Crimson Publishers
Wings to the Research

Case Report

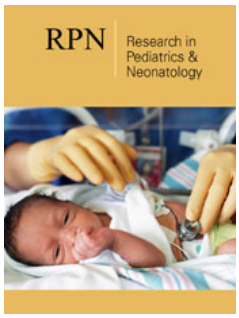
Parinaud's Oculoglandular Syndrome and Bartonella: An Atypical Presentation

Andreia Preda[1]*, Margarida Moreno Fernandes[1], Mariana Sá Pinto[1], Mariana Neto[1], Catarina Ferreira[2], Sidnei Barge[2] and Diana Moreira[1]

[1]Department of Pediatrics-Unidade Local de Saúde Gaia/Espinho, Portugal

[2]Department of Ophthalmology-Unidade Local de Saúde Gaia/Espinho, Portugal

ISSN: 2576-9200



***Corresponding author:** Andreia Preda, Department of Pediatrics-Unidade Local de Saúde Gaia/Espinho, Portugal

Submission: October 25, 2025
Published: October 30, 2025

Volume 8 - Issue 3

How to cite this article: Andreia Preda*, Margarida Moreno Fernandes, Mariana Sá Pinto, Mariana Neto, Catarina Ferreira, Sidnei Barge and Diana Moreira. Parinaud's Oculoglandular Syndrome and Bartonella: An Atypical Presentation. Res Pediatr Neonatol. 8(4). RPN. 000695. 2025. DOI: 10.31031/RPN.2025.08.000695

Abstract

Bartonella henselae, the etiological agent of Cat Scratch Disease (CSD), is a common zoonotic pathogen in pediatrics. While most cases are self-limited and present as regional lymphadenopathy, atypical forms can have ocular involvement. Parinaud's oculoglandular syndrome is a rare manifestation characterized by unilateral granulomatous conjunctivitis and ipsilateral preauricular or submandibular lymphadenopathy [1,2]. We describe a case of a 12-year-old boy presenting with left-sided conjunctivitis, periorbital edema, and cervical lymphadenopathies, associated with recent fever and a history of close contact with domestic cats. Serologic testing confirmed Bartonella henselae infection. He was treated with doxycycline and rifampicin, with favorable clinical evolution. This case is notable for the presumed direct ocular inoculation via a corneal lesion, an uncommon but described route [1]. Prompt recognition of this rare presentation of CSD and appropriate antimicrobial therapy are essential to prevent complications and ensure recovery.

Keywords: Bartonella henselae; Parinaud's oculoglandular syndrome; Cat scratch disease; Pediatric conjunctivitis; Lymphadenopathy

Introduction

Cat Scratch Disease (CSD) is a typically benign zoonosis caused by Bartonella henselae, most often transmitted through scratches or bites from domestic cats, particularly kittens [3,4]. The classic presentation is localized lymphadenopathy, but 5-10% of patients develop atypical forms, which may include hepatosplenic, neurologic, or ocular involvement [4]. Parinaud's Oculoglandular Syndrome (POS) is an uncommon ocular manifestation of CSD characterized by unilateral granulomatous conjunctivitis associated with ipsilateral regional lymphadenopathy, most commonly in the preauricular and submandibular chains. Diagnosis is primarily clinical and supported by epidemiologic exposure and compatible serologic findings [4]. Although most cases resolve spontaneously, moderate to severe presentations may require systemic antibiotic therapy [3].

Case Report

A previously healthy 12-year-old boy presented to the emergency department with a three-week history of left eye redness, itching, and progressive swelling of the left preauricular region. He reported low-grade fever for three days, accompanied by headache and vomiting. Ocular pain with eye movement was present, but there was no photophobia or visual impairment. He had frequent contact with domestic animals, including a six-month-old kitten, and exhibited linear scratch marks on his forearms. On examination, the patient was afebrile and clinically well. The left eyelid was markedly edematous, with conjunctival hyperemia and chemosis. A superficial corneal lesion was observed. A tender, warm preauricular mass extended to the mandibular angle and ipsilateral submandibular region. The right eye and systemic examination were unremarkable. Ophthalmologic assessment confirmed follicular conjunctivitis with a likely traumatic corneal lesion.

