

Case report:

Unilateral granulomatous conjunctivitis in a pregnant retroviral positive woman on HAART

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Abstract

Ocular sporotrichosis is a relatively rare infection. We report a case of right ocular sporotrichosis in a 35 year-old pregnant woman at 30-week period of gestation with underlying retroviral disease on highly active antiretroviral therapy (HAART). She presented with one month history of unilateral eye redness and itchiness. Her symptoms persisted despite treatment for conjunctivitis. She was subsequently referred to ophthalmology clinic and a diagnosis of ocular sporotrichosis was made based on the culture of excised conjunctival tissues. Her symptoms improved after she was treated with fluconazole eye drops and intralesional amphotericin B. This case highlights the importance of early referral to ophthalmology in the case of unilateral eye redness in a high risk patient with history of exposure to infected cat prior to presentation.

Keyword: sporotrichosis; eye redness; HIV; conjunctivitis; pregnant

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Introduction

Sporotrichosis is a chronic subcutaneous mycotic infection caused by the *Sporothrix schenckii*. It is commonly found in soil, hay or some animals particularly cats and is commonly transmitted to human following traumatic inoculation. Caretakers and owners of cat are at risk of acquiring sporotrichosis.¹ Sporotrichosis can transmit through direct inoculation, inhalation or self-inoculation. Ocular sporotrichosis is relatively rare but the incidence is increasing especially among patients who have close contact with cats. It may occur in both immunocompetent and immunodeficient patient. History of exposure to sick cat is highly suggestive of sporotrichosis, thus, a thorough and proper history taking is vital to make an accurate diagnosis. Early recognition of the disease among primary care doctors will lead to prompt referral to ophthalmologist. Primary care doctors should always

be alert to avoid misdiagnosis and mismanagement of the disease and to prevent delay in treatment and further complications such as fibrosis.² We demonstrated a case of ocular sporotrichosis in a retroviral disease positive pregnant lady on HAART.

Case report

Madam T, a 35-year-old pregnant lady at 30-week period of gestation, with underlying history of retroviral disease currently on antiretroviral therapy, presented to our clinic with history of right eye redness and itchiness for one month duration. There was mild yellowish eye discharge. She denied blurring of vision, eye swelling, floaters or flash of light. She did not have any history of trauma or foreign body insertion in the eye prior to these eye symptoms.

For her retroviral disease, she was diagnosed with retroviral disease more than 12 years ago. She was under infectious disease clinic follow up and

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compliant to one tablet fixed dose combination of abacavir and lamivudine as well as one tablet fixed dose combination of emtricitabine and tenofovir disoproxil fumarate. Her latest CD4 count at 34 week period of gestation was 221 cells/mm³ and her latest viral load was not detected. On further questioning, there was history of close contact with a sick cat, in which her pet cat had died despite treatment from veterinarian. In hindsight, she remembered that her cat died after some complications of skin infection with sporotrichosis.

Prior to visit at our clinic, she had twice visited primary care doctors with similar presentation and was treated as bacterial conjunctivitis. She was treated with chloramphenicol eye drops and ointment, however her symptoms persisted. During those two previous visits, nobody asked her about contact with cats and she did not think that exposure to diseased cat might be important.

On examination, her visual acuity was 6/6 bilaterally. Her right eye conjunctiva was injected with whitish localised granulomatous materials noted over the lower palpebral conjunctiva of her right eye (Figure 1). There was no eye discharge. The cornea was clear and no opacity was noted. Both pupils were equal in size and reactive to light. There was no evidence of cutaneous lesions suggestive of sporotrichosis.

A suspicion of possible sporotrichosis was considered despite of lack of clinical evidence considering her risk and exposure. She was then promptly referred to ophthalmology clinic for further assessment. Excision biopsy of the granulomatous lesions over right inferior palpebral conjunctiva was taken and sent for fungal culture and histopathology examination.

The impression was ocular sporotrichosis and she was treated with fluconazole eye drop 2-hourly. The fungal culture proved the presence of *sporothrix schenckii* while histopathology finding revealed chronic granulomatous inflammation which correlated with the disease. In view of her pregnancy status, she was treated with intralesional amphotericin B 5mg single dose and fluconazole eye drop 4hourly. Her symptoms improved gradually since then and she was follow-up at ophthalmology clinic until recovery. She delivered a healthy baby boy without any other complications.

Discussion

Sporotrichosis is more prevalent in tropical and subtropical country compared to other regions. Sporotrichosis can present as cutaneous and



Figure 1: Granulomatous lesion on lower palpebral conjunctiva of right eye

extracutaneous manifestation such as mucous membrane and systemic. It occurred due to direct inoculation of the agent to skin or mucous membrane. Ocular mucous membranes are more commonly affected than any other mucous membrane. It can cause conjunctivitis, episcleritis, uveitis and other eye lesions.⁴ In the case of primary conjunctiva sporotrichosis, palpebral conjunctiva is more commonly affected than bulbar conjunctiva.⁵ Immunocompromised patients such as patients with AIDS, underlying malignancy, diabetes mellitus, patients on immunosuppressive medication are at higher risk for bloodstream dissemination of sporotrichosis.⁴ Incidence of sporotrichosis among HIV-infected patients has been increasingly reported.³ As compared to mucosal involvement, lymphocutaneous form of sporotrichosis is more common in HIV-positive patient without AIDS.⁶

