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From Scratch to Sight: A Case Report on Ocular Complications of Cat Scratch Disease

S.SADIKI[1]*, S.SALAMA[1], Y.ACHEGRI[1], A.ELKHOYAALI[1], A.FIQHI[1], Y.MOUZARI[1]

[1]Department of Ophtalmology; Military Hospital Mohamed V RABAT Morocco

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***Corresponding author:** S.SADIKI
Department of Ophtalmology; Military Hospital Mohamed V RABAT Morocco

Abstract **Case Report**

Cat scratch disease, caused by Bartonella henselae, is a zoonotic infection that rarely presents with ocular complications. We report a 30-year-old male with blurred vision in his left eye following a cat scratch. Examination revealed a white interpapillomacular lesion and macular edema, confirmed by OCT. Elevated Bartonella henselae IgM and IgG levels confirmed the diagnosis. The patient was treated with doxycycline, leading to full visual recovery within two weeks. Early recognition and antibiotic therapy are essential for managing ocular CSD.

Keywords: Cat scratch disease - Occular inflammation - macular edema.

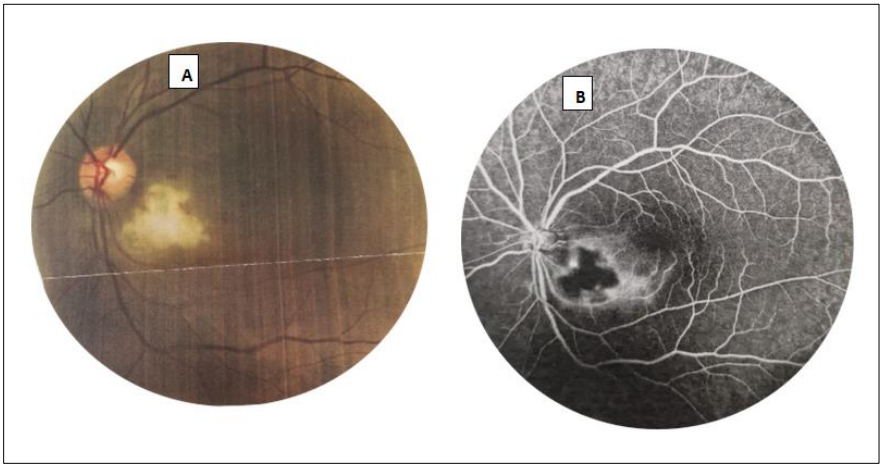
INTRODUCTION

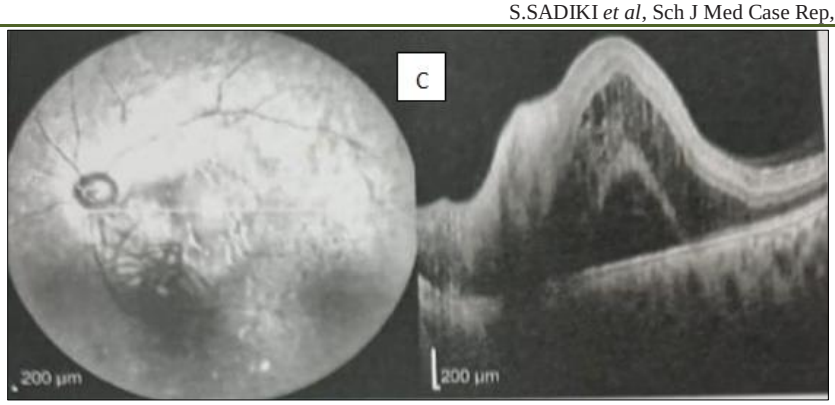
Cat scratch disease is an infection caused by the bacterium Bartonella henselae, which is often passed to humans through scratches or bites from cats. While most symptoms include lymphadenopathy, fever and flu-like symptoms, the infection can sometimes affect the eyes. These rare ocular complications can include conditions like neuroretinitis, Parinaud's oculoglandular syndrome, choroiditis, chorioretinitis, exudative maculopathy, serous retinal detachment and vitritis [1].

We report the case of a healthy 30 years old man presenting to the clinic with complaints of blurred vision in his left eye, which had developed over the past two weeks but denied any pain or redness. The patient reported being scratched by a stray kitten three weeks prior. His medical history was unremarkable.

The ophtalmological examination found a visual accuity at initial presentation hand movement (OS). There were no signs of anterior uveitis. Fundoscopic examination showed a small white interpapullomacular lesion with an abnormal macular reflcx (A).

We performed an optical coherence tomography that showed maculad edema (C). An angiography was done that showed fluorescence enhancement of the margins of the lesion (B).



