

Tuberculous dactylitis: A case report.

Sanjay Kumar Tripathi¹, Azad Khan¹, Shalesh Kumar¹, Nitin Kumar Agarwal², Vaibhav Krishna¹, Pulkit Jain³

¹Senior resident, Department of Orthopaedics and Trauma, Teerthanker Mahaveer Medical College and Research Centre, Moradabad, Uttar Pradesh.

²Assistant professor, Department of Orthopaedics and Trauma, Teerthanker Mahaveer Medical College and Research Centre, Moradabad, Uttar Pradesh.

³ Junior Resident, Department of Orthopedics and Trauma, Teerthanker Mahaveer Medical College and Research Centre, Moradabad, U.P.

Received: August 2016

Accepted: September 2016

Copyright: © the author(s), publisher. It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Tuberculous dactylitis (TD) is an uncommon presentation. It is also known as spina ventosa. Mycobacterium tuberculosis is the causative agent responsible for Tuberculosis. We here present a case of a young adolescent female presenting with complaints of pain and swelling in middle finger region for the last seven month. She was diagnosed as case of tubercular dactylitis and was managed surgically along with anti-tubercular chemotherapy.

Keywords: Tuberculous Dactylitis, Spina ventosa, Tubercular granuloma.

INTRODUCTION

Tuberculous Dactylitis (TD) is the uncommon form of osteoarticular tuberculosis. It is also termed as Spina ventosa.^[1] It is a lesion in which there is progressive absorption of the medullary canal bordered by the cortex. Radiographically there is inflation and destruction of bone.^[2] Causative agent is Mycobacterium tuberculosis. Rankin described tuberculous dactylitis by histological technique and Feilchenfeld radiographically elaborated tuberculous dactylitis in children.^[3] Gout, benign and malignant tumors, noninfectious granulomatous disease, sickle cell dactylitis, endocrinopathies, metabolic disorders, pyogenic and fungal osteomyelitis, Brodie's abscess, syphilitic dactylitis, brucellosis, and actinomycosis are diseases that mimic and radiologically confuses with tuberculous dactylitis.^[2] X-ray and biopsy are the diagnostic modalities. Here we are reporting a case of adolescent girl with swelling and pain over middle finger diagnosed as tuberculous dactylitis on X-ray followed by biopsy. She was managed with surgical curettage along with anti-tubercular chemotherapy.

Name & Address of Corresponding Author

Dr. Sanjay Kumar Tripathi
Senior resident,
Department of Orthopaedics and Trauma,
Teerthanker Mahaveer Medical College and Research
Centre,
Moradabad, Uttar Pradesh, India.

Fourteen years old adolescent girl came to outpatient department with history of progressively increasing painful and swelling of the left middle finger since 7 months old with discharging sinus [Figure 1].



Figure 1: clinical picture showing swelling with discharging sinus of middle finger.

Pain was insidious in onset, continuous and mild in intensity. It used to subside with medications. The patient came after consulting other physicians who diagnosed it as an infective etiology and prescribed antibiotics but there was no improvement in pain and swelling. There was history of low grade fever off and on which used to subside on taking

CASE REPORT

medication. There was no history of loss of appetite, any trauma, or any history of contact of tuberculosis. On local examination there was globular swelling over left distal middle finger which was tender to touch. Temperature was not raised. Skin over the swelling was shiny and tense. There was a discharging sinus with history of off and on discharges. Movement at distal interphalangeal joint was not possible due to pain. X-ray of hand was done which showed lytic expansile lesion with fracture [Figure 2]. There was soft tissue swelling. Joint line was maintained.



Figure 2: X-ray of hand showing lytic expansile lesion with fracture.

Hemoglobin was 8.7 grams/deciliter and ESR was raised (87 mm in first hour). Mantoux test was positive. Ziehl Nielsen staining and culture were negative. On palpation on left side axillary lymph node were enlarged (1× 1 cm). On fine needle aspiration cytology from axillary lymph node there was multinucleate giant cells, plenty of plasma cells, and epitheloid cells suggests of granulomatous inflammation. Patient was diagnosed with tubercular dactylitis. Surgery was planned and curettage was done and biopsy was sent which confirmed the diagnosis of tuberculous dactylitis and antitubercular treatment was started. Treatment with four anti-tubercular drugs (pyrazinamide, ethambutol, Isoniazid, rifampicin) was given for 18 months. Patient was followed at 6 weeks, 3, 6, 12 and 18 months. Gentle physiotherapy was started at 6 weeks. Swelling and pain substantially decreased with partial gain of movement of distal interphalangeal joints.

