Dear Editor,

Sir, I read the recent report on atypical lymphocytosis in leptospirosis with a great interest. Damasco et al concluded that atypical leukocyte subtypes are associated with partial protection during the disease course of leptospirosis. Some points should be discussed. First, as a nature of retrospective study, there can be many pitfalls. The detection of atypical lymphocytosis is usually problematic if there is no expert medical technologist control the quality of analysis. Second, as Damasco et al mentioned, several diseases can mimic leptospirosis. An important disease that can present atypical lymphocytosis is dengue infection. This infection is also common in the studied setting. The question is whether the diagnosis of leptospirosis is correct. Also, the co-infection between leptospirosis and dengue can be possible and this cannot be ruled out in this work.

REFERENCES


Letter to Editor/Carta ao Editor

Atypical lymphocytosis in leptospirosis

Linfcitose atípica na leptospirose

Viroj Wiwanitkit1

Dear Editor,

Sir, I read the recent report on atypical lymphocytosis in leptospirosis with a great interest. Damasco et al concluded that atypical leukocyte subtypes are associated with partial protection during the disease course of leptospirosis. Some points should be discussed. First, as a nature of retrospective study, there can be many pitfalls. The detection of atypical lymphocytosis is usually problematic if there is no expert medical technologist control the quality of analysis. Second, as Damasco et al mentioned, several diseases can mimic leptospirosis. An important disease that can present atypical lymphocytosis is dengue infection. This infection is also common in the studied setting. The question is whether the diagnosis of leptospirosis is correct. Also, the co-infection between leptospirosis and dengue can be possible and this cannot be ruled out in this work.

REFERENCES


Atypical lymphocytosis in leptospirosis: a cohort of hospitalized cases between 1996 and 2009 in State of Rio de Janeiro, Brazil

Paulo Vieira Damasco1, Carlos Andre Lins Avila1, Angelica Tapia Barbosa1, Marilza de Moura Carvalho2, Geraldine Morea Batista Pereira1, Elba Regina Sampaio de Lemos3, Marcio Neves Boita2 and Maria Beatriz Pereira3

ABSTRACT

Leptospirosis is a zoonotic disease found in tropical and temperate countries, transmitted by contact with infected animal excretions or secretions. Infections of leptospirosis are diagnosed with the detection of specific antibodies. Various clinical forms of leptospirosis were recognized, depending on the virulence of the microorganism. The occurrence of peripheral lymphocytosis is frequently observed. Leukocytes with atypical shapes are associated with partial protection during the disease course of leptospirosis. Atypical leukocytes are lymphocytes with an irregular cell morphology, resembling common lymphocytes. The occurrence of atypical lymphocytes is usually problematic if there is no expert medical technologist control the quality of analysis. These data suggest that atypical lymphocytes may be observed in leptospirosis cases. This review aims to assess the occurrence of atypical lymphocytes in leptospirosis cases. A retrospective analysis was performed on the demographic, epidemiological, and clinical features of 27 cases of leptospirosis occurring in the state of Rio de Janeiro, Brazil, from 2006 to 2009. Leptospirosis cases were classified as: (1) acute, (2) subacute, and (3) chronic. The diagnosis of leptospirosis was confirmed by (i) microscopic observation of leptospires in urine (i.e. dark-field microscopy) and (ii) positive serological tests (i.e. fluorescent antibody test or the Leptospira Reference Laboratory in the State of Rio de Janeiro, Brazil). Atypical lymphocytes were observed in 11 patients (41%) and were associated with partial protection during the disease course of leptospirosis.

KEYWORDS

Atypical lymphocytes, γδ+ T cells. Clinical features.

Atypical lymphocytosis in leptospirosis: a cohort of hospitalized cases between 1996 and 2009 in State of Rio de Janeiro, Brazil

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Dear Editor,

We thank Prof. Wiwanitkit for his critical evaluation and comments. We agree with the observation that there are limitations in retrospective studies. However, we must clarify some aspects regarding the main issues raised. As a routine procedure, the protocols for laboratorial confirmation of clinical suspicions involve collaboration with the department of hematology at the same university and three reference laboratories accredited by the Ministry of Health, Brazil. The reference laboratories for leptospirosis, dengue, hantavirus, and ricketsiosis are located at the Instituto Oswaldo Cruz, Fundação Oswaldo Cruz (IOC/FIOCRUZ), Rio de Janeiro. All laboratories involved comply with standards of quality management procedures. The above-mentioned accreditations, protocols, and partnerships already existed at the time in which the patients were examined, diagnosed, and treated—although in retrospect regarding the analysis of the published data in this paper. The criterion to consider the presence of morphologically atypical lymphocytes was the observation of enlarged lymphocytes with abundant cytoplasm, vacuoles, and indentations of the cell membrane. The main serological test for leptospirosis was the microscopic agglutination test (MAT), considered to be the gold standard in the World Health Organization/International Leptospirosis Society guidelines, 2003. The MAT and polymerase chain reaction tests were performed in the national reference laboratory for leptospirosis in Brazil. A total of 14 of 27 cases were simultaneously tested for dengue, hantavirus, spotted fever group, and rickettsia when these diagnostic possibilities were considered at the first clinical presentation. The results were negative for those infections and positive for leptospirosis. Although the occurrence of dengue and leptospirosis is an important epidemiological aspect in the region, the concomitant infection in individual cases is considered to be rare or uncommon. It seems to be also true as a general picture considering the available data of the international literature. It should be stressed that the two cases with increased frequency of γδ T-lymphocytes were positive for leptospirosis showing negative results to the dengue fever tests. We believe the additional information is sufficient to answer questions about the diagnosis. The manuscript does not state categorically the possibilities or predictions, but it raises a hypothesis that is well grounded in reliable data, to be confirmed by further prospective studies.


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