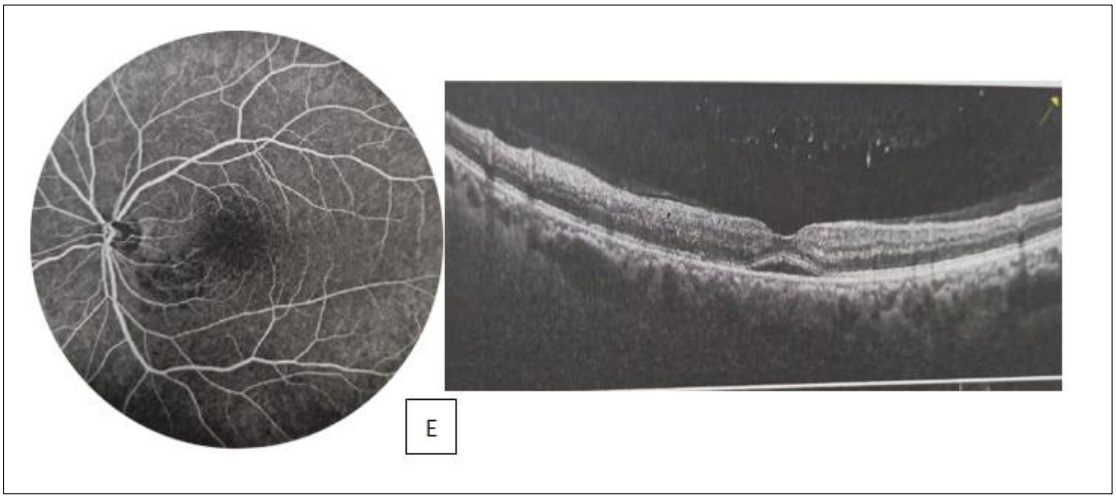


A: Fundoscopic aspect of the white lesion
B: Fundus angiogram of the left eye—mid arteriovenous phase, showing stainingpattem of the lesions.
C: Optical coherence tomography showing macular edema

Complete blood count showed mild leukocytosis, renal profile, and liver function tests were normal. Screening for syphilis, leptospirosis, melioidosis, and toxoplasmosis was all negative.

Serological tests for Bartonella henselae revealed elevated IgM and IgG levels, confirming recent infection.

The patient was started on oral doxycycline for a six-week course. Close follow-up was maintained to monitor visual recovery. Within two weeks of treatment, the patient's visual symptoms began to improve. His visual acuity had returned to 20/20 and fundoscopic findings showed resolution of the white lesion and improvment of the macular edema (E)



E: Resolution of the lesion and the macular edema with some residual subretinal fluid

DICUSSION

Cat scratch disease is an infectious disease caused by the Gram-negative bacillus Bartonella henselae.

The disease is transmitted by the bite of an infected animal, usually young cat or kitten. Typical symptoms include lymphadenopathy, fever, and fatigue. More severe systemic complications are possible as well, such as splenomegaly or splenic abscesses, encephalopathy, hepatitis, pneumonia, and osteomyelitis. Occular involvment is rare.

The most well-known posterior segment presentation is neuroretinitis with a macular star. Wayle and al [2], analysed posterior segments findings in occular bartonella. Isolated retinitis or choroiditis were the most common ocular manifestation of cat scratch disease in the group study .Some rare occular complications were reported such as serous retinal detachment, vitreous hemorrhage, optic nerve granuloma, and vascularocclusive events were less common [3]. Some studies have reported ocular manifestations associated with vaso-occlusive events, such as retinal artery or retinal vein occlusions [4].

The diagnosis of cat scratch disease is often based on history of contact with a cat and high serum titers of immunoglobulin G antibodies against B. henselae [5]. Imaging studies such as OCT and fluorescein angiography are important in evaluating retinal involvement and monitoring treatment response [6].

In immunocompetent patients the ocular manifestations of Bartonella infection tend to be self-limited and have a benign course [7]. Early antibiotic treatment for ocular bartonellosis appears to enhance visual outcomes and accelerate recovery [8]. The management of cat-scratch disease (CSD) varies based on factors such as age, immune status, systemic symptoms, and ocular complications. [9]. Antibiotic options include doxycycline, macrolides, rifampin, ciprofloxacin, ceftriaxone, and co-trimoxazole [10].

CONCLUSION

Ocular cat-scratch disease is a rare but important differential diagnosis in patients presenting with ocular inflammation [11], particularly in the context of systemic symptoms or a history of contact with cats. A thorough patient interview is essential to guide the diagnosis.

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