Stool examinations, repeated after 1 to 2 days, were performed in all patients to detect *Giardia lamblia* cysts.

**Results:** Of the 84 patients included in the study group, in 8 cases (9.52%) were detected *Giardia lamblia* cysts. The epidemiologic investigation revealed that 5 patients were married, 2 were living in a student hostel, and one was living alone. All patients were professionally active and part of collective with over 10 individuals. Five patients presented a maculopapular urticarial eruption disseminated on thorax, abdomen and limbs, and accompanied by a moderately pruritus. All patients followed a diet and a treatment with albendazole (2 × 200 mg daily, 5 days), antispasmodics, antipyretics, calcium. Six of them required a hydroelectrolytic replacement with different infusions (Ringer, glucose, physiological serum). Three out of the 8 patients were ambulatory treated with antibiotics prior to hospitalization. Nevertheless the symptoms didn’t remit and consequently they necessitated hospitalization. The stool exams of the family members (in 5 patients with families) showed the relevance of setting of the ambulatory antiparasitic therapy for the whole family. The outcome was favorable in all cases. Adverse reactions were minor and transitional: nausea in 3 cases, bitter taste 2 cases, and pyrosis 2 cases.

**Conclusion:** The early detection of giardiasis in patients with acute enterocolitis avoids unnecessary administration of antibiotics and allows the administration of the antiparasitic therapy with optimal clinical results and decrease the spread of this affection.

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58.021

**Immunological changes in children with giardiasis**

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**Background:** *Giardia lamblia* is an intestinal parasite which has been diagnosed with an increase frequency among Romanian institutionalized children. The aim of the present study was to assess peripheral blood lymphocytes populations and serum cytokine levels for IL-4 and IFN-γ in children infected with *Giardia lamblia*.

**Methods:** Lymphocyte subpopulations were determined using flowcytometry and cytokines were quantified by sandwich ELISA.

**Results:** Total T cells, CD4+ helper T cells, activated T cells (HLA-DR+ or CD25+) and NK cells did not differ significantly between children with *Giardia lamblia* infection andagematched healthy controls. In contrast, CD8+ T cell were elevated in *Giardia lamblia* (34.42 ± 6.08%) infected children compared to controls (27.66 ± 2.15%). B cells were significantly reduced in the peripheral blood of children with giardiasis (16.89 ± 2.44%) compared to healthy controls (26.41 ± 4.12%). IL-4 was detected in higher concentration in the serum of children infected with *Giardia lamblia* (4.19 ± 1.67 pg/ml) and was not detected in the serum of healthy children. IFN-γ levels were elevated in children with giardiasis (5.7 ± 5.04 pg/ml) compared to controls (0.79 ± 0.47 pg/ml).

**Conclusion:** Our data suggest that *Giardia lamblia* infections in children may be accompanied by systemic immunological changes.

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58.022

**IgG antibodies relative avidity as a phase-specific diagnosis for toxocariasis in populations of Venezuela**

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**Background:** IgG-Avidity ELISA has been recently developed in toxocariasis as a useful technique for ruling out recently acquired infections. Avidity of antibodies increases with time after antigen challenge and the measurement of the avidity has been used to diagnose various infections especially when differentiation of recent and distant infections is crucial.

**Methods:** In this study we focused on a method for distinguishing acute and chronic *Toxocara* infection in children and adults, the basis of which was the assessment of specific IgG antibodies avidity. We studied 400 serum samples collected from populations in Venezuela (aged 1–65y, 52% male).

**Results:** From this population screening with a validated ELISA (with locally prepared *T. canis* excretion-secretion antigens) we serologically diagnosed 71.25% of them (62% 1:128dils). From these serologically positive patients we evaluated the *Toxocara*-specific IgG avidity, which was measured employing the dissociative method using urea as a denaturing agent and the calculation of a relative avidity index. The relative avidity index was calculated as the ratio of IgG values in sera treated with urea and the value of IgG in nontreated sera (x100). Values on this index 50 were considered as low avidity (indicating recently acquired infection) and those >50 were considered as indicative of high avidity (chronic infection). In the sera from these patients low index of IgG antibodies avidity was shown in 71.25%; 50% of these patients presented avidity values 33. These values were independent of the ELISA titers of these patients (t = 0.207; p = 0.837), age (F = 0.234, p = 0.631), sex (t = 0.624; p = 0.536) and epidemiological risk factor such as dog ownership (t = 0.955; p = 0.348). In the group of patients with titers of 1:32dils mean avidity was 32.7(low index of IgG), in those with 1:128dils mean avidity was 31.9(low index of IgG) (p > 0.05). Compared with IgG avidity test, conventional ELISA had just 32.9% of specificity (95%CI 28.2–38.0).

