**Case report**

**A case of sporotrichosis treated with itraconazole**

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Lymphocutaneous sporotrichosis is caused by *Sporothrix schenckii*, a dimorphic fungus commonly existing on decaying plants and in the soil. The fungus has a worldwide distribution but is more prevalent in temperate and tropical climates. Infection may result from traumatic inoculation of contaminated material such as soil, hay, moss, plant debris, splinters, thorns and barbs. Inoculation is also possible through some animal scratches and bites. We describe a typical case of lymphocutaneous sporotrichosis, which was confirmed by clinical, histological and microbiological features. The patient was successfully treated with 400 mg daily systemic itraconazole for 4 months.

**Keywords** itraconazole, lymphocutaneous, sporotrichosis

**Introduction**

The lymphocutaneous syndrome (also called nodular lymphangitis or sporotrichoid lymphocutaneous infection) is an uncommon disorder that is often misdiagnosed and mistreated. This syndrome is characterized by the development of nodular or ulcerative lesions progressing along cutaneous lymphatics and may be caused by one of a number of fungal (i.e. *Sporothrix schenckii*), bacterial, mycobacterial, parasitic and viral pathogens [1–4]. Here, we present a case of lymphocutaneous sporotrichosis with characteristic clinical and histological features, and we give details about its successful treatment.

**Case report**

A 19-year-old woman had had ulcerative nodules on her right hand and forearm for approximately 1 year. The lesions first started from the periungual area of the third finger and, over time, spread to the dorsum of the hand and the upper part of the forearm. She was diagnosed as having pyoderma and was treated with various systemic and topical antibiotics, such as tetracycline, ampicillin, ursamycine and mupirocin. She was treated at the same time with some folkloric remedies. All these therapies were ineffective.

Dermatological examination showed a prominent violaceous and oedematous paronychial lesion on the third finger of her right hand and a centrally ulcerated and violaceous plaque 6 × 8 cm in size on the dorsum of the patient's hand (Fig. 1). A 4 × 4 cm, fluctuant, soft nodular lesion was also present on the flexor aspect of her right elbow (Fig. 2). Axillary lymphadenopathy was absent and the patient was otherwise healthy.

Routine haematological (including leukocyte count and sedimentation rate) and biochemical tests were within normal limits. Numerous leukocytes and Gram-positive bacteria were prominent on Gram staining of the pus. Mycobacteria were not seen on acid-fast staining. Repeated bacterial and fungal cultures from the purulent material were negative. *Leishmania* parasites were not detected in Giemsa staining.

Two biopsy specimens from the nodular lesions revealed a tuberculoid granulomatous reaction in the deeper regions of the dermis. No fungi, mycobacteria or leishmaniae were detected. Fungal culture revealed *S. schenckii* within 1 week.

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Fig. 3 Healed lesions on the hand.

Fig. 4 Healed lesion on the elbow.

We treated the patient with 400 mg itraconazole capsules as 200 mg b.i.s. in diem for 4 months. At the end of this period, the lesions healed with minimal scarring (Figs. 3 and 4). Three months later, follow-up examination showed no recurrence.

**Discussion**

Cutaneous sporotrichosis is characterized mainly by a nodular lymphangitis or rarely by a chancriform lesion. It usually involves the dominant upper extremity, but any part of the body may be affected. Following a 1-week to 3-month incubation period, the classic disease begins from the inoculation site as an ulcerative papule or nodule. In time, secondary subcutaneous nodules and lymphangitis develop along the proximal lymphatic chain. These nodules vary in size and often carry signs of inflammation.

The fluctuation observed in our patient was probably due to bacterial superinfection, although we did not isolate any bacteria from the culture of the pus, probably because our patient was being treated with antibiotics.

The lymphatics between nodules may be thickened. Regional adenopathy is rare and systemic symptoms are usually absent [1-4]. All clinical findings of our patient were consistent with these features.

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The diagnosis of lymphocutaneous sporotrichosis was suggested early in this case because of a characteristic history and pathognomonic clinical appearance. The clinical features of sporotrichosis resemble those of other forms of nodular lymphangitis, and accurate diagnosis therefore requires careful microbiological and histopathological examination. Cultures obtained from the pus are usually negative. Routine histological stains of biopsy specimens are not specific and rarely demonstrate the causative fungi, especially in patients with increased inflammation. However, cultures from biopsied tissue frequently give positive results and are therefore the diagnostic method of choice [5,6]. We obtained the S. schenckii as hyphae, budding cells and conidia from the culture of biopsied tissue on Sabouraud’s agar. Recently, an immunohistochemical method using antibacillus Calmette–Guérin antibodies has been developed as a rapid and useful alternative for easy diagnosis of sporotrichoid infections [6].

The lymphocutaneous syndrome can be caused by a number of diverse pathogens. The majority of the cases are due to S. schenckii, Nocardia species, Mycobacterium marinum infection (fish tank granuloma), or cutaneous leishmaniasis. The epidemiological and geographical features of the disease and historical information from the patient often can give some important clues to the aetiological diagnosis. We could not get a history suggestive of traumatic inoculation from our patient, but she was living in a village and could have been exposed to plants and punctures from thorns. Possibly she did not notice such minor trauma.

The most widely used therapeutic regimens are supersaturated potassium iodide and itraconazole. Therapy should be continued approximately for 2 months after the healing of cutaneous lesions. If the disease recurs, the treatment can be reinstituted [1,7–9]. Localized heat application to inactivate the microorganism is a useful support to treatment [7].

Of the two well-known therapeutic alternatives, we preferred itraconazole, because the side-effect profile of potassium iodide is relatively high. This patient’s treatment with 400 mg per day oral itraconazole for 4 months effected a complete cure. We chose a higher dose than usual because the lesions had been of long duration and diagnosis had been delayed [9]. No side effects were observed.

References