Optic neuritis and chorioretinitis as ocular manifestations of borreliosis in Brazil: three cases reported

Neurite óptica e coriorretinite como manifestações oculares da borreliose no Brasil: três casos relatados

Bárbara Emilly Matos Rodrigues¹, André Barbosa Castelo Branco², Bruno Andrade Amaral³, Marciel Dourado Franca⁴, Túlio Gomes Cathalá Loureiro ⁴

ABSTRACT

Lyme disease is a systemic infection caused by a tick bite and transmission of the Borrelia burgdorferi spirochete. Species of tick vectors of the disease infest mainly wild or rural animals and rodents that may be asymptomatic reservoirs of the bacteria. Characteristic of the northern hemisphere, Lyme disease in Brazil takes on different characteristics, complicating diagnosis. This paper aims to describe three cases of Lyme-like disease in a city in the state of Bahia, Brazil, with ophthalmologic findings.

Keywords: Lyme Disease, ticks, Lyme-like Disease, Borrelia burgdorferi

RESUMO


Descritores: Doença de Lyme, carrapatos, Doença Lyme símile, Borrelia burgdorferi

1 Departamento de Retina, Oftalmodiagnose Irecê, Irecê, BA, Brazil.
2 Universidade Federal da Bahia, Salvador, BA, Brazil.
3 Faculdade Independente do Nordeste LTDA, Vitória da Conquista, BA, Brazil.
4 Departamento de Catarata, CEOM - Centro de Especialidades Odontomédicas, Irecê, BA, Brazil.

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INTRODUCTION

Lyme disease (LD) is an exotic zoonosis from the northern hemisphere, caused by the bite of the tick IXodes Castor and transmission of Borrelia burgdorferi sensu lato. In Brazil, Borrelia burgdorferi has never been isolated, and this tick species is not found in endemic areas. The clinical, epidemiological and laboratory characteristics of the infectious disease found in this country diverge substantially from those classically reported in patients with Lyme disease elsewhere in the world, consequently receiving the denomination Baggio-Yoshinari Syndrome (BYS). As in LD, the Brazilian Human borreliosis may present cutaneous manifestations, as well as osteo-articular, neurologic, cardiac, psychiatric, ocular and immune-allergic. The different clinical aspect is the high number of relapses, especially if the patient is not diagnosed and treated early. The tick species probably involved in Brazil’s disease are Cajennense amblyomma and Rhipicephalus microplus and the infectious agents, latent spirochetes in cystic form, very different from the spiraled ones found in the northern hemisphere. It is possible that the geographical conditions and biodiversity in Brazil have generated a mutant bacterium originating with complex B. burgdorferi responsible for the production of low and oscillating patient’s antibody. This fact, together with flu-like clinical features, common to so many other infectious syndromes, hinders the identification of cases. The objective of this study is to report three cases of ocular borreliosis in the city of Irecê, Bahia, Brazil, diagnosed based on epidemiological, clinical, eye fundus findings and serology.

CASE REPORT

Case 1
Male 35 years old, was raising a fox at his residence. Febrile syndrome for 03 weeks with low vision in the right eye (RE) during this period, no complaints in left eye (LE). Weight loss. Best corrected visual acuity (BCVA) in RE 20/80, and LE 20/20. Anterior segment and intraocular pressure was normal. Eye fundus exam: RE = optic neuritis, retinitis, macular star forming, serous detachment of the retina below the disk, retinal hemorrhages, cotton wool spots. (A) LE = Cotton wool spot near the inferior nasal vessels. Serology for B. burgdorferi, indefinite, and negative for toxoplasma, toxocara, bartonella and syphilis.

Treatment: doxycycline 100 mg for 04 weeks, combined with prednisone, with improvement of inflammation. (Figure 1)

Case 2
Male 32 years old. Electrician, used to do installations in rodent-infested warehouses in the countryside. Febrile syndrome for 06 weeks, which was referred to as prolonged flu and discouragement for daily activities. Low vision RE for 10 days. BCVA 20/200 RE and 20/20 in the LE. Anterior segment and intraocular pressure was normal. Eye fundus exam: RE = nodular lesion of the inferior temporal retina, causing vasculitis, saccular dilatation of the vessels, ischemic area distal to injury, exudation, and serous retinal detachment. Coats-like disease. (A,B ) Serology for B. burgdorferi (Enzyme-Linked Immunosorbent Assay ELISA), IgM positive. Negative serology for syphilis, HIV, toxoplasma and Bartonella. Tuberculin test and chest X-ray normal. Western blotting collected during treatment, detected one patient’s antibody. (C) After completion of laboratory tests doxycycline 100 mg was introduced for 04 weeks, combined with prednisone, with complete resolution of the retinal detachment. Skin injury healed. (E,F) BCVA at end: 20/25. (Figure 2)

Case 3
Female, 27, spent vacations on a farm, where she had contact with horses and cattle. Complaints of low vision in both eyes, for 02 years, with episodes of worsening during this period. Empirically treated for recurrent retinal lesions, considered as toxoplasmosis in another service. Complaints of poor appetite and chronic fatigue. BCVA 20/100 RE and 20/40 in the LE. Anterior segment and intraocular pressure was normal. Eye fundus exam: RE = nodular lesion in inferior temporal retina, with surrounding exudation. Epiretinal membrane formation, from the lesion to the temporal vessels. (A,B ) LE = nodular lesion in the macular area, healed, without signs of inflammatory activity in the first evaluation. Serology for B. burgdorferi, positive, and negative for Bartonella, toxocara, syphilis and toxoplasma. Antinuclear Antibody negative, angiotensin converting enzyme normal, tuberculin skin test and chest X-ray normal. Treatment: doxycycline 100 mg, for 04 weeks, combined with prednisone, with improvement of inflammation. (C,D ) BCVA at end: 20/100. (Figure 3)
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Treatment of BYS is done with doxycycline 100 mg twice daily for 4 weeks. For patients diagnosed at late stage, treatment should be extended for 3 months and those with neurological symptoms should receive ceftriaxone 2g intravenously and after that, should follow with use of doxycycline, twice daily for three months.

Patients with inflammatory retinal lesions should be investigated for borreliosis. Especially those who have visited endemic areas or who have had contact with ticks. Diagnosis requires more attention, since the disease can present very similar symptoms to other infectious syndromes and some patients may develop to chronic phase, when it becomes even more difficult the correlation between some findings and the initial epidemiological history. Also, because it is an infectious and contagious disease, screening of endemic areas becomes essential for adequate control of risk situations.

REFERENCES


Corresponding author:
Bárbara Emilly Matos Rodrigues
Rua Rio São Francisco, 439, Recanto das Árvores, Irecê, Bahia, Brazil. Zip code: 44.900.000
Phone:+55(74) 99970-3655.
E-mail: barbaraoftalmo@hotmail.com