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Anterior Uveitis as a Rare Presentation of Ocular Sporotrichosis

***Abstract* – Introduction:** Sporotrichosis is a chronic granulomatous mycotic infection caused by *Sporothrix schenckii.* Anterior uveitis is a rare presentation of ocular sporotrichosis. **Objective:** To report a case of severe anterior uveitis as a rare presentation of ocular sporotrichosis. **Case report:** A 53-year-old Malay woman, presented with painful, redness, and photophobia of the right eye for 1 week. It was associated with mucopurulent discharge and blurry of vision. She had cats at home but no history of cat bites. Right eye visual acuity was 6/18 and improved to 6/9 with pinhole. There was presence of multifocal area of granulomatous conjunctival lesions with severe anterior uveitis and streak of hypopyon. Pupil was irregular with posterior synechiae. Blood investigations for infective causes and connective tissue screening were negative. Mucopurulent ocular discharge swab yields no growth. An initial diagnosis of severe anterior uveitis was made, which was treated with steroid and antibiotic eye drops. However, the symptoms persisted after 1 week of treatment. A clinical diagnosis of ocular sporotrichosis of conjunctiva with anterior uveitis was revised based on the presence of granulomatous conjunctival lesions. She was treated empirically with tablet itraconazole 100 mg twice per day for 6 weeks. The right eye visual acuity improved significantly, granulomatous conjunctival lesions regressed, and resolved inflammation in the anterior chamber. **Conclusion:** Ocular sporotrichosis is common in tropic area thus high index of suspicion should be made even culture was negative.

***Keywords* –** *Ocular sporotrichosis, granulomatous conjunctivitis, anterior uveitis*

1 INTRODUCTION

Sporotrichosis is a subacute or chronic granulomatous mycotic infection due to *Sporothrix* species fungal. Ocular sporotrichosis is rare. Fungal *Sporothrix* species can enter the skin or eye via a traumatic inoculation or contact with infected cats, but in some cases, the disease occurs in the absence of predisposing factors [1].

Ocular sporotrichosis is usually presented as a granulomatous conjunctivitis [2]. The similarity of conjunctival sporotrichosis with other clinical conjunctivitis may delay in initiation of appropriate treatment and may lead to increasing the risk of sequelae in the eye. We report a case of severe anterior uveitis as a rare presentation of ocular sporotrichosis.

2 CASE REPORT

A 53-year-old Malay woman, presented with painful eye redness over the right eye for 1 week. It was associated with mucopurulent discharge, photophobia and blurry of vision. This was her second episode.

The first episode occurred 3 years before current presentation. The first episode was less severe and resolved with topical eyedrops. There was no history of fever, joint pain, or chronic cough. She had cats at home but no history of cat bites. There was no history of ocular trauma prior the symptom of eye redness.

Examination of the right eye showed the visual acuity was 6/18 and improved to 6/9 with pinhole. There was presence of multifocal area of granulomatous conjunctival lesions (Figure 1A) with hyperaemic and chemotic conjunctiva. The granulomatous conjunctivitis was associated with mucopurulent discharge. Anterior chamber examination showed presence of severe anterior chamber cells with fibrin and streak of hypopyon (Figure 1B and 1C). There was no mutton fat keratic precipitates or iris nodules. The pupil was irregular with posterior synechiae from 3 to 10 o'clock position (Figure 1C). The fundoscopy examination was normal with no vitritis, retinitis or choroiditis. B-scan showed flat retina with clear vitreous. The left eye examination was unremarkable with normal systemic examination.

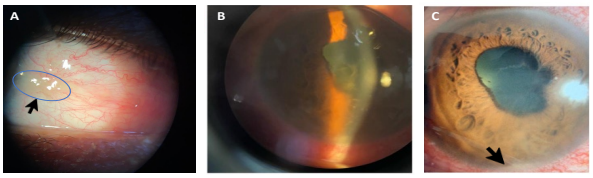

Figure 1. Right eye at presentation. (A) Presence of multiple granulomatous conjunctival lesions (arrow), conjunctival hyperaemia with chemosis. (B) Anterior chamber inflammation with fibrin. (C) Presence of posterior synechiae from 3 to 10 o'clock position and streak of hypopyon (arrow)

An initial diagnosis of severe anterior uveitis of the right eye was made, and the patient was treated with topical prednisolone eyedrops every 4 hours and topical atropine eyedrops 3 times per day. Topical moxifloxacin eye drops 4 times per day was added in view presence of mucopurulent discharge. Uveitis screening was done and showed investigations for infective causes (tuberculosis, toxoplasmosis, cytomegalovirus, herpes, syphilis) and connective tissue screening (rheumatoid factor, anti-nuclear antibody, and double-stranded-DNA) were negative. Mucopurulent ocular discharge was collected by swabbing without anaesthetic drops and forwarded for microbiological analysis for culture and sensitivity which yield no growth. Blood specimen for culture and sensitivity was also yield no growth.

In view of no improvement of ocular signs after 1 week of treatment, a clinical diagnosis of right ocular sporotrichosis infection of conjunctiva with anterior uveitis was revised based on the presence of granulomatous conjunctival lesions. History of exposure to cat support the revised diagnosis. She was treated empirically with tablet itraconazole 100 mg twice per day.

