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BRIEF COMMUNICATION

PRESENCE OF ANTI-*TOXOCARA* ANTIBODIES IN CHILDREN SELECTED AT HOSPITAL UNIVERSITÁRIO, CAMPO GRANDE, MS, BRAZIL

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SUMMARY

Visceral Larva Migrans syndrome (VLM) results from the presence or migration of helminth larvae in humans, who nonetheless only play the role of paratenic hosts in the helminths life cycle. In humans, VLM can be caused by larvae of various nematode species, chiefly those of the ascarid *Toxocara canis*, which can then be found at a variety of body sites, such as the liver, lungs, heart, and brain. Clinical and pathological manifestations depend primarily on larvae number and location, infection duration, reinfection occurrence, and host s immunological condition. Signs and symptoms may range from asymptomatic infection to severe disease. In humans, infection is acquired through ingestion of *T. canis* eggs present in soil, containing larvae in the infective stage[7, 8, 9]. Indeed, eggs of *Toxocara* sp. have been found in sandboxes in several public places in the city of Campo Grande, Mato Grosso do Sul state[2].

This study was carried out to detect the presence of anti-*Toxocara* antibodies in children attending the Pediatrics division of Hospital Universitário of Universidade Federal de Mato Grosso do Sul at Campo Grande, Brazil.

Over the years 1992-94, 454 serum samples, obtained from children of 5.25 ± 3.28 years of mean age and selected at that hospital on the basis of eosinophil count greater than or equal to 1000/mm^3 of blood, were tested for the presence of antibodies by means of the ELISA technique employing *Toxocara canis* larvae excretory -secretory antigens[5]. A high prevalence rate for toxocariasis (35.55%) was found, which was observed to be associated with eosinophil levels lower than those usually reported in literature. Furthermore, a higher frequency of positive serology among boys was also observed (13 cases in contrast to only 3 among girls), a result also reported by other authors[10].

In a preliminary study on children from two day-care centers in Campo Grande, carried out by our group[12], a 42% frequency of infection was found among 34 children presenting eosinophil counts higher than 1000/mm^3 of blood. Such finding is indicative that the high proportion of infected children (35.55%) found in the present work does not bear any relation to the fact that such children had seeked medical care, as the data resulting from both these studies coincide.

All patients were referred to treatment. As it was not possible to perform ELISA serology once more, follow-up of these patients was carried out by means of white blood cell and differential counts, in order to detect subsequent regression of eosinophil levels, thus allowing monitoring of chemotherapy efficacy for children with no other systemic signs. Subsequent retinal examinations, performed for Ocular Larva Migrans syndrome screening, revealed normal eyegrounds for all the 6 patients who seeked the Hospital s Ophthalmology Service.

Taking into account the great variability of eosinophil counts for VLM suspect, such as 400/mm^3 [9] 500/mm^3 [3], and 2000/mm^3 (or, in relative values, percentages greater than or equal to 20%)[11], we defined as criterion, both for inclusion of patients in this study and for further ELISA testing, an eosinophil count greater than or equal to 1000/mm^3 of blood. Had we established, as criterion for ELISA testing, an eosinophil percentage of 20%, or an absolute value of 2000/mm^3 of blood, diagnosis would not have been reached in 11 of those 16 patients whose titers were higher than or equal to 1:160. It is worth emphasizing that eosinophil counts greater than or equal to 700/mm^3 are to be viewed as significantly high[1]. Although clinical case studies have reported extremely pronounced levels of leukocytosis and eosinophilia[4, 6, 11], the leukocyte counts found in our work did not differ statistically from 10 000/mm^3 ($p > 0.25$). As to relative numbers, the mean value was 21.1 ± 7.6, which differs significantly ($p < 0.05$) from the works mentioned above. However, the data obtained support the need to consider the clinical suspect of VLM even for lower levels of eosinophilia, as the frequency of such parasitosis is still unknown for this region of the country.

To the authors knowledge, this is the first evidence of infection by *T. canis* in the city of Campo Grande, and although our results do not demonstrate the prevalence of human infection by *Toxocara* sp. on a populational level, they do enable us to emphasize the need of implementing health education procedures, having in mind both the zoonotic potential posed by this form of parasitosis and the low socioeconomic status of the population considered. (This latter factor infact led several patients to discontinue treatment, thus preventing the previously planned eosinophil count follow-up to be made.) Furthermore, some form of control over the canine opulation having access to public play areas should also be proposed, taking into account the recovery of eggs of this parasite in such areas by our group.

We thus stress the need for *T. canis* antigen to be poduced and made available, in order to enable health care services located far from larger cities to perform VLM diagnosis as early as possible, thus speeding treatment and avoiding severe sequels, among which Ocular Larva Migrans syndrome is worth mentioning.

It is also the author s aim to further develop these studies on a populational level for an effective contribution to the knowledge of the natural history of Visceral Larva Migrans syndrome in the municipality of Campo Grande.

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