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## CORRESPONDENCE

# Preseptal cellulitis caused by *Neisseria gonorrhoeae*: A rare disease need to be vigilant



### KEYWORDS

Preseptal;  
Cellulitis;  
*Neisseria gonorrhoeae*

Dear Editor,

We describe a case of preseptal cellulitis caused by *Neisseria gonorrhoeae* in an immunocompetent patient, and review the literature on this rare clinical condition. If empirical antibiotic treatment is given without considering this rare pathogen, this may overlook this pathogen.

A 22-year-old homosexual man presented with a painful left eye with periorbital swelling and purulent discharge for 2 days. There was no recent history of sinusitis, trauma, or previous infection involving the periorbital area. His temperature was 38.5°C, his left eyelid was tender and swollen, and he reported mild gaze restriction in all directions because of pain. There was also marked conjunctival injection, chemosis, and purulent discharge, but a preserved corneal area. Both eyes had normal visual acuity, pupil response, and intraocular pressures. He was diagnosed with preseptal cellulitis of the left eye and was admitted for empirical treatment with intravenous oxacillin 2 g every 4 hours. Computed tomography indicated soft tissue swelling of the left periorbital region, consistent with preseptal cellulitis (Figure 1).

Cultures of an eye swab indicated growth of *N. gonorrhoeae* at 3 days. Antibiotic susceptibility testing with the disk diffusion method according to the Clinical and Laboratory Standards Institute guidelines<sup>1</sup> indicated resistance to penicillin but sensitivity to ceftriaxone and ciprofloxacin. The antibiotic regimen was changed to ceftriaxone 1 g/d,

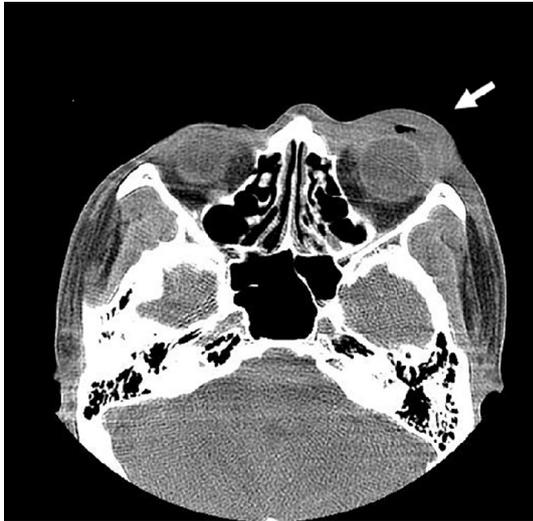
with oral clarithromycin 500 mg/d for empirical treatment of possible *Chlamydia* coinfection. Review of the patient's history indicated unprotected sexual behavior about 2 weeks before admission, although there were no symptoms of genital gonorrhoeae. Blood tests for syphilis and human immunodeficiency virus, and urine tests for *N. gonorrhoeae* and *Chlamydia trachomatis* were negative. The patient was discharged after 7 days of treatment, at which time his fever and eyelid swelling had subsided. At 1 week after discharge, there was complete resolution of the conjunctivitis and eyelid swelling.

Recent sinusitis, otitis, upper respiratory tract infection, or ocular and eyelid trauma may precipitate preseptal or postseptal cellulitis. *Staphylococcus* spp. are the most common causative pathogens.<sup>2</sup> Only three previous adult cases of orbital cellulitis by *N. gonorrhoeae* were reported, two of which were preseptal.<sup>3–5</sup> Such cases may be from direct contact of contaminated fingers with the eye. These bacteria then adhere to epithelial cells of the conjunctiva, and invade through the orbital eyelid, resulting in orbital cellulitis.<sup>4</sup> Previous cases of orbital cellulitis by *N. gonorrhoeae* and our case all had concomitant purulent conjunctivitis with no recent history of sinusitis or ocular trauma; orbital cellulitis by other common pathogens had lower rates of conjunctivitis and most cases had predisposing factors.<sup>2</sup> There were histories of recent unprotected sexual contact in two of the three previous cases and in our case, providing strong epidemiologic clues for *N. gonorrhoeae* infection. These epidemiologic and clinical data may help clinicians detect this rare pathogen causing orbital cellulitis.

In conclusion, when orbital cellulitis and purulent conjunctivitis occur together in sexually active patients who lack common risk factors, clinicians should consider infection by *N. gonorrhoeae*. If *N. gonorrhoeae* infection is confirmed, additional investigation and treatment of other possible sexually transmitted diseases is warranted.

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**Figure 1.** Axial computed tomography of the orbits, showing soft tissue involvement and apparent proptosis due to lid edema in the left eye (arrow).

### Conflicts of interest

None.

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