After 2 weeks of tablet itraconazole, the right eye visual acuity improved significantly from 6/18 to 6/6. There was regression of granulomatous conjunctival lesions with white conjunctiva and partial resolution of anterior chamber inflammation with residual posterior synechiae (Fig 2). Thereafter, tablet itraconazole was continued to be completed for 6 weeks. The topical eye drops (prednisolone, atropine, and moxifloxacin) were tapered down over 4 weeks. Follow-up at 6 months showed the right eye visual acuity was 6/6 with resolved inflammation in the anterior chamber.

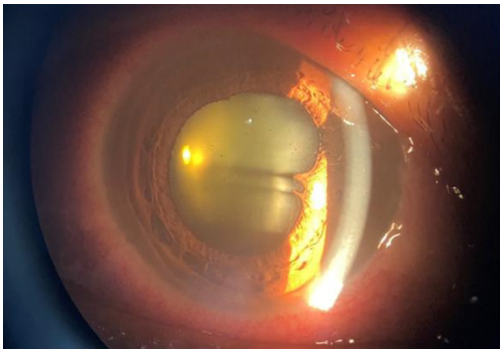

Figure 2. Right eye shows partial resolution of anterior chamber inflammation with residual posterior synechiae after 2 weeks of treatment

3 DISCUSSION

Ocular Sporotrichosis is a rare fungal infection caused by *Sporothrix* species. In Asian countries, the largest number of ocular sporotrichosis was reported in China with a total of 72 patients with eyelid involvement [3]. There were 8 cases of ocular sporotrichosis in the form of granulomatous conjunctivitis or uveitis reported In Malaysia [4,5].

Eyelid nodules and granulomatous conjunctivitis are the most reported presentations in the eye, while intraocular infection is exceedingly rare [6]. Intraocular forms can manifest as granulomatous uveitis, retinitis, choroiditis, and endophthalmitis [7]. In our case, the patient presented with the manifestation of granulomatous conjunctivitis together with anterior uveitis.

Traumatic inoculation with vegetable material, contact with cats, living in hyperendemic areas, and disseminated infection are associated with this disease [1]. Exposure to cats might be the source of infection in our case. We postulated that the infection started in the conjunctiva locally and spread into intraocular induced anterior uveitis. In view of negative blood culture and sensitivity, hematogenous dissemination is unlikely.

The gold standard for diagnosing ocular sporotrichosis involves isolation of microorganism. Biological material is usually obtained from exudates, biopsy of skin lesions, scales, tissue fragments, eyelid lesions, or a swab from the conjunctival mucosa [1,8]. In our case, there was no organism isolated from conjunctival swab.

Sporotrichosis rarely resolves spontaneously, and most patients need medication. The medicine of choice for treating sporotrichosis is itraconazole, an oral antifungal agent of the azoles class [9].

In our case, the patient responded well with tablet itraconazole. Similar case was reported by Mohd Rasidin et al [5]. In their case series, one of the patients presented with granulomatous anterior uveitis with negative culture and treated successfully with itraconazole.

4 CONCLUSION

Clinicians should be aware that ocular sporotrichosis may mimic other common ocular diseases. It might be recurrence with various severity making diagnosis difficult for the ophthalmologist. Therefore, if a patient presented with suggestive clinical manifestations, particularly those connected to close relations with cats and/or an associated skin lesion, a differential diagnosis of ocular sporotrichosis should be considered. Early initiation of systemic antifungal therapy led to complete resolving of the condition.

REFERENCES

[1] Ramírez-Soto MC, Tirado-Sánchez A, Bonifaz A. Ocular sporotrichosis. J Fungi (Basel). 2021;7(11):951.

[2] Filho ARG, Estacia CT, Gameiro RR, Vieira L de MF, da Costa DS. Ocular and cutaneous sporotrichosis. Am J Ophthalmol Case Rep. 2020;20:100885.

[3] Zhang Y, Wang Y, Cong L, Yang H, Cong X. Eyelid sporotrichosis: Unique clinical findings in 72 patients. Australas J Dermatol 2016;57:44-7.

[4] Ahmad-Fauzi S, Abd-Manan N, Yusof NS, Ibrahim M, Mohamad SA, Muhammed J. Ocular sporotrichosis from a tertiary referral center in Malaysia and review of literature in Southeast Asia. Taiwan J Ophthalmol. 2021;12(2):237-241.

[5] Mohd Rasidin AH, Ang WJ, Raja Omar RN, Ahmad Tajudin LS. Ocular sporotrichosis: different spectrums of clinical manifestations and a review of the literature. Cureus. 2022;14(7):e27186.

[6] Yao L, Song Y, Zhou JF, Cui Y, Li SS. Epidemiological and clinical comparisons of paediatric and adult sporotrichosis in Jilin Province, China. Mycoses, 2020; 63(3):308-313.

[7] Ling JL, Koh KL, Tai E, Sakinah Z, Nor Sharina Y, Hussein A. A case of acute granulomatous conjunctivitis caused by cat-transmitted Sporothrix schenckii. Cureus. 2018;10(10):e3428.

[8] Arinelli A, Aleixo ALQC, Freitas DFS, do Valle ACF, Almeida-Paes R, Nobre Guimarães AL, et al. Ocular manifestations of sporotrichosis in a hyperendemic region in Brazil: Description of a series of 120 cases. Ocul Immunol Inflamm. 2023;31(2):329-337.

[9] Ribeiro CR, Silva BP, Costa A. de AA, Neto AB, Vieira LA, de Lima MA, et al. Ocular sporotrichosis. Am J Ophthalmol Case Rep. 2020;19:100865.