CASE REPORT

A Young Male with Swelling of Back of the Forearm

Sanwar Nawaz Khan[1], Mustafijur Rahman[2], Rashidul Hassan[3], Salma Akhter[4], Shamsul Arafeen Khan[5]

Abstract

Tuberculosis is a major health issue in developing countries and can affect any bone in the body including the ribs, skull, hand, wrist, phalanx, pelvis and long bones. In our case, a young man presented with swelling of back of upper forearm and fever for 2 months. He gave history of tubercular lymphadenitis (right cervical) one and half year back. FNAC from swelling of right forearm showed abscess. Culture and sensitivity of aspirate from swelling of right forearm showed no growth. Chest X-ray and CT scan of chest was normal. Biopsy of right supraclavicular lymph node showed reactive change. X-ray of right elbow showed lytic lesion in upper end of radius. Gene X-pert from aspirate of swelling of forearm detects MTB and RIF sensitive. AFB culture and sensitivity from aspirate of swelling of forearm which showed growth of MTB and sensitive to rifampicin and INH.

Key words: Tubercular osteomyelitis

Abbreviations: MTB: Mycobacterium tuberculosis, FNAC: Fine needle aspiration cytology.

Bangladesh j. pulmonol. case reports. 2018; 1(1): 70-72

Introduction

Tuberculosis has been known to mankind since ancient times. Evidence of tuberculosis in human's dates back to 2400-3400 B.C where mummies have been shown to have evidence of disease in their spines. Earlier this disease has been called by numerous names including consumption (because of the severe weight loss and the way the infection appeared to "consume" the patient), phthisis pulmonaris and the white plague (because of the extreme pallor seen among those infected). The tubercle bacilli or the causative organism of tuberculosis was demonstrated by Robert Koch in 1882.

Case Report

A 22 year male, driver, substance abuser from urban residency presented with the complaints of swelling of back of upper forearm and fever for 2 months. The swelling was about 1.5 cm in diameter, initially firm in consistency then it became soft associated with pain in right elbow joint which aggravated during movement, not fixed with underlying and overlying structure and no discharging sinuses. He also noticed low grade intermittent fever for 2 months with evening rise of temperature and night sweats not associated with chills and rigor. There was no history of cough, breathlessness, chest pain, hemoptysis, weight loss or loss of appetite. He had history of contact with PTB patient. One and half year back he was diagnosed as a case of Tubercular Lymphadenitis (FNAC proven, granuloma with caseation necrosis) and was prescribed Cat-1 Anti TB drugs for 12 months.

On general examination, he was ill looking with average body built. His pulse was 80 beats/min, blood pressure 110/70 mm of Hg, respiratory rate 18 breaths/minute and temperature 99°F. A right supraclavicular lymph node was palpable about 1.5x 1.5 in size, non tender, firm in consistency, free from underlying and overlying structure. There was no discharging sinus. A scar mark over right lower cervical region was seen. There was a swelling over back of right upper part of forearm, about 3x2 cm in

1. MD (Resident, Phase B).
2. Medical Officer.
3. Professor of Respiratory Medicine & Ex Director.
4. Assistant Professor, Respiratory Medicine.
   National Institute of Disease of the Chest and Hospital (NIDCH),Mohakhali, Dhaka,
5. Professor, Medicine, Kumudini Women's Medical College, Mirzapur, Tangail.

Address of Correspondence: Dr. Sanwar Nawaz Khan, MD (Phase B Resident), Respiratory Medicine, NIDCH, Dhaka. Cell: 01712217618, e-mail: sanwarnawaz@gmail.com

Received: 15 Nov. 2017 **Accepted:** 29 Nov. 2017

size, firm in consistency, non-tender, movable, temperature not raised over the swelling, not fixed with underlying and overlying structure, no discharging sinus and fluctuation test positive. Elbow joint appeared normal but joint movement slightly restricted with tenderness. Examination of chest and other systems was normal. A clinical diagnosis of disseminated TB (Tubercular lymphadenitis in right supraclavicular lymph node and bone TB in right elbow) was made.

