

## Sporothricoid Mycobacterial Infection

### A Case Report

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**A case of bilateral, symmetric, sporothricoid granulomas involving the dorsa of fingers and wrists is reported. The culture-proved *Mycobacterium marinum* skin infection was acquired by a fish-fancier while clearing his aquarium with bare hands. The patient suffered from chronic hand eczema. Treatment with co-trimoxazole was successful. Key words: Atypical mycobacteria; *Mycobacterium marinum*; Co-trimoxazole.**

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Ever since *Mycobacterium marinum* infection in man was described by Linell & Nordén in 1954 (1), numerous cases of tropical fish tank granulomas have been reported in many countries.

*M. marinum* is an atypical mycobacterium living in aquatic environments, such as swimming pools, ocean beaches, rivers, lakes, natural bathing pools and aquaria.

Contamination of the water occurs by infected salt water or fresh water fishes, frogs, snakes, shrimps, snails and water fleas.

In 1962, Swift & Cohen reported the first case of *M. marinum* infection acquired from a tropical fish tank (2). This paper describes a case of bilateral, symmetric, culture-proved *M. marinum*, sporothricoid granulomas in a patient with chronic hand eczema.

### CASE REPORT

A 44-year-old bank-teller presented at the Department of Dermatology of the Parma University with a 2-month history of red, indolent, subcutaneous nodules on his upper extremities.

The appearance of two, almost symmetrical, small, asymptomatic, nodular swellings on the dorsal aspect of the middle finger of the hands was noticed in January 1991.

Several reddened, moderately tender nodules appeared progressively on the dorsa of the hands.

The family physician prescribed a 1-week course of oral minocycline (200 mg daily) without improvement.

On physical examination numerous 0.5-2 cm, firm, freely movable, tender, erythematous nodules were observed on his hands and wrists. Some of the lesions were fluctuant and spontaneously draining purulent material. The linear, centripetal progression was considered to be the result of a lymphatic dissemination of the process. No regional lymphadenopathy or systemic finding was observed and the patient's body temperature was normal. Past history accounted for a recurrent hand eczema characterized by a minor degree of dryness and chapping.

The patient was questioned about his work and hobbies. He turned out to be a fish-fancier with a home tropical fish aquarium.

In December some of his fishes had died. He had then performed a thorough cleaning of the aquarium with bare hands while suffering from a relapse of his eczema.

Our initial differential diagnosis included sporotrichosis and atypical mycobacterium infections. Routine laboratory study (SMA 12, CBC with differential, urinalysis) was within the normal limits; a chest x-ray revealed a mild cranial fibrotic traction of the left hilum, which was interpreted as a sign of a resolved primary tubercular infection of the lung. PPD skin test was positive with a 2-cm diameter zone of induration. Microscopic examination of tissue specimen taken from a recent nodule showed hyperkeratotic epidermis, edematous papillary dermis and a dense, diffuse, granulomatous inflammatory cell infiltrate composed of monocytes, macrophages and several multinucleate giant cells. No necrosis was observed in the center of the granulomas. No infectious organisms, such as acid fast bacteria or fungal elements, were observed on detailed examination of E-E, PAS and Ziehl-Neelsen stained sections.

A fresh piece of the biopsy was sent to the microbiology laboratory for culture. The culture for fungi were negative.

After 2 weeks, yellow-pigmented colonies were observed on Löwenstein-Jensen medium and the organisms were further identified as *Mycobacterium marinum*.

A sample of aquarium water taken after thorough rubbing of the filter also produced positive yield for *M. marinum*.

In vitro sensitivity tests were performed to several antibacterial agents: vancomycin, co-trimoxazole, isoniazid, PAS, streptomycin, ethambutol, rifampin. The patient was placed on oral co-trimoxazole, 1 tablet twice daily, each tablet containing 160 mg trimethoprim and 800 mg sulfamethoxazole.

The lesions progressively shrank and then resolved within 8 weeks, leaving only a few scarred spots.



Fig. 1. Bilateral, almost symmetrical, sporothricoid granulomatous nodules on upper arms. The primary lesions are on third right finger of both hands.

No recurrence has been noted during a follow-up period of 12 months.

## DISCUSSION

*Mycobacterium marinum* is a parasite of fish that can be transmitted to man through contact with fresh and marine water (3).

This micro-organism produces an indolent, granulomatous lesion that often appears on the extremities, particularly at points of trauma.

The initial red papule enlarges to a violaceous nodule, which can eventually necrotize and ulcerate or become warty.

Satellite lesions may develop and, when in ascending alignment, sporothricoid forms are observed (4).

Our case, showing a bilateral, almost symmetrical sporothricoid mycobacterial infection of the upper arms, seems to be a unique clinical presentation of the disease.

A bilateral, chronic hand eczema was the basic requirement for this otherwise orthodox case of tropical fish tank granulomas due to *M. marinum*. The favourable response to co-trimoxazole supports its efficacy in the treatment of these infections (5).

## REFERENCES

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