


Case Report

Bilateral Gonococcal Conjunctivitis in An Adult: A Case Report

Sunday Nnamdi OKONKWO^{1*}, Elizabeth Dennis NKANGA²

^{1,2}Department of Ophthalmology, University of Calabar and University of Calabar Teaching Hospital, Calabar, Cross River State Nigeria

*Corresponding author email: okosund@yahoo.com

	International Archives of Integrated Medicine, Vol. 9, Issue 4, April, 2022. Available online at http://iaimjournal.com/ ISSN: 2394-0026 (P) ISSN: 2394-0034 (O)
	Received on: 28-3-2022 Accepted on: 09-4-2022 Source of support: Nil Conflict of interest: None declared. Article is under creative common license CC-BY
How to cite this article: Sunday Nnamdi OKONKWO, Elizabeth Dennis NKANGA. Bilateral Gonococcal Conjunctivitis in An Adult: A Case Report. IAIM, 2022; 9(4): 13-16.	

Abstract

Gonococcal conjunctivitis is a condition characterized by copious mucopurulent discharge associated with chemosis and eyelid edema. It could potentially lead to blindness due to the ability of *Neisseria gonorrhoeae*, the causative organism of this condition to cause cornea injury. Herein, we present an unusual case of bilateral gonococcal conjunctivitis in a sexually active adult that developed following the use of his own urine to treat symptom of red eye. The need for health education on safe eye care practices that include avoidance of the use of urine (a potential source of gonococcal infection) as traditional eye medicine is hereby emphasized.

Key words

Neisseria gonorrhoeae, Gonococcal conjunctivitis, Adult.

Introduction

Gonococcal conjunctivitis (GC) is caused by the organism called *Neisseria gonorrhoeae*, a gram negative diplococcus [1]. It usually presents with copious mucopurulent discharge with associated chemosis, eyelid edema, tenderness and frequently preauricular lymphadenopathy [2, 3]. Ophthalmic manifestations of GC can progress rapidly with potential to cause devastating ocular complications due to the

ability of *Neisseria gonorrhoeae* to penetrate intact cornea [1].

In this report we present an unusual case of bilateral gonococcal conjunctivitis in a sexually active Nigerian male that developed following the use of his own urine to treat his symptom of red eye.

Case report

A 25 year old painter presented to our hospital with 3 weeks history of persistent purulent discharge from both eyes. The purulent discharge was preceded by 10 days history of redness of his eyes that initially started with the right eye and later involved the left eye after a few days. There was positive history of contact with someone who had red eyes prior to his development of red eyes. For the treatment of the red eye, he applied salt water twice daily into his eyes which he claimed provided mild improvement in his symptoms. However he needed something that will provide faster and complete relief of his symptoms. He thereafter applied his own urine to help clear his eyes of redness. Following application of urine to his eyes he noticed by the following day that his condition has become worse with associated copious purulent discharge from his eyes. He further applied a herbal concoction and a locally produced dry gin for two days and subsequently penicillin eye ointment bought over the counter from a local drug seller which he applied 3 times daily for a week without improvement. He presented to our hospital at the instance of the advice by a concerned friend of his. He gave a history of painful urination and purulent urethral discharge days before applying urine to his eyes that started

after an unprotected sex with a new sexual partner.

Following clinical examination he was found to have copious mucopurulent discharge from both eyes with associated eyelid edema, conjunctival hyperemia and chemosis. His unaided visual acuity was 6/24 and 6/18 on the right and left eye respectively. There was mild haziness and edema of both cornea (**Figure - 1**). He was admitted to hospital to receive in-patient care and eye swabs were taken and sent for microscopy (gram stain), culture and sensitivity. After this, he was commenced on ceftriaxone given 1g intravenously daily for 3 days empirically. He was also simultaneously placed on capsules doxycycline 100mg twice daily for 7 days to prevent cornea complications [1]. Saline lavage was done twice daily for 3 days, and topical ciprofloxacin 0.3% instituted 2 hourly in both eyes. By the 4th day of hospital admission his condition had improved remarkably. The purulent discharge has stopped. Eyelid edema, conjunctival hyperemia and chemosis regressed significantly and he was subsequently discharged home on topical ciprofloxacin. At four weeks follow up his eye symptoms and signs were completely resolved and his visual acuity was normal in both eyes.

Figure - 1: Patient at presentation showing copious mucopurulent discharge, eyelid edema and chemosis.



Gram stain of eye swab showed pus cells and gram negative diplococci. Microbial culture revealed growth of *Neisseria gonorrhoeae* highly

sensitive to ceftriaxone and ofloxacin, moderately sensitive to ciprofloxacin, gentamycin and Augmentin but resistant to

Amoxil, sparfloxacin, perflacin, streptomycin and Septrin.

