Primary Meningococcal Conjunctivitis in a Human Immunodeficiency Virus–Infected Adult

*Neisseria meningitidis* is an uncommon cause of conjunctivitis. Exogenous or primary meningococcal conjunctivitis is rare and is reported most frequently in neonates and children [1]. It has been estimated that 95% of cases occur in patients <25 years old. Meningococcal systemic disease with primary conjunctivitis as the portal of entry is reported in 18% of cases [2]. We describe an HIV-infected adult with acute meningococcal conjunctivitis without systemic dissemination.

A 28-year-old man, who abused intravenous and inhaled drugs, and who had been HIV-positive since 1987, was admitted to the hospital with a 2-day history of bilateral mucopurulent conjunctivitis. Four days before admission he complained of flu-like symptoms. Physical examination revealed a febrile (temperature, to 38°C), drowsy individual who was responsive and fully oriented; bilateral purulent conjunctival exudates, hyperemia, chemosis, eyelid edema with photophobia, and a mucopurulent nasal discharge were noted (figure 1). The remainder of the physical examination findings were unremarkable. An ultraviolet examination of the fluorescein-stained cornea showed corneal punctate epithelial erosions with subjacent edema.

Blood was drawn for cultures, and conjunctival exudate specimens from both eyes were obtained at the time of admission. A lumbar puncture was performed and evaluation of the clear CSF specimen revealed the following values: WBCs, 2/mm³; RBCs, 400/mm³; protein, 21 mg/dL; and glucose, 55 mg/dL (concurrent serum glucose, 80 mg/dL). Gram-staining of the CSF specimen was negative, but microscopic evaluation of smears of purulent conjunctival exudate revealed polymorphonuclear leukocytes as well as intracellular and extracellular gram-negative diplococci. Therapy with intravenous ceftriaxone was administered, and this was followed by significant improvement of the patient’s condition. Therapy was maintained for 7 days, and the patient was discharged from the hospital after an uneventful recovery. No related foci of infection have been clearly identified. Chemoprophylaxis was arranged for the patient’s household contacts.

Cultures of blood and CSF were sterile. Conjunctival swab cultures yielded mucous colonies identified by a reference laboratory as *N. meningitidis* serogroup C (serotype 2a). This strain was fully susceptible to penicillin, ceftriaxone, and rifampin.

*N. meningitidis* is an uncommon cause of acute conjunctivitis. Most cases of meningococcal conjunctivitis occur as part of an endogenous systemic infection due to *N. meningitidis* and mainly affect teenagers as well as children from 6 months to 4 years of age [3]. Systemic meningococcal disease caused by primary meningococcal conjunctivitis develops in 10% to 18% of patients [2, 4].

In their review, Barquet et al. [2] include several adult cases of meningococcal conjunctivitis. The majority of these cases were reported before 1980, and patient age was either not specified or was <25 years. There were only two cases of invasive infection, and septicemia and meningitis occurred in both. Holdsworth et al. [5] reported a case of acute and severe meningococcal conjunctivitis that occurred after spitting of saliva in the face of a previously healthy adult.

Kaye et al. [6] reported a case of meningococcal conjunctivitis in an 8-year-old girl whose father was a nasopharyngeal carrier of a separate strain. In this case, we could not screen previous contacts of the patient because they had not been in contact with the patient for several years.

As is true for neonates, HIV-infected adults are vulnerable to these less pathogenic strains of *N. meningitidis*. Swabs of exudate from cases of purulent conjunctivitis should be evaluated immediately, and if gram-negative diplococci are demonstrated parenteral antibiotic therapy is advisable in view of the invasive potential. Although, the patient we described recovered after the third day of ceftriaxone therapy without systemic involvement. In certain areas, such as Spain, where meningococci that are partially resistant to penicillin have been isolated since 1986, therapy with a third-generation cephalosporin may be administered as initial empiric therapy until results of definitive antibiotic susceptibility testing are available [2]. To our knowledge according to a MEDLINE search (1966–1997), we
have reported the first case of primary meningococcal conjunctivitis in an HIV-infected patient.

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References


