

GIARDIASIS - STILL AN ACTUAL PROBLEM

Csep Andrei*

University of Oradea, Faculty of Medicine and Pharmacy
e-mail: csep.andrei@gmail.com

Abstract

In 2008, in the Hospital of Contagious Diseases from Oradea, I have undertaken a study regarding both the clinical-paraclinical aspects of the patients infested with giardiasis, diagnosed with modified Blagg method and Willis method, and the treatment of the patients with giardiasis.

Ten percent of the total number of patients hospitalized in the Hospital of Contagious Diseases, in 2008, were infested with giardiasis, most of the cases being recorded during the summer period, without significant differences regarding the sex of the patients.

The most frequent cases appeared in children of 2-5 years old (25%), the specific symptoms being: skin and nasal itchiness, abdominal colics and asthenia with loss of appetite. The most frequent associated diseases were: acute viral hepatitis, acute gastroenterocolitis.

Giardia lamblia reacted very well to the treatment with albendazol in two cures of three days, with an interval of ten days between the two cures

Keywords; giardiasis, contaminated food and water, human or animal wastes, albendazol

INTRODUCTION

Giardiasis caused by *Giardia lamblia* represents a parasitosis of a great epidemiological and clinical importance (BIRÓ G., 1993), due to its high prevalence and pathogenicity especially in the infant population. For this reason, the approach of the giardiasis issue in human beings is opportune.

Giardiasis is a common intestinal infection spread by eating contaminated food, drinking contaminated water, or through direct contact with the organism that causes the disease, *Giardia lamblia*. Giardiasis is found throughout the world and is a common cause of traveller's diarrhea. In the United States it is a growing problem, especially among children in childcare centers.

Giardia is one of the most common intestinal parasites in the world, infecting as much as 20% of the entire population of the earth. It is common in overcrowded developing countries with poor sanitation and a lack of clean water. Recent tests have found *Giardia* in 7% of all stool samples tested nationwide, indicating that this disease is much more widespread than was originally believed. It has been found not only in humans, but also in wild and domestic animals.

Giardiasis is becoming a growing problem in the United States, where it affects three times more children than adults. In recent years, giardiasis outbreaks have been common among people in schools or daycare centers and at catered affairs and large public picnic areas. Children can easily pass on the infection by touching contaminated toys, changing tables, utensils, or their own feces, and then touching other people. For this reason, infection spreads

quickly through a daycare center or institution for the developmentally disabled (HILL DR., 2005).

Unfiltered streams or lakes that may be contaminated by human or animal wastes are a common source of infection. Outbreaks can occur among campers and hikers who drink untreated water from mountain streams. While 20 million Americans drink unfiltered city water from streams or rivers, giardiasis outbreaks from tainted city water have been rare. Most of these problems have occurred not due to the absence of filters, but because of malfunctions in city water treatment plants, such as a temporary drop in chlorine levels. It is possible to become infected in a public swimming pool, however, since *Giardia* can survive in chlorinated water for about 15 minutes. During that time, it is possible for an individual to swallow contaminated pool water and become infected (HUSTON CD., 2006:).

Giardiasis is spread by food or water contaminated by the *Giardia lamblia* protozoan organism (Fig.1a and 1b) found in the human intestinal tract and feces. When the cysts are ingested, the stomach acid degrades the cysts and releases the active parasite into the body. Once within the body, the parasites cling to the lining of the small intestine, reproduce, and are swept into the fecal stream. As the liquid content of the bowel dries up, the parasites form cysts, which are then passed in the feces. Once excreted, the cysts can survive in water for more than three months. The parasite is spread further by direct fecal-oral contamination, such as can occur if food is prepared without adequate hand-washing, or by ingesting the cysts in water or food.

Giardiasis is not fatal, and about two-thirds of infected people exhibit no symptoms. Symptoms will not occur until between one and two weeks after infection. When present, symptoms include explosive, watery diarrhea that can last for a week or more and, in chronic cases, may persist for months (REBEDEA ILEANA,2000; VOICULESCU M.,1990).