**Conclusion:** These results, as other previous, suggest that measurement of specific IgG avidity (which is independent of the ELISA titers) may assist in the discrimination between
recent and distant toxocariasis, and particularly to ruling out (by high avidity) a recently acquired infection.

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58.023

Characterization of proteins of excretion/secretion (ES) of nematode parasite *Mammomonogamus laryngeus*

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**Background:** *Mammomonogamus laryngeus* is a hematophagous nematode parasite that affects the respiratory tract of domestic mammals. The female and male are united in permanent copulation producing a distinctive "Y" form. So far, over 100 cases of human infection had been reported in the scientific literature. In Colombia in 2006 we reported the first case of human infection in the Quindío region, and the second report in bovine livestock with a high prevalence of 14.5% (Fig. 1).

**Methods:** The protein profile of excretion/secretion (ES) of *M. laryngeus* was determined by SDS-PAGE electrophoresis and the characterization of the enzyme activity was evaluated with a zymogram using casein and gelatin dissolved in 20 mM sodium phosphate buffer at pH 7.4 and copolymerization with polyacrylamide 10% and to 0.8% bisacrylamide, 1.5 M Tris- HCl, pH 8.8. The protein concentration was determined by bicinchoninic acid assay (BCA). To evaluate the type of protease on the ES proteins, a zymogram assay was performed with and without specific protease inhibitors (leupeptin trifluoro acetate, EDTA, pepstatin A, 4-2 amino ethyl benzene sulfonyl fluoride Hydrochloric (AEBSF) and N-tosyl-L-phenylalanine chloromethyl ketone (TPCK)) in 10% polyacrylamide gel and gelatin as substrate. To evaluate the effect of pH on the protein activity, the zymogram conditions were performed on pH from 4 to 11.

**Results:** The products of ES from adult *M. laryngeus* have protease activity showing four bands with molecular masses of 94.4 kDa the most dominant and a diffuse series of bands of 122 kDa, 108 kDa and 72 kDa. The *M. laryngeus* ES shows a protease activity. For the specific family of proteases, a metalloprotease activity was found corresponding to the inhibition of protease activity by EDTA but no under other inhibitor. The pH did not change the protease activity over the range tested.

**Conclusion:** Our findings, suggest that maybe this ES proteins are involved in skin penetration process and migration through connective tissues in the host, therefore, it is mandatory to obtain more data about this parasite for the understanding of its infective process, and also look for ES homologies within the same family of nematodes for the searching of vaccine candidates and treatment strategies.

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58.024

Fibronectin increases the adherence of *Taeinia solium* oncosphere in CHO —K1 cells *in vitro*

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**Background:** Neurocysticercosis is the infection caused by the larval stage of *Taenia solium* and is also the most common parasite of the nervous system in humans and is a public health problem in poor areas of Latin America, Asia and Africa and it is spreading worldwide due to increased migration of NC cases and tapeworm carriers. *T. solium* eggs contain an oncosphere that is released and penetrates in the host small intestine. This mechanism is not known. Therefore, the elucidation of the molecules involved in the parasite-host cell recognition process is of extreme importance and that constitute a focal point of research. Previous works supported the idea that parasites can interact with extracellular matrix and basement membrane proteins, such as fibronectin (FN), laminin, collagen and vitronectin leading to enhanced adherence. The purpose of this study was evaluated the role of FN in the adherence mechanism of *T. solium* oncosphere using *in vitro* assay in CHO-K1 cell.

**Methods:** The *T. solium* oncospheres and CHO-K1 cell monolayer were incubated with different concentrations of