Unusual presentation of more common disease/injury

Tubercular dactylitis with discharging sinus in an adult patient

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Summary

Tubercular dactylitis, a term used for tuberculosis of short and tubular bones of hands and feet, rarely shows involvement of the foot. It is more commonly found in children as compared with adults. A 27-year-old male, came with history of discharging sinus over dorsum of great toe of right foot. Clinical assessment led to the suspicion of tuberculosis which was later confirmed by biopsy. This case highlights the importance relying on clinical impression and considering tuberculosis as an aetiology even at unusual sites of involvement.

BACKGROUND

Tubercular dactylitis, is a term used for tuberculosis of short and tubular bones of hands and feet. There is extensive literature on osteo-articular tuberculosis, but there is relatively less information on the involvement of the foot which is rare and accounts for only about 10% of all cases of skeletal tuberculosis.¹

CASE PRESENTATION

A 27-year-old Asian male, farmer by occupation came to our outpatient department with discharging sinus over dorsum of great toe of right foot. The patient was apparently asymptomatic 6 months back when he developed mild pain over his great toe for which he took symptomatic treatment from a local doctor in his village. The patient got some relief but after a period of 3 months he also developed mild swelling over great toe which was not painful, he again took some medicines from the same doctor but the swelling did not decrease in size. One month back the patient developed discharging sinus over dorsal aspect of his great toe after a trivial trauma while doing his regular work in the fields.

On examination, he was afebrile, his pulse was 78/min and blood pressure 110/72 mm Hg. Examination of right foot revealed a mild swelling with pus discharging sinus over the dorsum of great toe (figure 1). The swelling was diffuse, firm in consistency with no local rise in temperature. Chest and all other systemic examinations were within normal limits. There was no history of fever, weight loss or loss of appetite.

INVESTIGATIONS

The patient was admitted and routine investigations were done. His Hb was 12.1 g%, total leucocyte count 7800/cumm, differential leucocyte count – neutrophils were 67%, lymphocytes 30%, monocytes 2% and eosinophils 1%, while viral markers for HIV, hepatitis C virus and HbsAg were negative. His blood sugar level was 97 mg/dl and erythrocyte sedimentation rate (ESR) 32 mm/h. Montoux test revealed 16 mm induration. Radiograph of the right foot revealed osteolytic lesion of proximal phalanx of great toe associated with sclerosis (figure 2). Chest radiograph was within normal limits. Pus was positive for acid fast bacilli and was positive for *Mycobacterium*

Figure 1 Pus discharging sinus is seen over dorsum of great toe with sprouting granulation tissue.

Figure 2 Radiograph of right foot showing osteolytic lesion of proximal phalanx of great toe associated with sclerosis.

Figure 3 Sinus is showing signs of healing. No evidence of pus is noted, however surrounding granulation is seen.

tuberculosis which was sensitive to all the first line antitubercular drugs.

DIFFERENTIAL DIAGNOSIS

1. Tubercular dactylitis.
2. Pyogenic dactylitis.
3. Fungal dactylitis.
4. Syphilitic dactylitis.

TREATMENT

A diagnosis of tubercular dactylitis was made and the patient was started with a four drug antitubercular therapy (isoniazid 300 mg, rifampicin 600 mg, ethambutol 1000 mg and pyrazinamide 1500 mg daily, patient's weight being 65 kg) and there was a remarkable response to the therapy.

OUTCOME AND FOLLOW-UP

The patient was discharged after 10 days of hospitalisation. He came for first follow-up after a month, the pus discharge had stopped while the sinus showed signs of healing. He again visited after 3 months, when pyrazinamide and ethambutol were discontinued and rifampicin and isoniazid were continued for 14 months further. At this visit his sinus had satisfactorily healed (figure 3) while the patient had no clinical symptoms. At 5 months, the sinus had completely healed (figure 4) and the radiograph showed new bone formation with ankylosis of interphalangeal joint (figure 5). The patient complained of loss of movement at the interphalangeal joint, due to ankylosis, for which he was advised surgery anytime in the future

Figure 4 Sinus has completely healed with no evidence of granulation tissue. Pigmentation of surrounding skin is noted.

but the patient refused as he seemed to be satisfied with the current results.

Antitubercular therapy was discontinued after 18 months, as preferred by most of the clinicians in India. At the end of the therapy the patient was clinically asymptomatic.

DISCUSSION

Only 1/3rd of patients with bone tuberculosis are diagnosed with concomitant active pulmonary disease.² In fact, bones and joints are affected in 1%–3% of all cases and the spine and the hip are most commonly involved.³

Tuberculous dactylitis can be mimicked by pyogenic or fungal infections. A helpful feature in distinguishing tuberculous from pyogenic infection is that transphyseal spread occurs in the former; however, pyogenic osteomyelitis happens to be very painful, swollen and hot, with generalised fever. Tuberculous osteomyelitis is mildly painful, fever is minimum, and the whole condition is mostly benign.¹ Fungal infections can also extend across the physis. Syphilitic dactylitis produces bilateral and symmetric involvement, with less soft-tissue swelling and sequestration than in tuberculous dactylitis. Typically, there is no periosteal layering or thickening, and sequestration ordinarily does not occur. Sclerosis may be seen in long-standing cases.⁴

Diagnosis of tubercular dactylitis is made on radiological findings and culture of *M tuberculosis*. The best diagnostic tool for osseous tuberculosis is always culture of *M tuberculosis* from bone lesions as dependency on radiographic findings only may delay the diagnosis.⁵ As reported by one third of patients, the history of trauma is unknown.⁶ Pulmonary signs or symptoms are relatively uncommon in cases of tubercular dactylitis, thus especially in cases from endemic areas like India and others, the clinical symptoms

Figure 5 Radiograph of right great toe showing new bone formation with ankylosis of interphalangeal joint.

and signs with radiological findings and elevated ESR are considered sufficient to diagnose tuberculosis to commence treatment.^{7 8}

Management by no doubt is antitubercular drugs. In countries like India most of the clinicians prefer initial

phase therapy of 4 months with isoniazid, rifampicin, pyrazinamide and ethambutol followed by a 14 month regimen of isoniazid and rifampicin.⁸ British Medical Research Council suggests that skeletal tuberculosis should be treated with combination chemotherapy for 6–9 months. According to the most recent recommendations issued in 2003 by the US Centres for Disease Control and Prevention, the Infectious Diseases Society of America, and the American Thoracic Society, a 6- to 9-month regimen (2 months of isoniazid, rifampin, pyrazinamide and ethambutol, followed by 4 to 7 months of isoniazid and rifampin) is recommended as initial therapy for all forms of extrapulmonary tuberculosis unless the organisms are known or strongly suspected to be resistant to the first-line drugs.⁹

Learning points

- ▶ Clinical assessment still remains a primary tool for making a diagnosis with histopathology playing a supporting role.
- ▶ Involvement of foot in tuberculosis is uncommon but this should not deter a clinician from considering it as a differential diagnosis.
- ▶ Efficacy of antitubercular treatment still remains undisputed when started timely.

Competing interests None.

Patient consent Obtained.

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Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Shantanu K, Kumar S, Jain S. Tubercular dactylitis with discharging sinus in an adult patient. *BMJ Case Reports* 2012;10.1136/bcr.11.2011.5249, Published XXX

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