

to macular hole closure with improvement in visual acuity.

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Sir,
Neuroretinitis secondary to concurrent infection with cat scratch disease and lyme disease

Neuroretinitis is an infectious or inflammatory process of the optic nerve characterized by optic disc oedema and macular star. The aetiology of neuroretinitis is typically infectious, and cat scratch disease (CSD) is the most common identifiable cause.¹ We report a unique case of neuroretinitis due to parallel infection with *Bartonella henselae* and *Borrelia burgdorferi*, the causative agents of CSD and Lyme disease (LD), respectively.

Case report

A 51-year-old woman presented with sudden decreased vision in the right eye with associated pain with eye movements. Several months before vision loss, she had constitutional symptoms of undetermined aetiology. On examination, visual acuity was 20/400 OD and 20/20 OS. A right relative afferent pupillary defect was present. Slit-lamp examination revealed mild cell and flare reactions in the anterior chamber OD. Funduscopic examination revealed posterior vitreous cells, swollen optic nerve, serous macular detachment, and macular star OD; left eye was normal.

Laboratory investigation revealed white blood count of $10.4 \times 10^3/\text{mm}^3$. Syphilis serology was negative.

Serum indirect fluorescent antibody titres were positive for *B. henselae* (IgM and IgG > 1:1024). *B. burgdorferi* western blot was positive for two of three IgM bands (23 and 41 kD) and 2 of 10 IgG bands (41 and 45 kD). Treatment for CSD was initiated with oral azithromycin and rifampin. She continued to have persistent symptoms; 1 week later, cerebrospinal fluid analysis returned positive for Lyme IgM antibodies. She was then additionally started on a 1-month course of intravenous ceftriaxone for treatment of LD. Eight days later, systemic symptoms markedly improved. The disc oedema and macular star resolved over 4 months; vision improved to 20/30 OD.

Comment

Concomitant coinfection with LD and CSD should be considered in patients with neuroretinitis and may be a reason for continued visual and systemic symptoms despite perceived adequate antimicrobial therapy. Also of note is the speculated mode of transmission of both infections. The *Ixodes ricinus* tick infests deer, dogs, and humans, and is a known vector for LD. Recently, however, *Bartonella* species have been isolated in the *I. ricinus* tick with concurrent presence of *B. burgdorferi* species.^{2,3} Identification of coinfecting ticks suggests a possible new transmission mechanism of CSD and LD and should be considered when evaluating a patient with neuroretinitis.

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