

Case Report

Unusual Presentation of a Common Disease: Disseminated Tuberculosis Presenting as Osteomyelitis

Ajay Gupta, Moncy Jacob Oommen, Jayant Amritlal Budhdev
Department of Internal Medicine, Khoula Hospital, Oman

Kuwait Medical Journal 2006, 38 (2): 136-137

ABSTRACT

Tubercular osteomyelitis is an uncommon form of skeletal tuberculosis. We report one such case associated

with disseminated tuberculosis and treated with anti-tubercular medication.

KEY WORDS: anti-tubercular treatment, disseminated tuberculosis, osteomyelitis

INTRODUCTION

Tubercular osteomyelitis of the digits or Dactylitis is a rare variant of skeletal tuberculosis, spinal form being the most common. We report a case, which presented as dactylitis but the etiological diagnosis was suggested by the concomitant presence of tuberculosis elsewhere in the body.

CASE REPORT

A 20-year-old lady was admitted to the plastic surgery ward of Khoula Hospital with complaints of pain and swelling proximal to base of the left thumb, of one and a half month's duration. On examination, she had features of an abscess on the dorsal aspect of the first metacarpal. The radiograph showed features of osteomyelitis (Fig. 1). A diagnosis of abscess with osteomyelitis of the 1st metacarpal was made. As the patient gave a history of respiratory infection, a chest X-ray was taken. The medical team was called for further evaluation as the chest radiograph showed abnormal shadows.

On detailed medical history, she admitted having cough of six-week duration with low-grade fever and significant weight loss. Her general examination revealed a thinly built lady with pallor and a solitary, 2 cm diameter, mobile non-tender lymph node in the right cervical area. Rest of her general and systemic examination was unremarkable. Her combined blood count was normal; erythrocyte sedimentation rate was 57 mm in first hour and rest of the routine biochemistry was normal. Her hepatitis B and HIV serology were non-reactive. Mantoux test was negative. Her chest radiograph

showed a pattern of small nodular opacities all over the lung fields (Fig. 2). This raised the suspicion of miliary tuberculosis and prompted further confirmation of the aetiology. Aspirate from the abscess over the thumb showed acid fast bacilli (AFB) on Ziehl Neelsen (ZN) staining. Sputum examination as well as fine needle aspirate from cervical lymph node also came positive for AFB on ZN staining. Ultrasonography examination of the abdomen revealed para-aortic lymph nodes.

A final diagnosis of tuberculous osteomyelitis of the 1st metacarpal giving rise to a cold abscess, with disseminated tuberculosis leading to pulmonary and lymph node involvement was made. She was given splint immobilisation for the first metacarpal. The patient was started on a four drug regimen (isoniazid + rifampicin + pyrazinamide + ethambutol for the first two months followed by isoniazid + rifampin for a total of nine months) as per DOT guidelines. She was doing better with healing of the abscess (without any surgery) and gain in weight. Both the sputum and aspirated pus from the metacarpal grew *Mycobacterium tuberculosis* sensitive to all four drugs. She was admitted to the general surgery ward after two months for excision of the same cervical lymph node. Biopsy showed fibro-collagenous tissue with granulomas composed of epithelioid cells suggestive of granulomatous lesions most likely due to tuberculosis. She continued with just her anti-tubercular therapy and had complete recovery from her chest condition, lymph node and dactylitis. There were no further complications either from the drugs or from the musculoskeletal system. She was discharged from follow up after nine months of therapy.

Address correspondence to:

Dr Ajay Gupta, 1/54 Robert Street, Jesmond NSW 2299, Australia. Tel: 00610755281253, E-mail: ajaygupta1967@hotmail.com



Fig. 1: X-ray Hand showing typical lytic areas in the first metacarpal with subperiosteal new bone formation

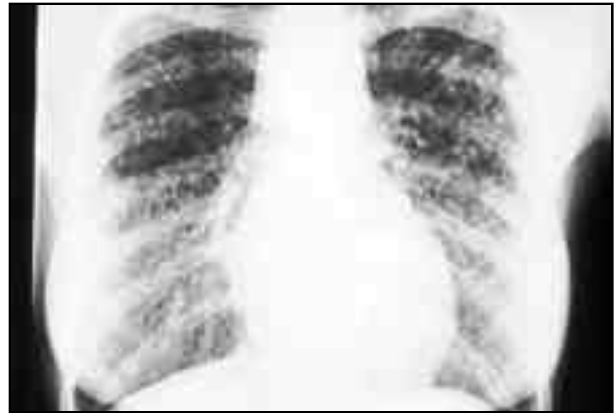


Fig. 2: X-ray Chest showing small nodular opacities all over the chest, suggesting disseminated pulmonary tuberculosis

DISCUSSION

Approximately, 30 million people worldwide are affected by tuberculosis. Out of this, about 1 to 3% have skeletal involvement^[1]. Tuberculous osteomyelitis comprises 2 to 3% of all cases of skeletal tuberculosis^[2]. In bone and joint disease, pathogenesis is related to reactivation of hematogenous foci or to spread from adjacent paravertebral lymph nodes. Late activation of Ghon focus does not usually lead to hemato-genous spread. This was probably primary pulmonary tuberculous infection leading to disseminated bone infection. It commonly presents as pain and swelling with abscess with or without sinus formation. A small focal area of osteomyelitis located eccentrically with little or no surrounding reactive bone is characteristic (unless secondary infection supervenes) and the presence of local osteopenia helps in the diagnosis of tuberculosis^[3]. In some cases, especially the small bones of hands and feet, the affected bone may show subperiosteal new bone formation, referred to as "spina ventosa" type of tuberculous osteomyelitis (Fig. 1). The variable clinical and radiological picture may mimic chronic pyogenic osteomyelitis, Brodie's abscess, tumor or granulomatous lesion^[4]

On routine investigation, around 20% of such patients have associated pulmonary tuberculosis^[5]. We have not come across any literature showing concomitant presence of tuberculous osteomyelitis, cervical lymphadenopathy and active disseminated pulmonary tuberculosis (Fig. 2). A high ESR and negative Mantoux test (which is seen with disseminated tuberculosis) also go in favour of tuberculosis. Lack of familiarity and awareness of tuberculous

osteomyelitis may lead to delays in diagnosis. Positive proof of the disease can be obtained by specifically asking for ZN staining of the material obtained on aspiration or by showing tubercular involvement of other systems in histopathology specimens.

CONCLUSION

Tubercular osteomyelitis is a rare clinical entity. Looking for any evidence of tuberculosis elsewhere may help in formulating a correct diagnosis. We have reviewed our experience in the hope of stimulating a high index of suspicion for early diagnosis.

ACKNOWLEDGEMENT

The authors would like to thank Dr C Thomas, Head and other members of the plastic surgery department for their valuable support in completing this case report.

REFERENCES

1. Tuli SM. Tuberculosis of skeletal system. 2nd Ed. New Delhi: Jaypee Brothers Medical publishers; 1997.
2. Martini M, Boudjeman A, Hannachi MR: Tuberculous osteomyelitis. A review of 125 cases. *Int Orthop* 1986; 10:202-207.
3. Rajeev Vohra, Harinder S. Kang, *et al.* Tuberculous osteomyelitis. *J of Bone and Joint Surgery* 1997; 79:562-566.
4. Rasool MN, Govender S, Naidoo KS. Cystic tuberculosis of bone in children. *J Bone and Joint Surgery* 1994; 76:113-117.
5. Griffith JF, Kumta SM, Leung PC. Imaging of musculoskeletal tuberculosis: A new look at old disease. *Clin Orthop* 2002; 398:32-39.