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Sporobolomyces salmonicolor: A case report of a rare cutaneous fungal infection

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Abstract

We report a case of a 47-year-old male diagnosed with a cutaneous Sporobolomyces salmonicolor infection after suffering with an extensive cutaneous eruption for 4 years. Treatment can be difficult and options include voriconazole and liposomal amphotericin B. This infectious disease is extremely rare and can have extensive impact on multiple organ systems, including the skin.

Keywords

Dermatology, infectious disease

Introduction

Sporobolomyces salmonicolor, a yeast-like opportunistic pathogen, may present as a deep cutaneous fungal infection. Serious fungal infections have shown to be rare in Canada, with the most common mycoses including candidiasis, aspergillosis and cryptococcus, among others.[1] These systemic mycoses, including Sporobolomyces, most commonly originate in immunosuppressive hosts. Closely related to Rhodotorula, Sporobolomyces is a yeast commonly isolated from environmental sources including lake water,[2] tree leaves and air with its natural habitat in humans, mammals, birds and plants.[3] The pathogenic yeast, with an unknown optimum pharmacotherapy, has been previously reported to cause invasive infection including dermatitis,[4] cerebral infection, fungemia,[5] encephalitis, ocular infection[3] and lymphadenitis[6] but has not been reported in the Canadian population to date.

Case report

We report a case of a 47-year-old male, living in Ontario, diagnosed with a cutaneous Sporobolomyces salmonicolor infection after suffering with an extensive cutaneous eruption for 4 years. He was otherwise well and had no systemic medications. He was born in Afghanistan and immigrated to Canada in 1996, with infrequent visits back to Afghanistan. He worked and continues to work as a delivery personnel in an urban setting. He has no particular hobbies that would explain him contracting such an infection.

Four years ago, he noted a few painful lesions on the face and back. Over the years, he noted more lesions on the dorsal hands, lower extremities and eventually lost hearing in the right ear. He also had a 10 kg weight loss 4 months prior to his presentation to dermatology. On presentation, he had numerous erythematous, edematous and scaly plaques on the dorsal hands (Figure 1). A few of the lesions were eroded and most were painful on light palpation.

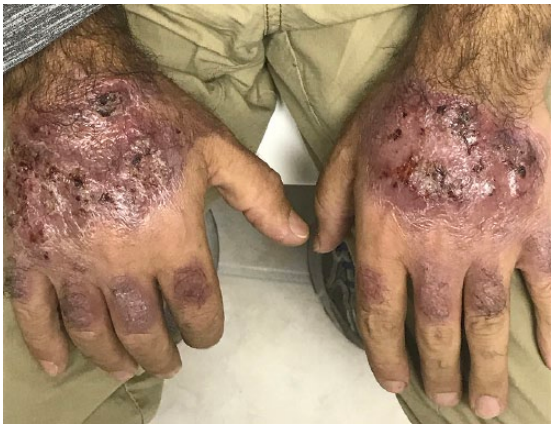

Figure 1. Dorsal hands.

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A skin biopsy was performed, and on hematoxylin and eosin stain (H&E), diffuse suppurative granulomatous inflammation was found. The cellular composition was a mixture of lymphocytes, histiocytes, giant cells and plasma cells with the formation of suppurative granulomas. The findings were highly suggestive of a deep fungal or atypical mycobacterial infection. As a result, further biopsies were performed for fungal culture, acid fast bacilli and mycobacteria. Sporobolomyces salmonicolor was grown on fungal culture. Cultures for acid fast bacilli and mycobacteria were negative. Susceptibilities were requested from the Public Health Agency of Canada (PHAC) and revealed susceptibility to voriconazole, fluconazole and amphotericin B. Given the possibility of lung involvement, a chest x-ray was performed along with a computed tomography (CT) chest that were unremarkable. Given that Sporobolomyces salmonicolor is thought to be an opportunistic infection, serological testing for hepatitis B and C, HIV and syphilis was performed and found to be negative. He was then referred to infectious disease for treatment management as a non-immunocompromised host.

Given his history of hearing loss, a CT head and neck was performed which revealed bilateral otitis externa and mastoiditis. There were no signs of osteomyelitis. He was assessed by ENT, who confirmed that these findings were secondary to the deep fungal infection and that no anatomic abnormality was observed. He was also assessed by ophthalmology, urology and gastroenterology as he had non-specific symptoms in these organ systems. However, their assessment revealed no involvement of the fungal infection in these systems.

He was treated by infectious diseases with voriconazole 200 mg po BID for 8 weeks, and while he initially had a favourable response, with improving skin lesions, he relapsed after completion of the course. He was then treated with liposomal amphotericin B via a peripherally inserted central catheter (PICC) at 350 mg IV over 4 h daily for 2 weeks. He completed two cycles of amphotericin B and noted significant improvement of his hearing. He has not developed new cutaneous lesions since completing the course and most of his cutaneous lesions have resolved. The remainder of the lesions continue to improve at the time of this case report.

Discussion

Sporobolomyces salmonicolor presents as a deep cutaneous fungal infection originating from a yeast-like opportunistic pathogen. Cutaneous presentation of this fungal infection has previously been reported outside of Canada, however, in no more than five cases. It has not been reported in Canada at the time of this publication. Cutaneous presentation of Sporobolomyces can be generalized as dermatitis often characterized by painful lesions of the skin.[7] Less common, as noted in this case report, was the loss of hearing which is suggested to have originated as a symptom of the fungal infection. Furthermore, our patient was not found to be immunocompromised. Treatment of Sporobolomyces salmonicolor infection within this case report along with others[6] has shown most success with amphotericin B, an antifungal medication used for serious fungal infections in which the drug acts by binding to ergosterol in the cell membrane of susceptible fungi. This atypical fungal infection has also rarely been shown to present as intraocular infection, lymphadenitis, encephalitis, cerebral infection and fungemia. Currently, limited information is available regarding infections with Sporobolomyces salmonicolour due to its rarity.

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Informed consent

An open written consent to use the photos for publication was obtained.

References

1. Dufresne S, Cole DC, Denning DW, et al. Serious fungal infections in Canada. *Eur J Clin Microbiol Infect Dis* 2017; 36(6): 987–992.
2. Buzzini P, Lachance M and Yurkov A. *Yeasts in natural ecosystems: diversity*. Cham: Springer, 2017.
3. Sharma V, Shankar J and Kotamarthi V. Endogeneous endophthalmitis caused by Sporobolomyces salmonicolor. *Eye* 2005; 20(8): 945–946.
4. Bergman AG and Kauffman CA. Dermatitis due to Sporobolomyces infection. *Arch Dermatol* 1984; 120(8): 1059.
5. Rantala A, Niinikoski J and Lehtonen OP. Yeasts in blood cultures: impact of early therapy. *Scand J Infect Dis* 1989; 21(5): 557–561.
6. Plazas I, Portilla J, Boix V, et al. Sporobolomyces salmonicolor lymphadenitis in an AIDS patient. Pathogen or passenger? *AIDS* 1994; 8(3): 387–388.
7. Goldsmith L, Katz S, Gilchrest B, et al. *Fitzpatrick's dermatology in general medicine*. 8th ed. New York: McGraw-Hill, 2012.