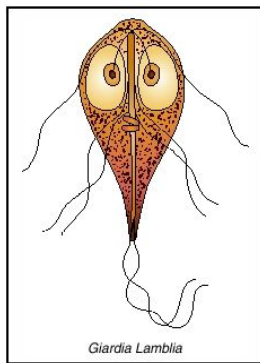


Fig.1a. Giardia lamblia
(medical dictionary.com)

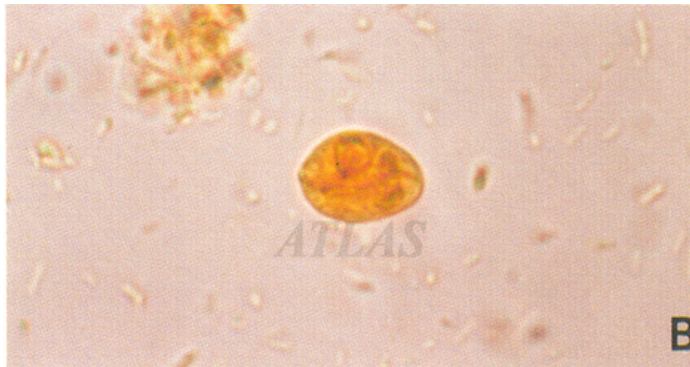


Fig.1b.Cist de Giardia lamblia cu 2 nuclei (x1000)
(Tay Soon Young , www.atlas.or.kr)

Because the infection interferes with the body's ability to absorb fats from the intestinal tract, the stool is filled with fat. Other symptoms include foul-smelling and greasy feces, stomach pains, gas and bloating, loss of appetite, nausea and vomiting. In cases in which the infection becomes chronic, lasting for months or years, symptoms might include poor digestion, problems digesting milk, intermittent diarrhea, fatigue, weakness, and significant weight loss.

MATERIAL AND METHOD

In 2008, in the Hospital of Contagious Diseases from Oradea, I have undertaken a study regarding both the clinical-paraclinical aspects of the patients infested with giardiasis, diagnosed with modified Blagg method (*REBEDEA ILEANA,2000*) and Willis method (*VOICULESCU M.,1990*), and the treatment of the patients with giardiasis.

RESULTS AND DISCUSSIONS

In 2007, 10% of the hospitalized patients have been diagnosed with giardiasis, and in 2008 this percent slightly increased up to 14% of the total number of hospitalized patients, taking into account that the number of hospitalizations was almost the same with that in the previous year (*Fig: 2.*).

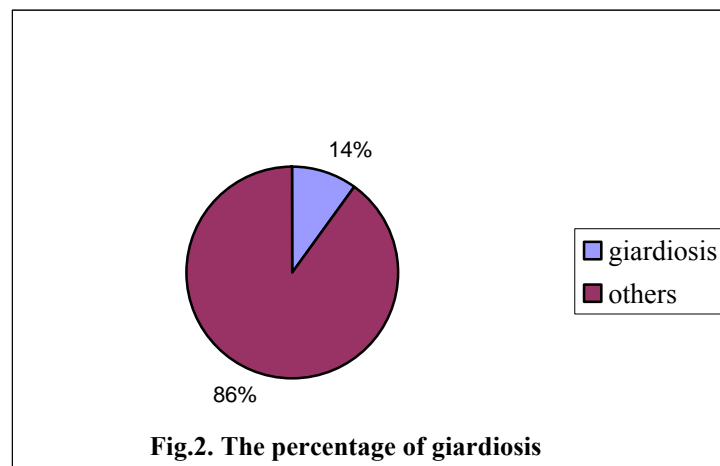
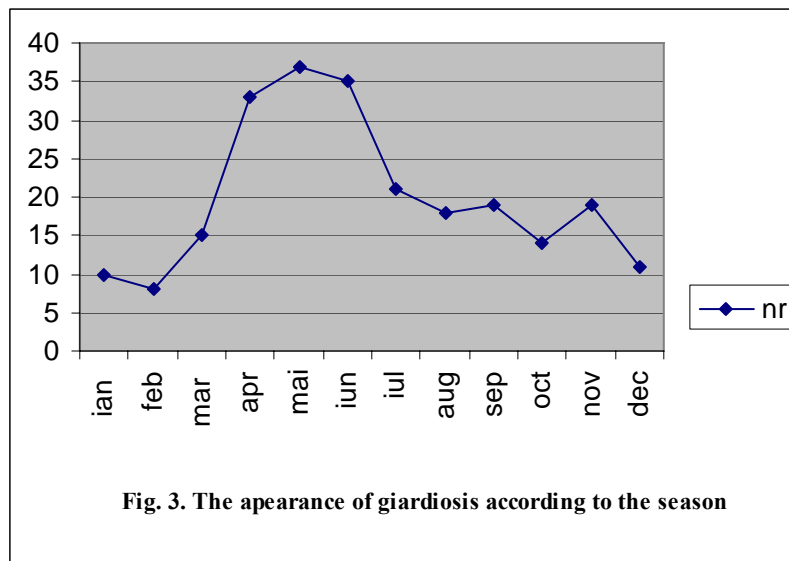


