

BACKGROUND

Cats, especially stray kittens, can transmit a bacteria, called *Bartonella henselae* (*B. henselae*), to humans and cause a wide spectrum of diseases. *B. henselae* may be transmitted directly to people by cat scratches, licks, or bites; or even by bites of infected cat fleas. *B. henselae* most commonly causes Cat Scratch Disease (CSD), which manifests classically with painful local lymphadenitis, and a papule at the entry site of the infection along with systemic symptoms. CSD can be complicated by ocular disease in about 5-10% of patients. Prompt diagnosis and initiation of treatment could improve the outcome since this complication might lead to irreversible vision loss. The following cases, observed by our department, illustrate two of the most common ocular complications of *B. henselae* infection.

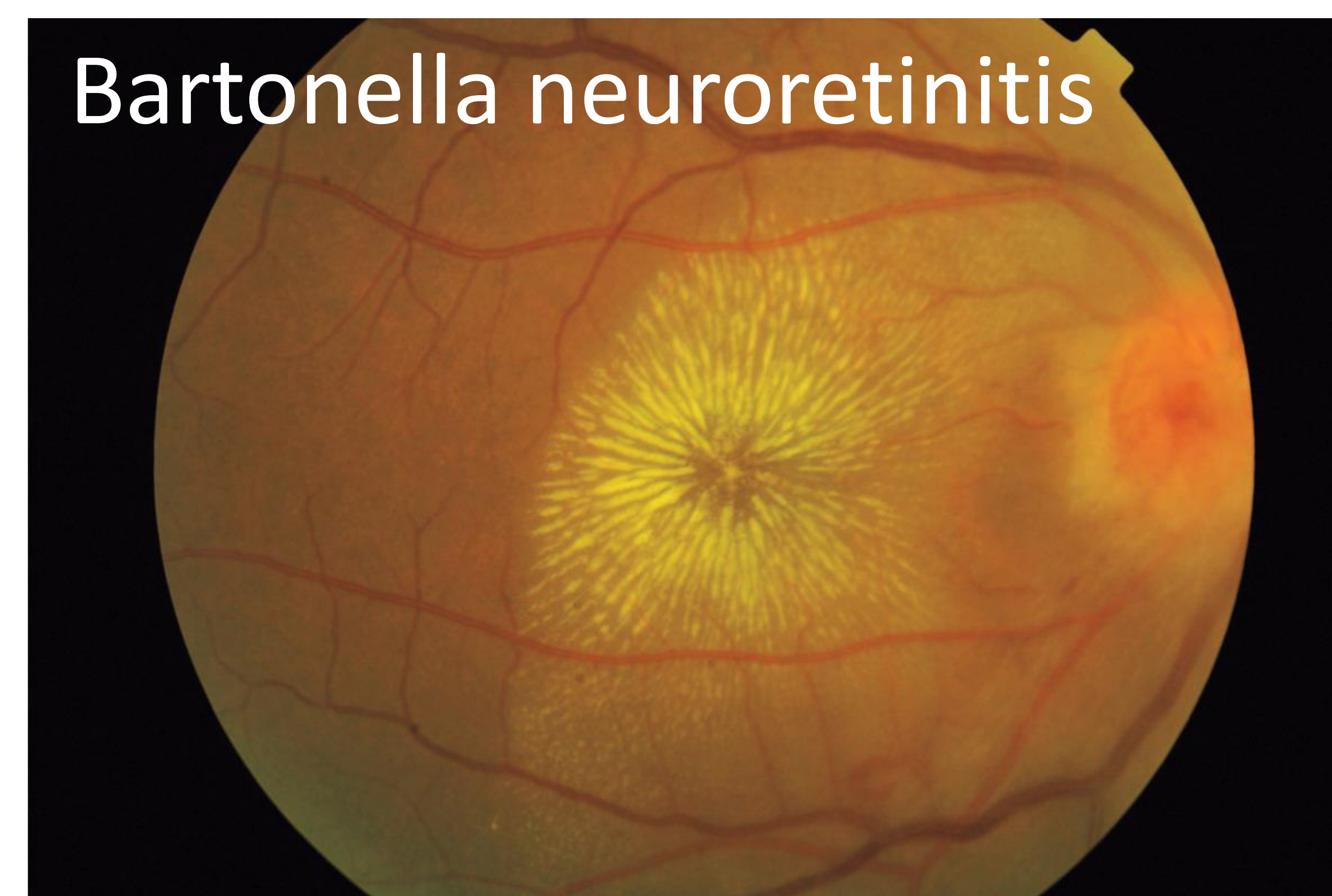
CASE ONE SUMMARY

This is the case of a 58-year-old female without significant medical history. She adopted three stray cats that had fleas and were treated by a veterinarian three weeks before the onset of her symptoms. The patient denied cat scratches or bites. She presented to the Emergency Department with a three-day history of painless central vision loss involving her left eye. She endorsed subjective fever, chills, and mild headaches. The dilated eye exam revealed optic disc edema of the left eye. An extensive workup was performed including blood and cerebrospinal fluid analysis, brain imaging and temporal artery biopsy which were unrevealing. The patient was started empirically on high dose intravenous solumedrol pending workup. Later, *B. henselae* serology resulted positive with high IgG titer 1:2048 (reference range: <1:128) and IgM <1:20 (reference range <1:20) suggesting recent infection. The patient was started on doxycycline, rifampin, and steroid taper for *B. henselae* neuroretinitis.

CASE TWO SUMMARY

This is the case of an 18-year-old male with history of well-controlled asthma. He has been gifted two kittens two months ago. He denied dog bites, however endorsed kitten scratches, bites, and licks. He presented to the Emergency Department for a 1-month history of right facial painful swelling and a skin lesion in his right lower eye lid. He denied systemic symptoms or visual disturbances. He was previously prescribed a course of clindamycin without significant improvement. His vital signs were normal. On the physical exam, there was a firm tender mass with overlying erythema slightly above the right parotid area as well as a right inferior eyelid erythematous non tender solitary papule. Workup revealed leukocytosis, increased inflammatory markers and a computed tomography scan with contrast showing nonspecific hypoattenuation along the superficial body of the right parotid gland with surrounding cellulitis. The patient was started on ampicillin-sulbactam and linezolid for suspected parotid abscess. He underwent surgical incision and debridement and deep tissue cultures sent were negative. Infectious Disease service was consulted and suspected Parinaud's Oculoglandular Syndrome due to *B. henselae* infection. Antibiotic therapy was switched to doxycycline and later *B. henselae* serology resulted positive with IgG titer 1:1024 and IgM <1:20 confirming the suspected diagnosis.

Bartonella neuroretinitis



Oculoglandular syndrome



DISCUSSION

The two most common ocular complications of *B. henselae* infection are neuroretinitis, which represents an optic disc inflammatory immune response secondary to systemic exposure to *B. henselae*; and Parinaud's Oculoglandular Syndrome, consistent with unilateral infection of the conjunctiva and/or eyelids, as well as local lymphadenopathy. These two conditions are often benign and self-limiting in most instances. However, sometimes neuroretinitis might lead to irreversible vision loss. Recent studies have shown that prompt antibiotic therapy with adjunctive steroids therapy could shorten the course of the disease and improve the visual outcome by preventing irreversible vision loss. Physicians should be familiar with these conditions in order to promptly initiate treatment, thereby improving outcomes and avoiding unnecessary time and resource expenditure on workup.

REFERENCES

Baranowski K, Huang B. Cat Scratch Disease. 2023 Jun 12. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. PMID: 29489252.