

Case Report

Tubercular Dactylitis with Discharging Sinus in a 5 Year Old Female Child-A Rare Case Report

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Abstract: Osteoarticular tuberculosis comprises 1-4.3% of all tuberculosis cases and 10-15% of all extrapulmonary tuberculosis cases. Tubercular infection of the metacarpal, metatarsal and phalanges is known as tubercular dactylitis. Metacarpals and phalanges are more commonly affected than the bones of the feet and among the bones of the hand index and middle finger is more commonly affected. Tubercular dactylitis is a rare form of osteoarticular tuberculosis. It is usually common in children's. We hereby present a case report of tubercular dactylitis with discharging sinus in a 5 year old female that healed completely with antitubercular treatment.

Keywords: Tubercular Dactylitis, Antitubercular Treatment, Phalanges.

INTRODUCTION

Tuberculosis is a bacterial infection caused by *M.tuberculosis*. Pulmonary tuberculosis is its most common form. Osteoarticular tuberculosis constitutes 1-4.3% of all tuberculosis cases [1-2] and 10-15% of all cases of extrapulmonary tuberculosis [3]. Tubercular infection of the metacarpal, metatarsal and phalanges is known as tubercular dactylitis [4]. Rankin in 1886 identified tuberculous dactylitis by histological Technique. Feilchenfeld in 1896 described tuberculous dactylitis radiologically in children. Tubercular dactylitis is uncommon after the age of 5 years [5]. Tuberculous dactylitis is also called as spina ventosa, which is a descriptive term referring to any bone lesion that causes progressive absorption of cortex with progressive subperiosteal hyperplasia until radiologically the bone appears inflated and destructed [6]. We hereby present a rare case report of tubercular dactylitis in a 5 year old female with discharging sinus that healed completely with anti-tubercular treatment.

CASE REPORT

A five year old female presented to our outpatient department with history of pain, swelling and discharging sinus over (L) thumb since two and half months. The pain was insidious in onset, and on and off, Later it becomes constant not relieved by medications. Pain was followed by swelling over the thumb; the swelling was initially small and gradually increased in size. The swelling was bony in origin,

tender and local temperature was slightly raised. The swelling was later on followed by discharging sinus. There was no history of fever, weight loss or any systemic symptoms. There was no history of contact with pulmonary tuberculosis.

Laboratory investigation was not significant except for a slight raise in ESR (40mm/hr).

X ray of the involved part showed cystic lesion in the proximal phalanx of the (L) thumb with sclerosis around the cystic cavity. There was no periosteal reaction. X- Ray chest was normal.

After pre anesthetic work up biopsy of the lesion was planned. Biopsy of the lesion confirmed the diagnosis of tubercular dactylitis.

After it, antitubercular treatment was started with three drug regimen (isoniazid, rifampicin and pyrazinamide) for first three months followed by two drug regime (isoniazid and rifampicin) for next 9 months. The doses were adjusted according to the weight of the child. For first month a splint was given for support of the thumb and to decrease the pain because of movement and after then active mobilization was started. The discharging sinus healed completely after two months. The patient was followed monthly till six months and once in two months thereafter. After 12 months the patient was able to do all his work with his

thumb with full range of movement and no deformity was present.



Fig.1: x ray of hand showing cystic lesion in the proximal phalanx of the (L)thumb with sclerosis around the cystic cavity



Fig.2: clinical photograph showing healed discharging sinus

DISCUSSION

Osteoarticular tuberculosis comprises 1-4.3% of all tuberculosis cases and 10-15% of all extrapulmonary tuberculosis cases. 85% of children with tuberculous dactylitis are younger than six years of age and the incidence among children who had prior history of tuberculosis was reported to be 0.65%-6.9% [7].

Metacarpals and Phalanges are more commonly affected than the bones of the feet and among the bones of the hand index and middle finger are more commonly affected [8]. The diagnosis is usually delayed because of lack of specific sign and symptoms.

Radiographic manifestations shows a spectrum of changes varying from soft tissue swelling (90%), osteopenia (72%), joint space narrowing (66%), cysts(66%), erosions (64%), bony sclerosis (20%),

periostitis (15%) to calcifications (5%) [9]. Radionuclide scanning usually shows uptake of Technetium 99 diphosphonate, and T2-weighted images in MRI may show bone marrow expansion.

During childhood, a large nutrient artery enters almost in the middle of these short tubular bones of the hand and feet. Therefore the first inoculum of infection is lodged in the centre of the marrow cavity of these tubular bones and the interior of the short tubular bone is converted into a tuberculosis granuloma. This leads to a spindle shaped expansion of the bone (SPINA VENTOSA) and therefore nutrient artery of the involved bone is occluded leading to the destruction of internal lamellae of the bone and subsequent formation of sequestra.

Tubercular dactylitis need to be differentiated from dactylitis in pyogenic osteomyelitis sickle cell disease, congenital syphilis, fungal infections, histiocytosis X and bone tumors(enchondromata and fibrous defect). Sickle cell dactylitis, is similar to that of tubercular dactylitis and is characteristically bilateral and irregularly sclerotic new bone formation. In syphilis, the bone is periosteal reaction is very marked. Clinically, pyogenic osteomyelitis is acutely painful, swollen, and hot, with high grade fever. Tuberculous osteomyelitis is more often only mildly painful, fever is minimal, and the whole condition has a benign course and radiographically periosteal reaction is absent or sparse [8].

Management includes antitubercular therapy and rest to the affected part with early mobilisation of the joint. With antitubercular therapy most of the lesions heal. Surgical intervention is indicated when the response is unfavourable or recurrence of the infection. If the joint is ankylosed in the akward position excisional arthroplasty or corrective osteotomy is indicated. If a finger has ankylosed of more than one joint, is grossly deformed scarred and interfering with normal functioning amputation of the finger or the corresponding ray may be considered.

In our case also the disease healed completely with conservative treatment by antitubercular therapy.

CONCLUSION

In children presenting with pain swelling and discharging sinus over small bones of the hand and feet with a discharging sinus which is not responsive to the treatment a diagnosis of tubercular dactylitis should always be considered in mind especially in the endemic region. the treatment is usually conservative with good results.

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