

# Cat Scratch Disease Associated with Retinal Vein Occlusion

Avi Rubinov MD<sup>1</sup>, Eytan Z. Blumenthal MD<sup>1</sup> and Itzchak Beiran MD<sup>1,2</sup>

<sup>1</sup>Department of Ophthalmology, Rambam Health Care Campus, Haifa, Israel

<sup>2</sup>Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

**KEY WORDS:** retinal vein occlusion, cat scratch disease, bevacizumab

IMAJ 2014; 16: 522–523

Cat scratch disease is a zoonotic infection caused by the gram-negative rod *Bartonella henselae*. It is typically a benign, self-limiting, acute febrile illness that is accompanied by regional lymphadenopathy. Ocular manifestations of this disease usually do not involve severe visual loss. Classically, a papule or pustule initially develops at the site of a cat scratch followed by regional lymphadenopathy with or without fever. The affected nodes may become suppurative [1]. In about 5–10% of cases CSD may present with ocular symptoms, ranging from primary oculoglandular syndrome to neuroretinitis and, rarely, vascular occlusions due to localized vasculitis [2]. Neuroretinitis manifests as optic nerve head swelling and the partial or complete formation of a macular star, usually within 2–4 weeks

CSD = cat scratch disease

[2]. Systemic antibiotic treatment with doxylone 100 mg twice a day, rifampin 300 mg twice a day, ciprofloxacin 750 mg four times a day, or azithromycin 500 mg four times a day is the treatment of choice [2]. The role of systemic corticosteroids in the treatment of CSD is controversial [3].

A 34 year old Caucasian male presented with acute painless loss of vision in his right eye 4 days earlier. Upon examination the best corrected visual acuity was counting fingers 1.5 m in the right eye and 20/20 in the left eye. He had a +2 right relative afferent pupillary defect and the intraocular pressure was 16 mmHg in the right eye and 12 mmHg in the left. Anterior segments were normal in both eyes. Dilated fundus examination showed a central vein occlusion with macular edema and blurred disk margins in the right eye [Figure 1A]. The left eye fundus was normal.

The patient reported a febrile illness of 6 days duration 4 weeks prior to his initial ocular examination and recalled being scratched by a cat several weeks earlier. Laboratory workup was normal except for elevated liver enzymes (alanine and aspartate aminotransferase, gamma-glu-

tamyl transpeptidase, alkaline phosphatase), elevated erythrocyte sedimentation rate, C-reactive protein, complement C3, as well as positive serology for *B. henselae* (immunoglobulin M and G). Herpes simplex type 1, cytomegalovirus and varicella zoster virus were all IgG positive but negative for IgM, suggestive of past infection. An extended coagulation panel was normal. Fluorescein angiography of the right eye demonstrated peripapillary leakage and signs of retinal vasculitis in the inferior half of the retina [Figure 2]. Macular spectral domain optical coherence tomography of the right eye demonstrated severe macular edema [Figure 3].

Antibiotic treatment was started with doxylone 100 mg and rifampin 300 mg twice daily for 1 month. Two intravitreal bevacizumab injections were given to the right eye 1 month apart, resulting in amelioration of the macular edema. Best corrected visual acuity at last follow-up was 20/60. Repeat blood workup showed

Ig = immunoglobulin

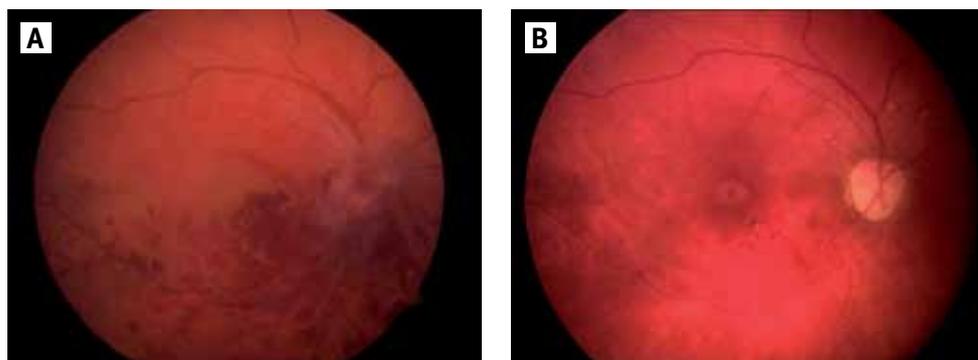


Figure 1. Fundus [A] at presentation and [B] 5 months later

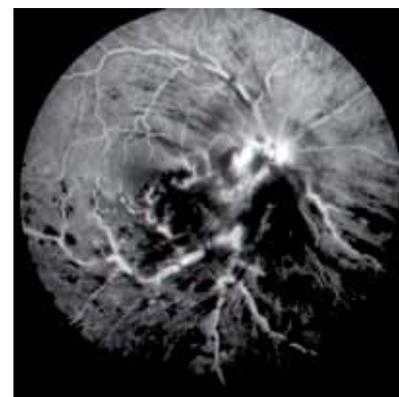
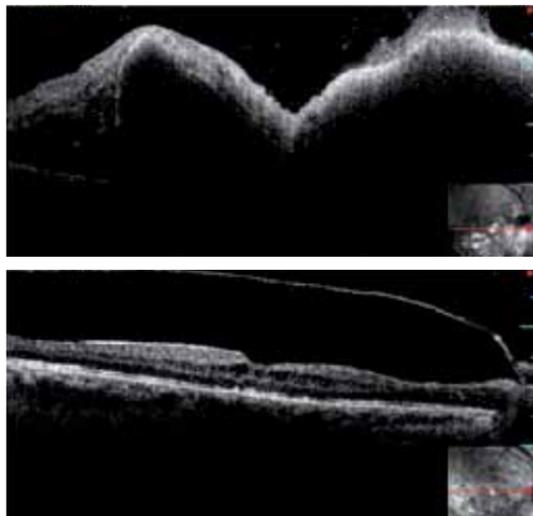


Figure 2. Fundus at presentation showing signs of vasculitis mostly in the inferior half of the retina



**Figure 3.** Serial optical coherence tomography report showing marked amelioration of macular edema 5 months after initial presentation

normalization of erythrocyte sedimentation rate and C-reactive protein.

Rarely, vasculitis caused by *B. henselae* leads to a decrease in vision [1]. One

reported case of retinal vein occlusion due to *B. henselae* was treated with laser photocoagulation and bevacizumab [1]. The present case supports the use of intravitreal

bevacizumab injection for the treatment of macular edema caused by venous occlusion secondary to *B. henselae* neuroretinitis. In young patients with arterial or venous retinal occlusive disease, cat scratch disease should be included in the differential diagnosis.

#### Correspondence

**Dr. A. Rubinov**

Dept. of Ophthalmology, Rambam Health Care Campus, Haifa 31096, Israel

**Phone:** (972-4) 854-2668

**email:** avi@rubinov.com

#### References

1. Kalogeropoulos C, Koumpoulis I, Mentis A, Pappa C, Zafeiropoulos P, Aspiotis M. Bartonella and intraocular inflammation: a series of cases and review of literature. *Clin Ophthalmol* 2011; 5: 817-29.
2. Batsos G, Kabanarou SA, Fotiou P, Rouvas A, Xirou T. Retinal arterial occlusive disease in a young patient with cat scratch disease. *Case Rep Ophthalmol* 2013; 4 (2): 87-92.
3. Curi AL, Machado D, Heringer G, et al. Cat-scratch disease: ocular manifestations and visual outcome. *Int Ophthalmol* 2010; 30 (5): 553-8.