DISCUSSION

Large nutrient artery enters in the middle of short bones of hand and foot and forms spina ventosa. Infection is lodged in these sites and readily converted into tuberculosis granuloma. There is destruction of lamellae of bone and formation of sequestra which is due to occlusion of nutrient artery. It is common in childhood. Males are more commonly affected than that of females (3:1). 24%

of cases of spina ventosa were earlier infected by tuberculosis.

In 1886 Rankin described tuberculous dactylitis by histological technique and in 1896 Feilchenfeld radiographically elaborated tuberculous dactylitis in children.^[3]

Usually there is delay in diagnosis which is due to Nonspecific clinical manifestations, Paucibacillary nature of the lesion, Lack of high index of suspicion and poor awareness among the clinicians, Absence of concomitant pulmonary involvement. Proximal phalanx of the index and middle fingers the commonest sites for infection. Proteolytic enzymes are not released by the mycobacterium tuberculosis because of which there is no destruction of cartilage, due to which there is good prognosis of patients with tuberculous dactylitis.^[4] Tubercular infections generally do not present its classical symptoms hence periosteal reactions, sequestra and sclerosis are not common features.

The differential diagnosis for tuberculous dactylitis could be gout, benign and malignant tumors, noninfectious granulomatous disease, sickle cell dactylitis, endocrinopathies, metabolic disorders, pyogenic and fungal osteomyelitis, Brodie's abscess, syphilitic dactylitis, brucellosis, and actinomycosis can mimic and resemble tuberculous dactylitis.^[2] Spina ventosa lesion which is caused by mycobacteria, progression is slow while the infection causes the rapid bone destruction. Spina ventosa is differentiated by enchondromatosis by characteristics of punctate calcification and sarcoidosis as there is no bony expansion and periosteal new bone formation.^[4]

Use of PCR technique may increase sensitivity and help to differentiate from non-tuberculous mycobacteria (such as *M. marinum*) that can even lead to soft tissue infections.

Management includes antitubercular therapy with or without curettage and immobilization of the affected part. Surgical intervention is indicated when the response is not appropriate and appreciable. If the joint is ankylosed, excisional arthroplasty or corrective osteotomy can be done. Amputation of the finger is considered if a finger has ankylosed of more than one joint or grossly deformed and interfering with normal functioning.^[5]

CONCLUSION

Tuberculous Dactylitis (TD) is the uncommon form of osteoarticular tuberculosis. It should be differentiated from other diseases mimicking it. The sooner the diagnosis better the prognosis. It is usually treated with antitubercular drugs and in cases where there is joint ankylosis or any deformity causing difficulty in normal functioning, surgical intervention is required. 18 months of anti-

tubercular treatment should be administered for the good results.

REFERENCES

1. Malik S, Joshi S, Tank JS. Cystic bone tuberculosis in children--a case series. *Indian J Tuberc.* 2009; 56(4):220–4.
2. L. Maruschke, T. Baumann, H. Zajonc, and G. Herget, "Monostotic fibrous dysplasia of the middle phalanx of the hand," *Journal of Medical Cases*, vol. 4, no. 5, pp. 318–322, 2013. View at Publisher •
3. Karanas, YL. and Yim, KK.; *Mycobacterium tuberculosis* infection of the hand: a case report and review of the literature; *Ann Plast Surg.*; 1998,40,65-7
4. Andronikou S, Smith B (2002) "Spina ventosa" tuberculous dactylitis. *Arch Dis Child* 86(3):206
5. L. J. Nelson and C. D. Wells, "Global epidemiology of childhood tuberculosis," *The International Journal of Tuberculosis and Lung Disease*, vol. 8, no. 5, pp. 636–647, 2004.

How to cite this article: Tripathi SK, Khan A, Kumar S, Agarwal NK, Krishna V, Jain P. Tuberculous dactylitis: A case report. *Ann. Int. Med. Den. Res.* 2016; 2(6):OR04-OR06.

Source of Support: Nil, **Conflict of Interest:** None declared