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**SHORT COMMUNICATION**

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**Case report**

# Hyperacute unilateral gonococcal endophthalmitis in an HIV-infected man without genital infection

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**PURPOSE.** *To demonstrate the necessity of obtaining an accurate history from patients presenting abnormal evolution of ophthalmologic diseases.*

**METHODS.** *A 42-year-old patient, denying any previous ocular or systemic morbidity, presented with an unusual severe and hyperacute gonococcal endophthalmitis with corneal abscess but no concurrent genitourinary infection. Only after a further interview did the patient reveal his human immunodeficiency virus status and a previous diagnosis of acquired immunodeficiency syndrome.*

**RESULTS.** *Adequate topical and intravenous antibiotic treatment and surgery led to salvage of the eye.*

**CONCLUSIONS.** *An accurate history should be obtained by patients with an abnormal course of an ophthalmologic disease, focusing on immunologic deficiencies that can cause extremely serious ophthalmologic complications with ensuing risk of visual impairment or ocular loss (bulbar enucleation). (Eur J Ophthalmol 2006; 16: 346-8)*

**KEY WORDS.** *Corneal abscess, Endophthalmitis, HIV*

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*Accepted: October 31, 2005*

## INTRODUCTION

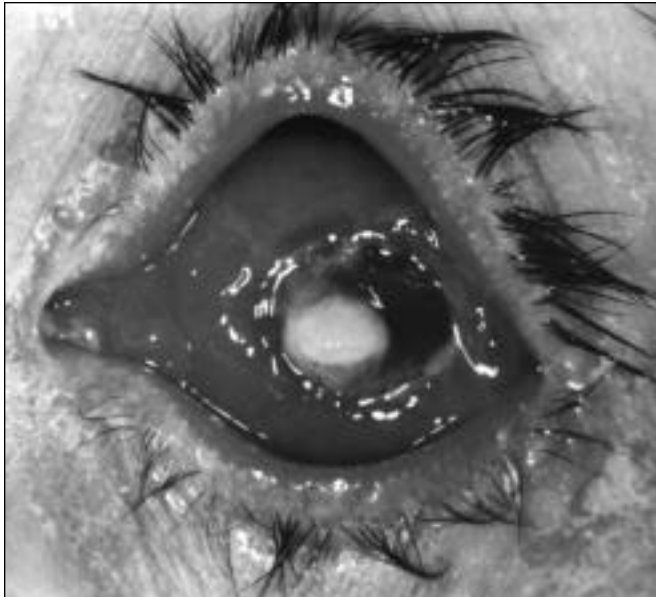
Opportunistic infections are common in patients with acquired immunodeficiency syndrome (AIDS). Ocular involvement of cornea, uveal tract, retina, and optic nerve is described in up to one third of this patient population while orbital infections are rare. Although viral, fungal, and parasitic infections predominate, bacteria can also be involved and lead to significant morbidity and visual loss. The most common bacterial pathogens, which can be responsible for atypical presentations and high rates of recurrence, are *Staphylococcus aureus*, *Haemophilus influenzae*, *Streptococcus pneumoniae*, and *Pseudomonas aeruginosa*. However, in cases of hyperacute conjunctivitis, other bacteria, including *Neisseria gonorrhoeae*, must be considered.

## Case report

A 42-year-old man presented to the accident and emergency department of our hospital with injection of bulbar and palpebral conjunctiva of the left eye and thick mucopurulent discharge. There was no corneal involvement and visual function was normal. An ophthalmologist prescribed topical tetracycline.

Six days later the patient presented again complaining of progressive disease. Examination of the eye revealed a severe suppurative keratoconjunctivitis and a sample was taken for culture.

Topical ofloxacin and tobramycin were unsuccessful and after further two days the patient was admitted to the ophthalmology ward with a diagnosis of corneal abscess (Fig. 1).



**Fig. 1** - Presence of copious purulent exudates, conjunctival edema, and keratitis.

The patient did not reveal his human immunodeficiency virus (HIV) status and denied any previous ocular or systemic morbidity. Staining of the purulent discharge revealed diplococcal Gram-negative rods and *Neisseria gonorrhoeae* grew in culture.

At a further interview the patient revealed that he was HIV infected and was followed in our outpatient HIV clinic. He had been diagnosed with AIDS in February 2003, his most recent CD4 T cell count was 392 cells/mm<sup>3</sup>, and his HIV-RNA blood level was 129 copies/mL. He was treated with highly active antiretroviral therapy.

He was put on intravenous ceftriaxone after microscopy of the Gram stain and was then admitted to our ward, where he received a total of 14 days ceftriaxone treatment followed by oral levofloxacin for a further 2 weeks. Topical treatment with netilmicin, hourly saline irrigations, and steroids were also given.

Urethral and pharyngeal swabs taken before the beginning of antimicrobial treatment were repeatedly negative for sexually transmitted bacteria.

The patient said he had orogenital sexual intercourse with a female partner whose genital secretions' culture grew *Neisseria gonorrhoeae*.

The patient underwent surgery (corneal covering with amniotic membrane) 21 days after the onset of symptoms and fully recovered. He received a course of topical and oral antibiotics to complete 15 days following surgery.

## DISCUSSION

Ocular diseases are quite common in HIV-infected subjects and include bacterial, viral, fungal, and parasitic infections with a frequency of up to 30% (1). These can affect different sites of the eye, such as adnexa, anterior or posterior segments, orbit, and neurologic district (2).

More than 50% of HIV-infected patients have anterior segment complications, dry eyes (keratoconjunctivitis sicca), corneal infection (keratitis), and anterior chamber inflammation (iridocyclitis) being the most severe visual complications.

Although keratitis occurs in fewer than 5% of HIV-infected patients, it may result in permanent loss of vision; indeed, fungal and bacterial corneal infections do not appear to be more common in this population, but tend to be more severe (3).

As numerous causative organisms have been reported, Gram staining and cultures should always be performed to guide therapy. It must be remembered that the most common infectious organisms causing hyperacute conjunctivitis are *Neisseria gonorrhoeae* and *Corynebacterium diphtheroides*, which are able to penetrate even an intact cornea in less than 24 hours especially in high-risk populations (neonates, sexually active adolescents, and young adults) (4).

Adult gonococcal ocular manifestations are currently coded in many countries as gonococcal complications in patients with concomitant genital gonococcal infection, and the real incidence is therefore unknown.

Although cases of ocular infection in adults without genitourinary involvement have been reported in the literature, supporting the notion of possible nonsexually acquired gonococcal ophthalmia (5, 6), the incidence of such manifestations is low. Mikru et al described an outbreak in Ethiopia in 1987–1988 among children washing themselves with urine-contaminated water (7), and Harry and Black recently reported one case of unilateral gonococcal ophthalmia without concomitant genital infection (6).

An accurate history should be obtained for patients with an abnormal course of an ophthalmologic disease, focusing on immunologic deficiency, habits, origin, and particular sexual behaviors, as ophthalmologic complications are extremely serious with ensuing risk of visual impairment or ocular loss (bulbar enucleation). In our case, surgical covering of cornea with amniotic membrane was successful in spite of the risks in performing surgery during

an acute infection. The amniotic membrane transplantation was effective in promoting epithelial healing and reducing inflammation and scarring.

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## CONCLUSIONS

When hyperacute conjunctivitis is diagnosed, the causal role of bacteria such as *Neisseria gonorrhoeae* should be suspected even in cases without concurrent genital infection.

*The authors do not have any commercial or proprietary interest in the products cited.*

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