I once heard that an astute clinician can make the right diagnosis 90% of the time based only on a thorough case history. Testing myself to find a diagnosis based on presenting symptoms and clinical data alone is one of my favorite parts of clinical care. Understanding that drifting spots in a patient’s vision are more likely to be caused by vitreous floaters or a posterior vitreous detachment than by an infectious process is just playing the odds and a part of being a good doctor. 

With that in mind, however, it is important to remember that infectious retinal diseases, although rare, do exist. They may present with common visual symptoms such as blurred vision or floaters. But infectious retinitis can also be present in a completely asymptomatic patient.

Because there are so many potential causes for infectious retinal disease—bacterial, viral, parasitic, fungal, and tick-borne—prompt recognition of clinical signs and risk factors, along with proper testing, is necessary for successful diagnosis and management.

**SIGNS, SYMPTOMS, AND RISK FACTORS**

Some causes of infectious retinitis are potentially devastating, not only because these diseases can lead to permanent vision loss, but because they are often the clinical manifestation of a systemic illness. For example, cytomegalovirus (CMV) retinitis classically affects immune-compromised individuals with HIV. It is important to remember, though, that infections of the retina can affect immune-competent patients as well, such as in cases of acute retinal necrosis (ARN), cat-scratch disease, and Lyme disease.

A patient with retinitis often presents with complaints of ocular pain (ARN, toxoplasmosis), vision loss, and/or new floating spots in his or her vision. However, some patients remain completely asymptomatic and may show up only for a routine examination or eyeglass prescription update. 

Familiarity with key clinical signs and risk factors is the main driving force behind finding a proper diagnosis (see Key Signs, Symptoms, and Risk Factors of Infectious Retinitis).
GETTING A GRASP ON THE SITUATION

My first instinct in clinic is to always examine every patient. During the examination, there are key signs you want to identify (or rule out) that could aid you and steer your diagnosis toward the cause of the retinitis. For example, nearly all forms of infectious retinal disease present with some form of uveitis.8,9 With any signs of new or worsening uveitis, a dilated examination is required to evaluate the depth of the inflammation.

Retinitis may also present with simple stellate precipitates in the anterior chamber, as in ARN and syphilitic infections, or snowballs in the posterior segment, as in tuberculosis (TB), Lyme, or toxocariasis.10-12 Another classical finding is that of retinal necrosis, which presents with many forms of retinitis, and which can potentially lead to retinal detachment.8,13 Severe vision loss from retinal detachment is common in patients with remarkable necrosis, for example in ARN, progressive outer retinal necrosis (PORN), or CMV retinitis.8,13 Retinal hemorrhaging may also be evident and is typical of CMV retinitis.7,8

Once the level of uveitic involvement has been determined and the presence of retinal necrosis identified, the next challenge is to narrow down the differential diagnosis. This is where a solid case history review becomes important.

LEARNING MORE

I find myself rechecking the patient’s review of symptoms and asking additional questions about his or her health status for other possible clues. For example, I review previous notes for mention of herpetic corneal disease, including the presence of ghost dendrites, history of shingles outbreaks, or other signs of preceding viral infection such as a cold sore.8

Because toxoplasmosis causes the vast majority of infectious retinitis, one should check for lymphadenopathy or a history of fever, malaise, ingesting undercooked or raw food, or a feline presence in the household.8,14 I also ask about other signs of skin involvement such as erythema migrans or neurologic changes for possible Lyme disease.15

Any history of a compromised immune system, as in HIV or use of chemotherapeutic agents, may lead to suspicion of CMV retinitis or PORN.1,6 A history of intravenous drug use or pulmonary disease could lead to suspicion of fungal infection.16 Asking about recent travel to countries in which TB is endemic may be useful if one suspects TB infection.8

Some clinical presentations of retinal infections are essentially clinical. For example, in ocular toxoplasmosis, the presence of a focal necrotizing retinochoroiditis with an adjacent or distant retinochoroidal scar or headlight in the fog is a key sign.17 However, appropriate laboratory studies may be necessary to confirm the diagnosis.

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and rule out other disease entities. Consider ordering a complete blood count with differential, fluorescent treponemal antibody absorption and rapid plasma reagin tests, erythrocyte sedimentation rate, toxoplasmosis titers, toxocara titer, purified protein derivative, and a chest radiograph to rule out other etiologies.8,9 If the patient could be immunocompromised (such as in CMV or PORN), consider HIV testing.9 For suspected Lyme disease, a Lyme immunofluorescent assay or enzyme-linked immunosorbent assay is appropriate.9 Polymerase chain reaction techniques are available for herpes simplex, varicella zoster, and other pathogens.

**HANDLE WITH CARE**

With the wide variety of possible infectious etiologies and masqueraders, knowing the presentations of common culprits is crucial to narrowing down the differentials and initiating treatment in a timely manner. In many instances of infectious retinitis, depending on the entity involved, management may require immediate referral to a retina specialist, and perhaps even comanagement with an infectious disease specialist. Even with prompt diagnosis and appropriate referral, in many cases, infectious retinitis can result in devastating outcomes. In the event of significant vision loss, referral of the patient to low vision services is warranted. ■


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