

Gonococcal orbital cellulitis

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DESCRIPTION

A 17-year-old healthy boy presented to the emergency room with conjunctival hyperemia, purulent discharge and periorbital swelling of the right eye, lasting for 4 days, without improvement with topical chloramphenicol. On the day of admission, he started ocular pain and photophobia. There was no history of eyelid trauma, sinusitis or fever.

On examination, he presented periorbital swelling, proptosis, chemosis, purulent discharge, hyperemia and conjunctival petechiae of the right eye (figure 1). Ocular movements were maintained,



Figure 1 Periorbital swelling, proptosis, purulent discharge, hyperemia of the right eye.

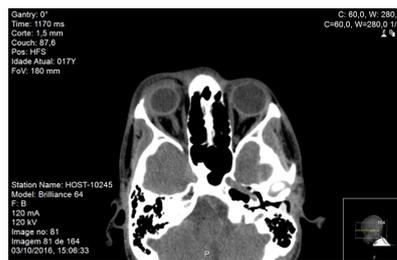


Figure 2 Orbital CT scan showing protrusion of the right orbit.

but painful. He also had purulent urethral discharge, lasting for 3 weeks.

The blood work showed a slight increase on C-reactive protein (3.99 mg/dL—ULN 0.5 mg/dL). The CT scan of the orbits revealed postseptal extension of the inflammatory process affecting extra and intraconical fat (figure 2). A diagnosis of right orbital cellulitis (OC) was made. Assuming gonococcal aetiology for both urethritis and OC, he started on intravenous (IV) ceftriaxone and topical levofloxacin and was given a single dose of oral azithromycin, for potential chlamydia coinfection. The culture from both conjunctival and urethral swabs identified a non-penicillinase-producing strain of *Neisseria gonorrhoeae*, susceptible to the therapy in course. Polymerase chain reaction for *Chlamydia trachomatis* in the urethral discharge was also positive. Blood cultures were sterile. He was discharged after 8 days of IV and topical therapy, with regression of ocular inflammatory signs and urethral exudate. Follow-up showed no sequels. HIV and syphilis serologies were negative. He denied unprotected sex, but the sexual partner was notified and treated.

OC is a common finding in paediatrics, usually resulting from sinus or dental infections, trauma or conjunctivitis. The most frequent pathogens in bacterial orbital cellulitis are gram-positive cocci, such as *Staphylococcus aureus* and *Streptococcus influenzae*.¹ Here we present the case of an healthy adolescent with gonococcal OC, which is a rare manifestation in the paediatric age especially outside the neonatal period and in immunocompetent children, with very few cases reported (table 1).²

Table 1 Reported cases of preseptal and postseptal gonococcal cellulitis, with only one postseptal case in paediatric age

Author	Age (years)	Clinical manifestation	Treatment options	Outcome
Pereira-Ospina <i>et al</i> ⁴	2	Periorbital swelling and purulent discharge from the right eye.	Ceftriaxone 100 mg/kg/day intravenous for 10 days; Ampicillin-sulbactam 50 mg/kg/day (after discharge).	Complete resolution
Yao and Wang ⁵	22	Painful left eye with periorbital swelling and purulent discharge; fever	Ceftriaxone 1 g/day intravenous with oral clarithromycin 500 mg/day (empirical treatment of possible <i>Chlamydia</i> coinfection), for 7 days.	Complete resolution
Annan and Boag ³	39	Purulent discharge from the left eye, conjunctival injection and periorbital oedema.	Ceftriaxone 1 g/day intramuscular, for 10 days; Oral doxycycline (empirical treatment of possible <i>Chlamydia</i> coinfection) for 1 week.	Residual corneal scarring
Hegde <i>et al</i> ⁶	19	Red and painful left eye with purulent discharge.	Ceftriaxone 2000mg/day intravenous for 10 days.	Increase in corneal thickness
Raja and Singh ¹	42	Periorbital swelling, purulent discharge, orbital pain, tenderness and erythema of both eyes.	Cefuroxime and gentamicin for 48 hours Oral cefuroxime for 1 week and topical cefuroxime and gentamicin	Complete resolution
Henderson <i>et al</i> ⁷	31	Periorbital erythema, swelling, conjunctival injection, chemosis and purulent discharge of the right eye.	Flucloxacillin, ampicillin and intravenous metronidazole 5 day followed by oral therapy for 7 days	Complete resolution
Frazier <i>et al</i> ²	15	Right periorbital oedema, purulent discharge, orbital pain and tenderness, fever.	Penicillin G potassium intravenous, 7 days	Complete resolution



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The OC was probably due to self-inoculation from gonococcal urethritis. *N. gonorrhoeae* is an uncommon cause of OC in the paediatric age. Nevertheless, we should consider this aetiology, especially in sexually active adolescents, since it may be associated with severe manifestations, such as ulceration and perforation of the cornea.³ It is essential to suspect and treat the disease early, and also to ensure follow-up of these adolescents and to reinforce safe behaviours.

Learning points

- ▶ Gonococcal orbital cellulitis is rare in paediatric age, but should be suspected in sexually active adolescents when associated with urethritis.
- ▶ Prompt diagnosis and treatment are important to prevent complications, such as ulceration and perforation of the cornea

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