

CLINICAL, IMMUNOLOGICAL AND PARASITOLOGICAL PARALLELS IN PATIENTS WITH BLASTOCYSTOSIS

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ABSTRACT

On clinical and prophylactic indications, 7905 patients were parasitologically examined, and *Blastocystis hominis* was detected in 273 (3.4%) of them. Detailed investigations were carried out in 82 of the infected patients (19 males and 63 females), divided into two groups: individuals with clinical symptoms and asymptomatic carriers. A correlation was found between the number of parasites detected, the clinical presentation and the changes in the levels of total serum immunoglobulins (IgG, IgA, IgM) in the persons infected with *B. hominis*. Half of the patients investigated presented with gastrointestinal and allergic symptoms. Significant decrease of levels of serum immunoglobulin IgA, correlating with the number of parasites detected was found in 43 patients, irrespective of the presence or absence of clinical symptoms.

Key words: *Blastocystis hominis*; morphological forms; serum immunoglobulins; clinical presentation.

INTRODUCTION

There are few comprehensive studies on *Blastocystis hominis*, and its pathogeneticity has long been discussed. The parasite is widely spread throughout the world and is a protozoon most often detected in human fecal material (1, 3, 9, 15, 18, 20). Several morphological forms are described in literature: vacuolar, granular, amoeboid and cyst forms (15, 19). Usually, the parasite is detected by light microscopy, and the most common form found is the vacuolar. There are a large number of publications with controversial data, in which the protozoon is defined as a commensal, a human pathogen, or an opportunistic protozoal microorganism. Most authors agree that *B. hominis* is capable of causing gastrointestinal disorders in both immunocompetent and immuno-compromized subjects (3, 4, 7, 14, 18, 21).

The aim of the study is to look for a correlation

between the clinical form of blastocystosis - asymptomatic and clinically manifested, and some clinical, parasitological and immunological indices.

MATERIALS AND METHODS:

2.1. Patients investigated.

In 2006, 7905 patients referred for prophylactic check-ups or on clinical indications were investigated. Some of the carriers of *B. hominis* (82 individuals) underwent detailed investigations. Special attention was paid to: determining the number of parasites found, the clinical and humoral immune status of patients. These patients were divided into two groups: group A - 41 persons presenting with clinical symptoms and positive for *B. hominis*; and group B - 41 asymptomatic patients without complaints and positive for *B. hominis*.

2.2. Materials investigated.

Fresh fecal samples were investigated, collected in chemically treated sterile glass vials. Venous blood samples were collected from the same patients, using a closed system, to investigate serum globulins.

2.3. Diagnostic methods.

Fecal smears - wet and stained with iodine solution, were microscopically investigated for intestinal protozoa. According to some authors, there is a correlation between the number of parasites detected and the severity of clinical presentation (14, 19). The parasitological finding was calculated as a mean sum of parasites detected in 100 microscopic fields (magnification 400), and the patients were grouped according to the number of parasites - mean numbers up to 5, and more than 5 parasites per a microscopic field, as proposed by Zierdt (19).

In cases with diarrhoeal symptoms, fecal mass or rectal secretion was investigated for pathogenic intestinal flora. Levels of IgG, IgA and IgM in blood sera were determined by the method of radial immunodiffusion