



Hyperacute Gonococcal Conjunctivitis

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Abstract

A 29-year-old woman presented to the emergency department with purulent drainage of the left eye, periorbital edema and erythema, conjunctival hyperemia, chemosis, and pain with extraocular movements. Gonococcal conjunctivitis was diagnosed. The patient was successfully treated with a course of ceftriaxone and doxycycline.

A 29-year-old woman with prior strabismus surgery presented to the emergency department with sudden photophobia, blurry vision, left eye pain, and eye discharge. She did not wear contact lenses and had no recent eye trauma or foreign body exposure. She denied recent sexual contacts and genitourinary symptoms but reported attending a music festival where sexual activity occurred. Ocular examination was notable for purulent drainage of the left eye, left upper eyelid edema, periorbital erythema, conjunctival hyperemia (**Figure 1**), pain with any eye movement, and chemosis (**arrow**). Left visual acuity was 20/30. No hypopyon or corneal defects were present (as may be seen with herpes simplex virus infection). Slit lamp exam was notable for 2+ cells in the anterior chamber without vitritis or significant flare to suggest uveitis. Dilated fundoscopy was normal. Forty-eight hours later, conjunctival cultures grew cephalosporin-sensitive *Neisseria gonorrhoeae*, and a diagnosis of hyperacute gonococcal conjunctivitis was made.

Gonococcal conjunctivitis is classically considered a neonatal disease, spread through the urogenital tract of infected mothers.¹ From 2015 to 2019, there was a 53% increase in reported gonococcal infections in the United States,² including an increase in adult gonococcal conjunctivitis.³ While *N. gonorrhoeae* is usually transferred from genitalia to the eye via the hands, it can also be transmitted through fomites or oral sex (if infected genitourinary fluid reaches the eye).⁴ The average incubation period of gonococcal conjunctivitis is 6 days, and symptoms can appear any time from 3 to 19 days after exposure.^{1,4} The most common symptoms of gonococcal conjunctivitis are conjunctival erythema with heavy mucopurulent discharge, eyelid edema (which may mimic pre-septal cellulitis), and preauricular lymphadenopathy.⁵ Sudden mu-

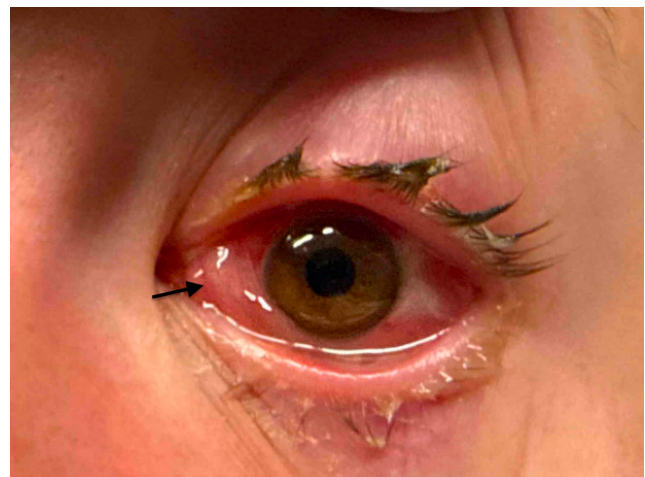


Figure 1. Left eye with purulence (as seen on the lashes), periorbital erythema, conjunctival hyperemia, and chemosis (arrow). There is no hypopyon.

copurulent discharge distinguishes gonococcal conjunctivitis from pre-septal cellulitis.

Diagnosis is confirmed by bacterial culture or polymerase chain reaction (PCR) of discharge from the eye.⁵ In one study, the sensitivities of culture and PCR were 80% and 90%, respectively; however, false-negative culture results occurred when there was a delay in laboratory delivery, suggesting that culture sensitivity may be greater than reported.³ Prompt diagnosis is critical, as untreated gonococcal conjunctivitis may lead to corneal melting, corneal perforation, and blindness, requiring corneal transplantation.⁶ Empiric antibiotic treatment in cases highly suspicious of gonococcal conjunctivitis is warranted before culture results to mitigate the risks of permanent ocular damage.

The recommended treatment for gonococcal conjunctivitis is a single 1-gram dose of intramuscular ceftriaxone.⁷ In patients allergic to penicillin, gentamicin plus azithromycin or ciprofloxacin monotherapy can be used if the strains are susceptible. Cephalosporin resistance in *N. gonorrhoeae* in the United States is rare, and treatment failure appears to be primarily reported in cases of pharyngitis. Tests-of-cure are not recommended for gonococcal conjunctivitis.⁸ Given that chlamydial infection commonly accompanies gonorrheal infection, ceftriaxone therapy should be accompanied by empiric anti-chlamydial therapy.⁷ Our patient was treated with a course of ceftriaxone and doxycycline, with improvement in the pain, discharge, and erythema of her eye. This case affirms that even with a questionable sexual history and a lack of genitourinary symptoms, gonococcal conjunctivi-

tis should be considered in young adults presenting with sudden purulent ocular symptoms.

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Disclosures/Conflicts of Interest

The authors have no conflicts of interest to disclose.

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