

STUDIES ON GIARDIASIS
IN SGHAG GOVERNORATE

THESIS

Submitted for partial fulfillment of the requirements

for the degree of Doctor of Philosophy in Parasitology

BY

SUMMARY AND CONCLUSION

Giardiasis is the most common protozoal infection of the human intestinal tract and it is found worldwide.

In the present study, a community-based prospective study was conducted among randomly selected 600 persons aging from one upto 50 years old. Generally, prevalence rate was 22.3% and it is considered a high rate of infection. Subgrouping of selected persons was done and showed that giardiasis is more common in children group (12.3%) than adult group (10%). Also subaging of children group showed high rate in children aging between 5-15 years than children less than 5 years (10%), 50% of infected adult group showed +ve clinical manifestation with the diarrhea being the lesser complaint.

By a calibrated microscope, it was observed that there are two different sizes of *Giardia lamblia* cyst, so that many investigations were done to show differences among the two isolates, these comprise:

(1) Animal inoculation: three groups of rats were used, one group was given large cysts, another group was given small cysts and the 3rd group was¹ given trophozoites.

- Only the rat group, which was given the large *Giardia* cysts took the infection and gave histopathological changes in their intestinal villi.

-Trophozoites were found also adherent to gastric mucosa, which was confirmed by histopathological and scanning electron microscopic study.

- Histopathological study of the small intestine was done. It was observed also that cyst morphology was similar to

human *Giardia* infection. • ELISA tests for of coproantigen in the stools.

Three samples were used, 1st containing large cysts, 2nd containing small cysts and 3rd containing trophozoites. All samples containing large cysts gave positive ELISA copro-antigen, one sample only containing small cysts showed positivity, and the Trophozoite samples gave +ve result.

-6 samples with negative microscopic examination were positive ELISA technique.

- These results revealed high sensitivity of ELISA technique for *Giardia* diagnosis and also explained the pathogenicity of the large cysts as it gave positive immune test.

(2) SDS-PAGE for protein analysis; large, small cysts and trophozoites: It showed different banding pattern among the three samples with marked difference between protein distribution of large and small cysts. Besides, the large cysts contained antigens, which are considered important antigens for immune response as 83, 88, 50 KDa antigens.

- Large sized cysts and trophozoites contain an antigen 83 KDa (VSPH 7) which may be used in the future as vaccine for giardiasis.

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- From the results of the present study an explanation of the presence different clinical patterns of giardiasis from asymptomatic cases upto severe diarrhea with

malabsorption is due to the presence of two strains of *Giardia lamblia* which differ in pathogenicity and immune response.

- There was difficulty in axenic culture of *Giardia* as this process is highly complex, tedious and more expensive than animal inoculation.