Seroepidemiological study of toxocariasis using ELISA method in children aged 5-15 years in Ardabil, in 2019

Abstract

Background and Objective: *Toxocariasis* is a parasitic disease caused by infection with a group of toxocara nematodes from the roundworm branch. The most common cause is *Toxocara canis*. The dog is the main host of this worm and the worm eggs enter the environment through the dog's feces. If a human, as a random host, infects the parasite's eggs with contaminated water and food, the eggs open in the intestine and the larvae are released. The larvae can penetrate the intestinal wall and migrate through the blood and lymph vessels to the liver, brain, eyes, and other tissues. These larvae can not mature and remain wandering in different tissues for months. The larvae are metabolically active and cause a severe inflammatory reaction

Aim: Because this disease causes a lot of economic and health damage in the world and it is necessary to know it from a health and economic point of view and also shows that in recent years not only the prevalence of the disease in the world has not decreased but also in many countries, It is spreading in humans and animals, so it was decided to design and conduct a study to investigate the prevalence of this disease.

Methods: 472 samples from health centers were collected and evaluated by ELISA test. The test results were read by ELISA reader and the results above 0.43 were considered positive and values below 0.43 were considered as negative.

Results: The mean age of these individuals was 11.47±2.84 years. There was a statistically significant relationship between the age of the participantes and the incidence of *toxocariasis*. There was a statistically significant relationship between gender and the incidence of *toxocariasis*. There is a direct link between where people live and how they get *toxocariasis*. There was a significant relationship between contact with dogs and their incidence of *toxocariasis*. (P=0.001). In the study of clinical symptoms of the subjects, in individuals whose light absorption rate was above 0.43 and positive, a statistically significant relationship was observed between the clinical symptoms and the result of ELISA test (P = 0.001). In individuals with a positive result, the relationship between vegetable consumption and the result of ELISA test was statistically significant.

Conclusion: In our studies, the results showed that there is a direct relationship between the age of the subjects and the incidence of *toxocariasis*. The incidence was higher in boys than girls. *Toxocariasis* had a direct and significant relationship and also a statistically significant relationship was observed between the consumption of vegetables in the subjects and the incidence of *toxocariasis*.

Keywords: seroepidemiology, toxocaris, ELISA, Iran