Diagnosis of sporotrichosis is based on evidence of culture of *S. schenckii* in artificial media. Histopathology findings usually is the same as other granulomatous diseases which may be suggestive of deep fungal infections, cutaneous tuberculosis, sarcoidosis, and foreign body granulomas.⁷ Most of the affected patients will require antifungal treatment with itraconazole. However, oral azoles are contraindicated in pregnancy due to its teratogenic effects⁸ and amphotericin B is the drug of choice for the treatment during pregnancy and in immunosuppressed patients until recovery.⁷ Amphotericin B is classified as category B and considered the safest antifungal in pregnancy.⁸ Due to this safety reason, intralesional

amphotericin B was used to treat our patient's eye symptoms. Her symptoms improved after a single dose of intralesional amphotericin B. In addition to the acute treatment, patients need to be educated on the safety netting to minimise further risk of sporotrichosis infection such as wearing gloves during gardening or handling affected animals.⁷

Although this case is relatively rare, primary care doctors need to be aware of the presentation of ocular sporotrichosis. In patients presented with unilateral eye redness, doctors at primary care should always be vigilant to obtain thorough history in any case presented with hyperaemic conjunctiva especially in persistent, prolonged or recalcitrant conjunctivitis despite proper treatment. Ocular sporotrichosis can be misdiagnosed as its presentation may be similar as other conjunctivitis. The history of exposure to possible contaminated soil or diseased cats is essential to narrow down the differential diagnosis.⁹ In addition, we should always bear in mind that HIV co-infection will cause higher rate of severe disseminated disease which will then result in hospitalization.³ This case illustrated the importance of early recognition of the disease for timely referral to prevent delay management.

Conclusion

A high clinical suspicion among the treating

physicians is crucial to make accurate diagnosis and prompt early initiation of treatment. As frontliners to various specialties, primary care physicians should have adequate knowledge to deal with this medical condition.

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References:

1. Barros MBdL, de Almeida Paes R, Schubach AO. *Sporothrix schenckii* and Sporotrichosis. *Clin Microbiol Rev.* 2011;**24**(4):633-54. <https://doi.org/10.1128/CMR.00007-11>
2. Yamagata JPM, Rudolph FB, Nobre MCL, Nascimento LV, Sampaio FMS, Arinelli A, et al. Ocular sporotrichosis: A frequently misdiagnosed cause of granulomatous conjunctivitis in epidemic areas. *Am. J. Ophthalmol. Case Rep.* 2017;**8**:35-8. <https://doi.org/10.1016/j.ajoc.2017.09.005>
3. FreitasDFS, ValleACFd, daSilvaMBT, CamposDP, LyraMR, de Souza RV, et al. Sporotrichosis: an emerging neglected opportunistic infection in HIV-infected patients in Rio de Janeiro, Brazil. *PLoS Negl Trop Dis.* 2014;**8**(8):e3110-e. <https://doi.org/10.1371/journal.pntd.0003110>
4. Orofino-Costa R, Macedo PMd, Rodrigues AM, Bernardes-Engemann AR. Sporotrichosis: an update on epidemiology, etiopathogenesis, laboratory and clinical therapeutics. *An Bras Dermatol.* 2017;**92**(5):606-20. <https://doi.org/10.1590/abd1806-4841.2017279>
5. Ferreira TA, Sodr e CT, Costa JM, Setta CRP, Ramos-E-Silva M. Primary conjunctival sporotrichosis: An atypical presentation of the disease. *JAAD Case Rep* 2018;**4**(5):497-9. <https://doi.org/10.1016/j.jdc.2018.01.022>
6. Freitas DF, de Siqueira Hoagland B, do Valle AC, Fraga BB, de Barros MB, de Oliveira Schubach A, et al. Sporotrichosis in HIV-infected patients: report of 21 cases of endemic sporotrichosis in Rio de Janeiro, Brazil. *Med Mycol.* 2012;**50**(2):170-8. <https://doi.org/10.3109/13693786.2011.596288>
7. Mahajan VK. Sporotrichosis: an overview and therapeutic options. *Dermatol Res Pract.* 2014;2014:272376. <https://doi.org/10.1155/2014/272376>
8. Costa RO, Bernardes-Engemann AR, Azulay-Abulafia L, Benvenuto F, Neves MdLP, Lopes-Bezerra LM. Sporotrichosis in pregnancy: case reports of 5 patients in a zoonotic epidemic in Rio de Janeiro, Brazil. *An Bras Dermatol.* 2011;**86**:995-8. <https://doi.org/10.1590/S0365-05962011000500020>
9. Schubach A, de Lima Barros MB, Schubach TM, Francesconi-do-Valle AC, Gutierrez-Galhardo MC, Sued M, et al. Primary conjunctival sporotrichosis: two cases from a zoonotic epidemic in Rio de Janeiro, Brazil. *Cornea.* 2005;**24**(4):491-3. <https://doi.org/10.1097/01.icc.0000151504.26695.3e>