknow.

MATERIAL AND METHODS

Faecal samples were collected from 865 subjects, for the

Table–1 : Reciprocal IHA titre of amoebic coproantibodies in faecal extracts of patients of intestinal amoebiasis, using gluteraldeyde treated sheep erythrocytes.

Conditions	No. of Cases	GMRT	No. of cases showing reciprocal IHA titre					
			1 in 1042 or above	1 in 512 or above	1 in 256 or above	1 in 128 or above	1 in 64 or above	1 in 32 or above
Intestinal amoebiasis	217	137.53	6 (2.76)	28 (12.90)	82 (37.79)	158 (72.81)	202 (93.09)	15 (6.91)
Non-amoebic parasitic infection	278	30.21	NIL (0.00)	1 (0.36)	5 (1.80)	11 (3.96)	55 (93.09)	223 (80.22)
Non-parasitic gastrointesinal disorders	209	22.49	NIL (0.00)	NIL (0.00)	1 (0.48)	5 (2.39)	29 (13.88)	180 (86.12)
Healthy control subjects	161	19.30	NIL (0.00)	NIL (0.00)	NIL (0.00)	NIL (0.00)	NIL (0.00)	161 (100.0)

Figures in parentheses Indicate percentage

GMRT = Geometrical mean ratio

End point titre = 1 in 128.

Table – 2 : Amoebic copoantibodies in faecal extracts of patients with E. histolytica and other enteric parasites.

Parasitic infection	Number tested	No. of cases positive (IHA titre 1 in 128 or above)	No. of cases with IHA titre				
			1 : 64	1 : 128	1 : 256	1 : 512	1 : 1024
Entamoeba histolytica	75	60 (80)	11	28	21	7	4
E. histolytica plus other intestinal parasites	142	106 (74.65)	25	57	32	15	2
Non-amoebic parasitic infections	278	11 (3.96)	44	6	4	1	NIL
Healthy control subjects	161	19.30	NIL (0.00)	NIL (0.00)	NIL (0.00)	NIL (0.00)	NIL (0.00)

Figure in parentheses indicate percentage.

preparation of coproantibodies. 2.5 g of each sample was emulsi fied with 5 ml of normal saline and seived through a single layer of cheese cloth and centrifuged at 1500 r.p.m. for 30 min. All these operations were carried out at 40C-10°C. Non-specific haemolytic fectos present in the stool samples were removed by prior treatment with activated charcoal. The samples thus prepared were stored at-20°C until used. Praparation of axenic E. histolytica antigen from axenically grown E.

histolytica was made in the same way as described by Das et. al 1979. IHA test was carried out using glutaraldehyde treated sheep red blood cells (SRBC's) following the methods of Mahajan et al 1972. and Sharma et. al 1978 Based on the clinical conditions the subjects were divided into (i) intestinal anoebjasis, (ii) non-amoebic parasitic infections, (iii) non-parasitic gastrointestinal disorders and (iv) healthy controls. A comparative observation was also taken for the presence of coproantibodies in: subjects with E. histolyzica, E, histolyzica plus other intestinal parasites and non-amoebic parasitic infections.

RESULTS

Results shown in Table 1: reveal that 72.8% patients were positive for coproantibodies. in case of intestinat amoebiasis. The rate of pasitivity was very low in other three vues of patients. Data presented in Table - 2, show that 75 cases harboured E. histolytica alone. 142 cases, harboued E. histolytica in association with other intestinal parasites, gave positive test for coproantibodies.. Only 6 out of: 278 Cases of non-amoebic parasitic infection gave positive reaction for coproantibodies.

DISCUSSION

Use of standard axenic-E. histolytică antigen for the detection of coproantibodies in the faces of anioebiasis patients by IKA technique has helped for the early diagnosis of intestinal amoebiasis cases. Findings of the present study compared well with the results reported by Mahajan et al 1972. and Sharma d. al 1978. The test is highly specific as the results shown in 'Table 2 indicate that the iHA titres of amoebic coproantibodies were not altered by the concomitant infection with other intestinal parasites.

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