Laboratory investigations showed CBC and other biochemical parameter were within normal limit. Mantoux test was 20 mm. FNAC from right supraclavicular lymph node showed reactive changes and FNAC from swelling of right forearm showed abscess. Culture sensitivity of aspirate from swelling of right forearm showed no growth. Gene X-pert from aspirate of swelling of forearm detects MTB and RIF sensitive. AFB culture and sensitivity was sent from aspirate of swelling of forearm and Anti TB Category II started. Chest X-ray and CT scan of chest was normal. X-ray of right elbow showed lytic lesion in the upper end of radius. Patient improved clinically with disappearance of swelling within two months. AFB culture and sensitivity showed growth of MTB with sensitivity to rifampicin and INH. The final diagnosis was tubercular osteomyelitis of right radius.

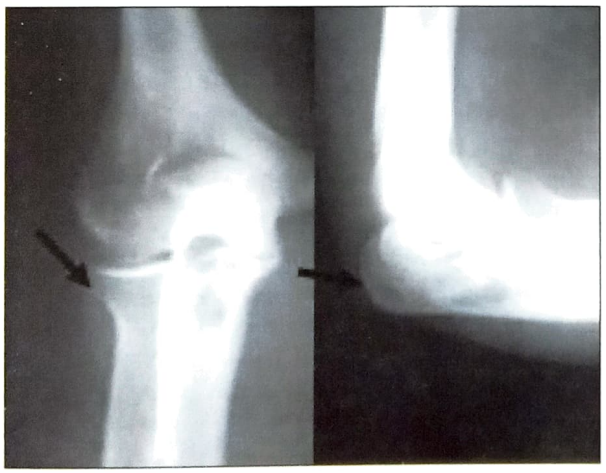

Figure 1: *X-Ray Right Elbow Showing Lytic Lesion In Upper End Of Radius.*

Discussion

Tuberculosis is a major health issue in developing countries and can affect any bone,[1] including the ribs, skull, hand, wrist, phalanx, pelvis, and long bones. The clinical findings are not specific and the only early symptoms are swelling and pain in the involved area. Therefore, it is often neglected or the diagnosis is delayed. The onset is often insidious but in rare cases the onset may be acute or sub acute. Typically, osteomyelitis occurs at a single site. However, rarely bony involvement can be multifocal. The location and presentation can be variable. Sternal osteomyelitis due to M. tuberculosis may follow coronary artery bypass surgery[2] as a presentation of underlying mediastinal tuberculosis[3] or as primary sternal osteomyelitis.[4] Bony tuberculosis of the rib may present as a breast mass or chest wall mass.[5, 6] Tuberculosis of the small bones of the hand can occur spontaneously in patients with no clinical signs of pulmonary tuberculosis.[7] Tuberculous mastoiditis can extend into the skull and produce facial nerve palsy.[8]

Lytic bony tubercular lesions in areas as unusual as the symphysis pubis, sacroiliac joint, and elbow can be misdiagnosed as metastatic malignancy.[9] In some cases, bony infection may spread to contiguous soft tissues or even adjacent joints. Isolated involvement of bone by tuberculous infection is uncommon, and the variable clinical and radiological findings may mimic chronic pyogenic osteomyelitis, Brodie's abscess, bone cysts or other granulomatous lesions.[10-13] Surgery is a valuable adjunct in establishing the diagnosis by histopatholigcal analysis, evacuation of an abscess or debridement of necrotic bone.

Conclusion

Diagnosis of Tuberculous osteomyelitis requires a high index of clinical suspicion. Markers of acute inflammation/infection such as ESR and C- reactive proteins are usually elevated, but are nonspecific. Radiographic appearances of TB osteomyelitis depend on the stage of presentation at diagnosis, ranging from mild soft tissue swelling to areas of osteolysis with local osteopenia. Similar radiological findings may be seen in many other conditions. Histopathological evaluation and culture of the organism is the mainstay of diagnosis. Antituberculous chemotherapy is the cornerstone of the management of skeletal tuberculosis.

Acknowledgement

Author Contributions: Dr.Sanwar Nawaz Khan had full access to the case report and takes responsibility for accuracy of the article.

Dr. Sanwar Nawaz Khan, Professor Dr. Rashidul Hassan & Professor Dr. Shamsul Arafeen Khan

contributed to case selection, history writing, reporting, relevant investigations & critical revisions of the manuscript.

Dr. Mustafijur Rahman, Dr. Salma Akhter contributed to critical revisions of the manuscript.

Conflict of Interest: The authors of this paper have declared that there is no conflict of interest to any of the authors.

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