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## Clinical Image

# Knee Pain in an Untreated AIDS Patient: A Case Report - @

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## ABSTRACT

Patients with AIDS (Acquired Immune Deficiency Syndrome) are at high risk for developing disseminated sporotrichosis which is associated with high morbidity and mortality. Significant delay in treatment initiation usually occurs and the infection often goes unnoticed until the fungus has disseminated into multiple organs. We present a case of disseminated sporotrichosis in a patient that presented with knee pain and a skin lesion on his arm.

**Keywords:** Sporotrichosis; AIDS

## INTRODUCTION

*Sporothrix schenckii* is a dimorphic fungus that lives in decaying plants. Infection usually begins by direct inoculation through minor injury to the skin [1]. In the fixed cutaneous form (most commonly seen), a subcutaneous nodule develops at the site of trauma. In the lymphocutaneous form, this infection progresses along the regional lymph nodes. Extracutaneous manifestations are exceedingly rare, can present as localized (such as osteoarticular or pulmonary) or hematogenously disseminated [2]. We present a rare case of disseminated osteoarticular sporotrichosis in a patient with AIDS. We will be discussing the factors that lead to delay in diagnosis and the importance of empiric therapy with anti-fungal drugs.

## CASE REPORT

A 29-year-old African American male with a history of untreated AIDS presented with a tender 1.5 cm wound on the right upper arm which he attributed to an insect bite. The lesion had been progressively growing over the last three months; it had initially drained non-purulent green fluid. Two months prior to this presentation, he was evaluated in an orthopedic clinic for a swollen and tender right knee. At that time, he was diagnosed with tendinitis of the anterior cruciate ligament and was instructed to wear a knee brace for 8 weeks. This, however, did not resolve his symptoms and he continued to have right knee pain that made ambulation difficult. He denied fevers and chills. He had no other medical history, and he denied illicit drug use and new sexual partners. He had been prescribed anti-retroviral therapy in the past but had not taken the medication in several years.

On presentation, he was afebrile and the rest of the vital signs were normal. On physical exam, he had a 1.5-centimeter circular ulcerated lesion with a clean red base was seen on his right upper arm (Figure 1) that was not painful to palpation. There was no lymphadenopathy. The right knee was swollen, warm, and had significant pain with both active and passive range of motion, however he had full range of motion. A complete blood count, renal function panel and inflammatory markers (ESR,CRP) were within normal limits. His CD4 count was 12 cells/mm<sup>3</sup> and HIV viral load was 196,000 copies/ml.

A right knee X-ray showed a small supra-patellar joint effusion that was aspirated; the results are shown in Table 1. Thirteen days later, fungal cultures grew *Sporothrix schenckii*. This is consistent with a diagnosis of disseminated sporotrichosis since arthritis involved the right knee and right arm. He was subsequently treated with Amphotericin B and Itraconazole, but was lost to follow-up.

## DISCUSSION

Significant clinical manifestations from infection with *Sporothrix*. may take months to appear in immunocompetent hosts,



Figure 1: Right upper arm wound.

Table 1: Right knee synovial fluid analysis.

Fluid Analysis	Result
Appearance	Cloudy
Color	Amber
Crystal Analysis	No crystals seen
Red Blood Cells	9680
Nucleated Cell Count	3960
Segmented Neutrophils	9%
Lymphocytes	41%
Mononuclear cells	50%
Gram Stain	No white blood cells, no microorganisms seen
Acid Fast Smear	No acid fast bacilli seen
Fungal Stain	No fungal elements seen

Red blood Cells (/mm<sup>3</sup>); Nucleated Cell Count (/mm<sup>3</sup>).

longer in patients who have AIDS [3]. Subsequently, patients with AIDS presenting initially with mild symptoms, such as the knee pain in our patient, may go unnoticed due to the non-specificity of the symptom. These patients present again when symptoms are worse and the infection has spread to multiple organs. Fungal cultures remain the gold standard for diagnosis, however the fungus may take up to 4 weeks to grow. The delay in symptoms appearance, especially in patients with AIDS, the delay in seeking treatment until symptoms are severe, the delay in fungal growth in cultures and the lack of any other test that can hint to the diagnosis causes a significant delay in starting treatment. In the localized forms (cutaneous, lymphocutaneous and osteoarticular) treatment is usually with Itraconazole and has a good prognosis. However, disseminated forms are associated with a high mortality rate and treatment with intravenous Amphotericin B followed by Itraconazole for maintenance therapy should be initiated as soon as possible [4]. Diagnosing sporotrichosis is challenging at all stages of the disease. Symptoms are non-specific and the incidence of disseminated infection is low which leads physicians to pursue more common infections and miss this diagnosis [5]. We should keep a high index of suspicion for rare fungal infections in patients with AIDS, regardless of the type and severity of symptoms [6].



## CONCLUSION

Delay in treatment of disseminated sporotrichosis is associated with a high mortality rate, especially in immunocompromised hosts. We highly encourage physicians to treat patients empirically until cultures results are back, since benefits from therapy outweigh risk of medication side effects. Future areas of research should be focused on developing laboratory tests that would result faster to guide our management until culture results are back [6].

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