Discussion

Gonococcal ocular infection can be divided into two distinct forms, one affecting neonates (referred to as gonococcal ophthalmia neonatorum) and the other affecting sexually active adults [4]. Gonococcal ophthalmia neonatorum is often acquired from an infected mother during delivery, and occurs in 30% to 50% of neonates exposed perinatally. In adults, infections result from autoinoculation (as seen in this case) or inoculation of infected genital secretions from a sexual partner [1]. In our case it is direct auto inoculation of urine into the eyes in an effort to treat reddish eyes. Use of urine as a traditional eye medication is not uncommon in our environment. Gonococcal conjunctivitis is often associated with sexually transmitted infections as seen in this case but can also present without evidence of concomitant genital infection [3].

Although not all cases of GC present with typical clinical features, a high index of clinical suspicion of it should be entertained whenever a patient (especially a sexually active adult) presents with hyperacute conjunctivitis, significant chemosis and purulent ocular discharge [1]. Appropriate clinical evaluation such as sexual history, proper investigation including gram stain, culture and sensitivity of eye swab are crucial in the diagnosis of gonococcal conjunctivitis. Prompt initiation of treatment is required as untreated gonococcal conjunctivitis could potentially lead to keratitis, corneal ulceration and perforation, endophthalmitis, uveitis, panophthalmitis and ultimately preventable blindness [3, 5].

The mainstay of treatment for GC is the use of parenteral antibiotic and the commonly recommended choice is ceftriaxone with or without azithromycin . Dual therapy is intended to potentially reduce the emergence and spread of *Neisseria gonorrhoeae* resistance to

cephalosporins [1]. Recommended treatment duration varies from 1 to 5 days [1]. However, reports of treatment duration of more than 5 days based on clinical response to therapy and severity of GC is available in literature [3]. There is no recommended guideline or advice provided regarding altering treatment duration based on severity of eye involvement. Frequently ocular saline lavage and broad-spectrum topical antibiotics have been recommended as ancillary therapy in the treatment of gonococcal ophthalmia, but these are not essential for successful treatment of *Neisseria gonorrhoeae* conjunctivitis in adults [4].

From the history of contact with someone who had red eyes and the initial involvement of one eye followed by the fellow eye days later given by our patient, it is probable that he had epidemic viral conjunctivitis. Epidemic viral conjunctivitis is a self limiting condition that would likely have resolved on its own. Our patient admitted to already getting better by the 10th day of having red eyes. His use of urine was intended to hasten his recovery. Unfortunately it worsened it. Use of urine therapy and other traditional eye medications (such as herbal concoctions, breast milk, salt water etc.) is not uncommon practice in our environment. While some of these traditional eye medicines may not be more effective than placebo, the application of some others could actually be harmful to the eye [6]. Reports from Nigeria and other parts of Africa have documented the deleterious effects of traditional eye medicines [7, 8]. The adverse effects include worsening of the original illness and predisposition to infections as seen in our patient. In some cases these adverse effects can lead to irreversible loss of vision and total destruction of the eye [6]. Health education programs with emphasis on safe eye care practices need to be intensified in our environment so as to minimize potential ophthalmic disease resulting from the use of traditional eye medicines.

Conclusion

Neisseria gonorrhoeae which causes gonococcal conjunctivitis could potentially cause blindness because of its ability to penetrate intact cornea and possibly cause keratitis, corneal ulceration and perforation, endophthalmitis and panophthalmitis. Prompt diagnosis and treatment are crucial to mitigating these potential complications. Health education on safe eye care practices that include avoidance of the use of urine (a potential source of gonococcal infection) as traditional eye medicine should be intensified.

References

1. Belga S, Gratrix J, Smycek P, Bertholet L, Read R, et al. Gonococcal conjunctivitis in adults: case report and retrospective review of cases in Alberta, Canada, 2000 – 2016. *Sexually Transmitted Diseases*, 2019; 46(1): 47 – 51.
2. McAnena L, Knowles SJ, Curry A, et al. Prevalence of gonococcal conjunctivitis in adults and neonates. *Eye*, 2015; 29: 875–880.
3. Wang M, Wang L, Li L. Gonococcal conjunctivitis after incomplete treatment of gonococcal urethritis. *Infections and Drug resistance*, 2019; 12: 1381 – 1384.
4. Lee JS, Choi HY, Lee JE, et al. Gonococcal keratoconjunctivitis in adults. *Eye* 2002; 16:646–649.
5. Anuar N, Idris NS. Gonococcal conjunctivitis: A case report. *Malays Fam Physician*, 2018; 13(3): 27 – 28.
6. Nwosu S, Obidiozor JU. Incidence and risk factors for traditional eye medicine use among patients at a tertiary eye hospital in Nigeria. *Nig J Clin Pract.*, 2011; 14: 405 – 407.
7. Osahon AI. Consequences of traditional eye medications in UBTH Benin-City, Nigeria. *Niger Postgrad Med.*, 2005; 3: 51 – 54.
8. Courtright P, Lewellan S, Kanjaloti S. Traditional eye medicine use among patients with corneal disease in rural Malawi. *Br J Ophthalmol.*, 1994; 78: 810 – 812.