Laboratory tests revealed leukocytosis (16,420/μL) with neutrophilia and elevated C-reactive protein (4.31mg/dL). Cervical ultrasound demonstrated two enlarged intraparotid lymph nodes (32×17mm), one showing a hypoechoic center suggestive of necrosis or abscess formation, as well as a large jugulodigastric lymph node (39×24mm) and multiple smaller adjacent nodes. Serology for Bartonella henselae showed high IgG titers (1:1024) with negative IgM. The diagnosis of CSD, including ocular involvement, is largely clinical and supported by relevant exposure and serologic evidence. An IgG titer ≥1:256 is considered diagnostic in the appropriate context, even without detectable IgM, which may be transient or absent in subacute forms. The combination of unilateral granulomatous conjunctivitis, regional lymphadenopathy, recent cat exposure, and high IgG titers confirmed Bartonella henselae infection. Serologic testing for CMV, EBV, HSV 1/2, Mycoplasma pneumoniae, Borrelia burgdorferi, Toxoplasma gondii, and parvovirus B19 were negative. Blood cultures were sterile. The patient was admitted for observation and initiated doxycycline and rifampicin, along with topical gentamicin ointment, lubricating drops, and a nighttime hydrating gel. Progressive improvement of ocular and lymphatic findings was observed. After 11 days of intravenous therapy, he was discharged on doxycycline and rifampicin to complete a 21-day course. At discharge, conjunctival inflammation and lymph node enlargement had significantly regressed. Follow-up with pediatric infectious disease and ophthalmology teams confirmed full recovery.

Discussion

Parinaud's oculoglandular syndrome is an uncommon but well-recognized manifestation of Bartonella henselae infection in children [1-3]. It typically results from direct inoculation of the conjunctiva or periorbital tissues and should be suspected in patients presenting with unilateral conjunctivitis and ipsilateral lymphadenopathy, particularly after exposure to cats [2,3]. While conjunctivitis is frequent in pediatrics, its association with localized painful lymphadenopathy and a compatible exposure history should raise suspicion for CSD [4]. In this case, the marked ocular inflammation and superficial corneal lesion supported the hypothesis of direct ocular inoculation by Bartonella henselae, a mechanism infrequently reported in the literature [1]. Diagnosis relies on the integration of clinical, epidemiologic, and serologic data. High IgG titers in a compatible setting are generally sufficient to confirm infection, as IgM antibodies are often absent in subacute or atypical forms. Up to half of confirmed CSD cases may lack detectable IgM. Thus, serologic results should be interpreted within the full clinical context, emphasizing the importance of physician judgment [5]. Treatment with doxycycline and rifampicin remains the recommended regimen for moderate-to-severe or atypical CSD in immunocompetent children [3,4]. The patient showed excellent tolerance and gradual resolution of symptoms. Ophthalmologic follow-up is essential to exclude complications such as keratitis, uveitis, or chorioretinitis, none of which were identified in this case [2,3]. This case highlights a rare and atypical presentation of Bartonella henselae infection manifesting as Parinaud's oculoglandular syndrome in a previously healthy adolescent. The presumed direct ocular inoculation underscores the importance of thorough ophthalmologic evaluation in children presenting with unilateral conjunctivitis and regional lymphadenopathy following cat exposure. Prompt recognition and targeted antimicrobial therapy are crucial for complete recovery and prevention of sequelae.

Acknowledgment

Author contribution

Andreia Preda-Primary author; collected clinical data, performed literature review, and drafted the manuscript.

Margarida Moreno Fernandes-Contributed to data collection, clinical interpretation, and manuscript editing.

Mariana Sá Pinto-Assisted in manuscript preparation and literature review.

Mariana Neto-Assisted in manuscript preparation and literature review.

Catarina Ferreira-Performed ophthalmologic evaluation and contributed to clinical interpretation.

Sidnei Barge-Provided ophthalmologic expertise and supervised ocular imaging interpretation.

Diana Moreira-Supervised the case management and manuscript development; final approval of the version to be published.

Funding

No financial support or grant was received for this work.

References

1. Saito J, Machida A, Inoue D, Suzuki Shimizu M, Matsui K, et al. (2024) A case of parinaud's oculoglandular syndrome in which Bartonella DNA was detected in the cornea and conjunctiva by polymerase chain reaction. Medicina (Kaunas) 60(9): 1425.
2. Arango-Ferreira C, Castaño J (2018) Parinaud's oculoglandular syndrome in cat scratch disease. N Engl J Med 379(18): e31.
3. Arjmand P, Yan P, O'Connor MD (2015) Parinaud oculoglandular syndrome 2015: Review of the literature and update on diagnosis and management. J Clin Exp Ophthalmol 6(3): 443.
4. Klein NC, Stoner JA, Nadelman RB (2025) Microbiology, epidemiology, clinical manifestations, and diagnosis of cat scratch disease. In: Post TW (eds.), Waltham (MA), UK.
5. Klotz SA, Ianas V, Elliott SP (2011) Cat-scratch disease. Am Fam Physician 83(2): 152-155.