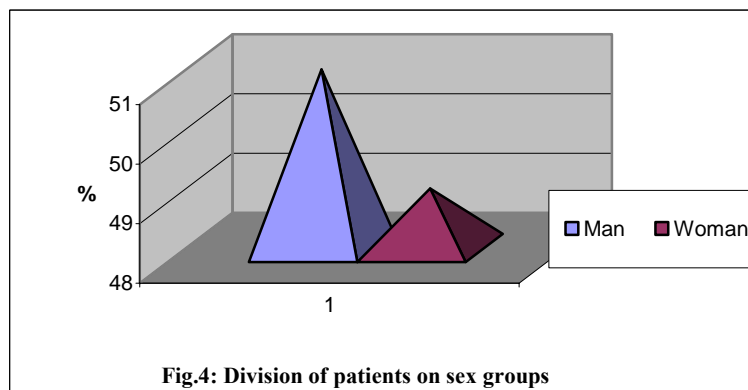
Fig.2. The percentage of giardiasis

The most infestation situations with giardiasis in 2008 were reported in the period April-May-June, comparatively with the year 2007 when this climax was recorded in the period May-June-July (*Fig. 3*).



The diagnoses when hospitalizing the patients infested with giardiasis were: chronic acute cholecystite, acute viral hepatitis, enterocolitis.

There weren't noticed significant differences as regards the division of patients on sex groups (51% man, 49% women). (Fig. 4).

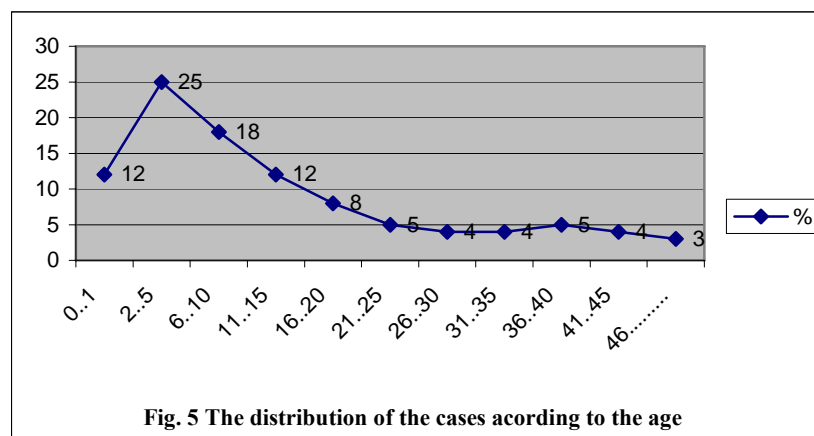


The giardiasis diagnosis was established according to the positive coprologic parasitic examination for all the patients.

Another important element was that of the increased number of eosinophils up to 70% of the situations, as well as a slightly increased hepatocytolysis syndrome up to 35% of the situations.

This hepatocytolysis syndrome was maintained slightly increased in the cases of the patients with acute viral hepatitis associated with giardiasis.

The most frequent cases appeared in children of 2-5 years old (25%), the specific symptoms being: skin and nasal itchiness, abdominal colics and asthenia with loss of appetite (Fig. 5).



Giardia lamblia reacted very well to the treatment with *albendazol* (ZENTEL, ESKAZOLE, DUADOR) 400 mg/day in two cures of five days, with an interval of ten days between the two cures.

CONCLUSIONS

- Albendazol is the only antiparasitic preparation which leads to the eradication of all the biological stages of the parasite.
- There weren't noticed significant differences as regards the division of patients on sex groups.
- The most frequent cases appeared in children of 3-5 years old (55%),

REFERENCES

1. BIRÓ G.,1993– Elelmiszer-higienia, Agroinform Kiado, Budapest
2. HILL DR., 2005: *Giardia lamblia*. In: Mandell, GL, Bennett, JE, Dolin R, eds. *Principles and Practice of Infectious Diseases*. 6th ed. Philadelphia, Pa: Elsevier Churchill Livingstone; chap 277.
3. HUSTON CD., 2006: Intestinal protozoa. In: Feldman M, Friedman LS, Sleisenger MH, eds. *Sleisenger & Fordtran's Gastrointestinal and Liver Disease*. 8th ed. Philadelphia, Pa: Saunders Elsevier; : chap 106.
4. REBEDEA ILEANA,2000– Boli Infecțioase, Editura Medicală București
5. VOICULESCU M.,1990- Boli infecțioase, Editura Medicală București
6. *** 2005.kidshealth.org/parent/infections
7. *** 2006.Giardiasis.www.nlm.nih.gov/medlineplus/giardiasis
8. *** 2006: National Center for Disease Control, Center for Disease Control and Prevention
9. *** 2007 www.who.int/mediacentre/factsheets/fs286/en/
10. *** 2009: medical-dictionary.com
11. *** 2009: dictionar.romedic.ro/giardia_lamblia
12. *** 2009: www.atlas.or.kr