Bilateral Sporotrichosis Infection of the Hands: A Case Report and Review of the Literature.

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Citation

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Abstract

The purpose of our paper is to discuss the unusual presentation of Sporotrichosis involving bilateral upper extremities in a 40 year old cirrohtic female who likely contracted the infection through a unique zoonotic transmission. The patient was initally treated at another institution for a presumed cellulitis and given antibiotics with failure to improve. The patient was transferred to a microsurgical center where she was continued on intravenous antifungals, underwent further debridement and skin grafting once the infection was locally controlled.

INTRODUCTION

Human sporotrichosis infections are seen worldwide, most commonly in temperate and tropical areas such as Central and South America, Japan, South Africa, and the Caribbean.[$_1$] Farmers, gardeners, and florists are at higher risk of contracting sporotrichosis because the causative agent Sporothrix schenckii lives in soil and on plants. [$_2$] Animals such as armadillos and cats have also been known to transmit the fungus, and there are rare cases of person to person transmission. [$_3$,$_4$] We report an unusual case of sporotrichosis affecting bilateral hands in a immunocompromised female contracted by a pet turtle.

CASE PRESENTATION

A 40 year old female with cirhosis secondary to alcohol abuse was seen at an outside hospital for several week history of nonhealing erythematous ulcerations on the dorsum of both hands. She denied any history of recent gardening, hiking, or other oudoor activities, however she did admit to having a pet turtle which she handled regulary. The patient was initially started on broad spectrum antibiotics and the lesions continued to worsen. At this time the lesions were biopsied with out any definitive cultures and the patient was started on corticosteroids for presumed pyoderma gangrenosum. The lesions continued to progress involving the entire dorsum of both hands and the dorsal surface of her digits. The patient was then transferred to a tertiary Microvascular center for further care. [Fig 1-2]

{image:1}

{image:2}

On presentation the wounds on the dorsum of the hands were extensive with exposed extensor tendons present and dry eschar surrounding the edge of the wounds. An infectious disease consultation was obtained and the wounds were debrided in the operating room until good healthy tissue was seen. Tissue biopsies were also taken and sent to microbiology and pathology. The patient was started on itraconazole and the wounds were dressed with wet to dry saline gauze dressing three times a day. The tissue biopsies confirmed Sporothrix schenckii. The infection appeared to be controlled without further spreading or enlarging of the wounds. However at this time the extensive tissue loss over the dorsum of both hands with exposed tendons and loss of tissue over the dorsal digits of both hands developed in contractures of all her digits at the metacarpophalangeal joints. The patient was again taken to the operating room where Kirshner wires were placed in a retrograde fashion to hold her metacarpophalangeal joints in an neutral position to minimize contracture of these joints. At this time her wounds appeared to be clean and free of any nonviable tissue with good granulation. A negative pressure dressing was applied to bilateral hands wounds. (V.A.C. KCI San Antonio, Tx) Once the wounds were stable and good granulation tissue was present over the extensor tendons the wounds were skin grafted using thin (0.015mm) split thickness skin grafts taken from the patients thigh. [Fig 3-4]

{image:3}

{image:4}

DISCUSSION

Sporotrichosis is a chronic fungal infection of the cutaneous or subcutaneous tissues and adjacent lymphatics caused by an organism known as Sporothrix schenckii. This organism is a dimorphic, saprophytic fungus that can be found worldwide, but more often in warm, temperate climates. [5] The infection is characterized by nodular, pustular, or ulcerative lesions usually affecting the hands and upper extremities. Infections are caused by the traumatic implantation of the fungus into the skin, or rarely, by inhalation into the lungs. Zoonotic transmission from the scratch or bites of cats and armadillos has also been reported. [6]

Most cases of sporotrichosis are localized to the skin and subcutaneous tissues with spread occurring proximally along the lymphatic circulation. [7] Cutaneous sporotrichosis has two variants, lymphocutaneous and fixed cutaneous. [8] The fixed cutaneous type is more common in children. [9]An initial papule or nodule forms at the site of cutaneous inoculation, usually 1-10 weeks after inoculation. The initial small nodule enlarges, reddens, becomes pustular, and ulcerates. The lesion is not usually tender and there are no systemic signs or symptoms. In the lymphocutaneous form, an ascending chain of nodules develops along skin lymphatic channels. These are also nontender, mobile and may enlarge and ulcerate. [3]The fixed cutaneous type results when the fungus is confined to the site of inoculation and has a wide range of appearances ranging from thick crusted ulcers, warty or psoriasiform plaques, to cellulitis. Dissemination to osteoarticular structures and viscera is uncommon and appears to occur more often in the immunocompromised host with decreased cell mediated immunity as a result of diabetes mellitus, AIDS, chronic alcoholism, and immunosuppressive medications. [10,11] Most patients with sporotrichosis require longterm antifungal therapy, however spontaneous resolution of lesions have been reported. Itraconazole is the treatment of choice for localized disease with excellent cure rates, and minimal side effects. [12] Severe infections and disseminated forms of sporotrichosis may require intravenous amphotericin B therapy.

Sporotrichosis may be confused with pyoderma gangrenosum, nocardiosis, leshminiasis, and cutaneous tuberculosis, atypical mycobacterial infection, and deep fungal infections such as histoplasmosis, coccidiomycosis, blastomycosis, and cryptococosis. [13,14] In a series of North American cases, 65% were initially diagnosed as a bacterial infection and 77% were given oral antibiotics. [12] Our patient was initially treated for a typical infection with antibiotics without improvement followed by corticosteroids for possible pyoderma gangrenosum which further worsened her condition. This identifies the need for rapid diagnosis of this skin lesion in order to treat it appropriately. Although our patient denied any history of gardeneing or soil exposure she did admit to recent scratch from her pet turtle several weeks prior to the appearance of the first skin lesion. Our patient was also a cirrhotic which resulted in a compromised immune stystem.

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