

Fungal Endophthalmitis

[Announcer] This program is presented by the Centers for Disease Control and Prevention.

Endophthalmitis, or inflammation in the intraocular cavity of the eye, can be caused by many pathogens, including both bacteria and fungi. Bacterial endophthalmitis is most common. Fungal endophthalmitis, while much rarer, often is not diagnosed until a patient fails to improve on anti-bacterial therapy and can result in devastating vision loss.

Welcome to CDC Audio Rounds. I'm Dr. Rachel Smith, with the Centers for Disease Control and Prevention.

There are two types of endophthalmitis. Exogenous fungal endophthalmitis occurs after fungal spores enter the eye from an external source, such as contaminated irrigation solution, injection, intraocular lens implant, or surgical equipment. Most cases occur as a complication of eye surgery or other invasive eye procedures, such as intravitreal injections. Exogenous endophthalmitis, in general, is very rare. Endogenous endophthalmitis is even less common. It occurs when a fungal bloodstream infection spreads to one or both eyes. Most often, fungal endogenous endophthalmitis occurs in patients with candidemia, a *Candida* bloodstream infection.

Fungal endophthalmitis can be very difficult to diagnose. It can resemble a bacterial infection in its initial presentation, with pain, reduced vision, swelling, and redness in the affected eye which may develop days to weeks after exposure. It can also present as an indolent, sub-acute infection with waxing and waning visual acuity and without a large pain component. All clinicians should consider fungal endophthalmitis when diagnosing a persistent or progressive eye infection if the patient has any of the following risk factors:

- Recent eye surgery or other invasive eye procedure
- Recent eye injury
- Diabetes
- Steroid use
- Immunosuppression
- Or a fungal bloodstream infection, such as candidemia.

Diagnosis is made through a culture of vitrectomy cassette fluid, so it's important to order a fungal culture when fungal endophthalmitis is suspected.

Fungal endophthalmitis should be treated by a retinal specialist, as it can lead to permanent vision loss if not treated quickly and correctly. The infection should be treated with antifungal medication administered intravitreally and/or systemically. Consultation with an infectious disease specialist may be necessary for assistance in choosing an appropriate antifungal medication and route. Patients may also need to undergo a vitrectomy, surgery to remove vitreous gel from the interior of eye.

Cases of fungal endophthalmitis should be reported to a local or state public health department for further investigation if they are part of a suspected cluster of cases or related to a contaminated product or instrument.

[Announcer] For the most accurate health information, visit www.cdc.gov or call 1-800-CDC-INFO.