Multicentric Tubercular Dactylitis

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Introduction

Tuberculosis (TB) continues to be the number one infectious disease killer in the world. The World Health Organization (WHO) estimates that two billion people in the world have latent TB and up to 3 million people die of TB every year [1]. Paediatric TB is usually acquired via droplet transmission from adult cases, with pulmonary form being the commonest. Other modes of infection are rare and include ingestion of the organism (*Mycobacterium bovis*), vertical transmission (congenital TB), and direct inoculation of the skin or other tissues. A quarter to a third of paediatric cases develops extrapulmonary manifestations [2]. Tubercular dactylitis is an unusual form of skeletal tuberculosis in children [3]. It is important to recognize this condition early for the best functional outcome. We report a case of multicentric tubercular dactylitis in a young boy.

Case Report

A four year old boy was brought with the history of painful swelling of digits of hands with discharging ulcers associated with low grade intermittent fever over the preceding three months resolving partially with outpatient treatment. Examination revealed a well preserved child with ulcerated swelling of left thumb and a resolving ulcer over right index finger (Fig.1). On investigation erythrocyte sedimentation rate was 44mm in 1st hour, haemoglobin 11.8gm%, total leucocyte count 7,600/cumm (polymorph 56%, lymphocyte 36%, eosinophil 5%, monocyte 3%), platelet count was 1.9lacs/cumm, peripheral blood smear was normal, sickling test was negative. Radiographs of hands (Fig.2) revealed widened shafts of first and fifth metacarpals on right and proximal phalanges of first and third digits on the left, associated with multiple cystic lesions suggestive of osteomyelitis of multiple bones of hands. The chest radiograph and ultrasonography of abdomen was normal. Venereal disease research laboratory and human immunodeficiency virus tests were negative. Mantoux test was positive (20mm). The curettage of the sinus on the left thumb revealed an epitheloid granuloma on histopathological examination. The child was put on

antitubercular therapy (ethambutol, INH, rifampicin, pyrazinamide) with significant improvement except for shortening of left thumb.

Discussion

Bone and joint TB occurs in 1–5% of children who have untreated initial pulmonary TB. The skeletal infection often becomes symptomatic within 1–3 years after the initial infection [3]. Majority of patients with tubercular dactylitis are younger than six years of age

Fig. 1 : Image showing ulcerated swelling of left thumb.

Fig. 2 : Radiograph of hands showing widened shafts of first and fifth metacarpals on right, proximal phalanges of first and third digits on the left with multiple cystic lesions.

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and its incidence among children with TB is reported to be 0.65-6.9%. The bones of the hands are more frequently affected than bones of the feet, with the proximal phalanx of the index and middle finger being the commonest sites [4].

The condition usually presents as a painless swelling of a digit of few months duration. The radiographic features of cystic expansion of the short tubular bones has led to the name of "spina ventosa" being given to tubercular dactylitis of the short bones of the hand. Periosteal reactions and sequestra are not common. Sclerosis may be seen in long standing cases [5]. Some authors have described other radiological patterns such as cystic, rheumatoid, subperiosteal and kissing types distinct from spina ventosa [6]. Sick cell dactylitis exhibits features similar to that of tubercular dactylitis but is characteristically bilateral and dissolution of the sickle cell lesions is typically followed by irregularly sclerotic new bone formation. Other differential diagnosis includes congenital syphilis, pyogenic osteomyelitis, fungal infections and tumors [3,7].

Our case initially manifested with painful swelling of different digits of hands and was treated at peripheral clinics as cellulitis and abscess, with antibiotics. During

follow up, radiograph was suggestive and the diagnosis was confirmed by histopathological examination. A peripheral blood smear and sickling test ruled out sickle cell disease, which forms a close differential diagnosis. This case report has been reported to highlight this unusual manifestation of a common disease.

Conflicts of Interest

None identified

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