

Case Report

Elbow Tuberculosis Mimicking Chronic Osteomyelitis-A Case Report

Dr. Sudhir Shyam Kushwaha¹, Dr. Kumar Shantanu¹, Dr. Deepak Kumar¹, Dr. Garima maurya², Vineet Sharma¹

¹M.S (Orthopaedics) King George's medical university, Lucknow, U.P-226003, India

²M.S (Obs&gynae), King George's medical university, Lucknow, U.P-226003, India

***Corresponding author**

Dr. Sudhir Shyam Kushwaha

Email: sudhirshyamkushwaha@gmail.com

Abstract: Tubercular involvement of peripheral joints is not very common. Elbow tuberculosis constitutes about 2-5 % cases of osteoarticular tuberculosis. A fifteen year old male student presented to our outpatient department with chief complaints of pain, swelling and discharging sinus over the (L) elbow since six months. Initially it was suspected as chronic osteomyelitis of distal humerus but open biopsy proved the tubercular involvement of the elbow. After 18 months of antitubercular treatment the lesion healed completely and patient had full range of motion. Because of the low incidence of elbow tuberculosis the diagnosis is usually missed but with a degree of suspicion and clinico-radiological investigations the diagnosis can be made followed by confirmation with biopsy. Antitubercular treatment coupled with general measures to increase immunity can cure the disease in most of the cases.

Keywords: Elbow tuberculosis, biopsy.

INTRDUCTION

Tubercular involvement of elbow is not common. With the resurgence of tuberculosis in the recent times the number of cases has also increased too, but still the incidence is rare. Tubercular involvement of the elbow constitutes about 2-5% of the all cases of osteoarticular tuberculosis [1]. The disease usually starts from olecranon or the lower end of humerus, or proximal radius and could be synovial in origin sometimes [2]. Because of the low incidence of elbow tuberculosis the diagnosis is usually missed. In developing countries the diagnosis can be made with a degree of suspicion and clinico-radiological investigations .We hereby report a patient with unusual presentation of the osteo-articular tuberculosis of the elbow which was presenting as chronic osteomyelitis.

CASE PRESENTATION

A fifteen year old male student presented to our outpatient department with chief complaints of the pain, swelling and discharging sinus over the (L) elbow since six months .the patient was giving a history of massage and manipulation by the colleagues during playing. After one month the patient had pain and swelling over the (L) elbow .The pain was insidious in onset and later it increases in intensity followed by swelling over the elbow .Then after few weeks the swelling was drained by a local practitioner. After few weeks of antibiotic treatment the wound size decreased but it doesn't heal completely even after 6 months and

persisted as discharging sinus. Because of chronic discharging sinus, secondary infection and slight periosteal reaction on plain radiographs, initially it was presumed as chronic osteomyelitis of the distal humerus but after debridement, lavage and open biopsy of the synovium tubercular infection was proved as the etiology of the lesion. There was no history of fever or weight loss or contact with a patient of tuberculosis.

INVESTIGATIONS

Antero-posterior (in maximum extension possible) and lateral radiographs in flexion were taken .The plain radiograph showed juxt articular osteopenia around elbow joint with haziness of the metaphyseal region with periosteal reaction over distal humerus and shaft radius and ulna. The periosteal reaction was probably due to secondary infection(fig1).The Total leukocyte count was 7100/cumm and DLC was also noramal.ESR was 30 mm per hour .Rest of the blood investigations were under normal range.PCR of the material from the sinus was negative for mycobacterium tuberculosis and M.genus(MOTT).MRI shows signal intensity alterations in the adjacent muscles and overlying soft tissues and marrow edema is noted in proximal part of ulna and radius suggestive of infectious etiology. The only confirmatory investigation was synovial biopsy which shows tubercular involvement of the elbow joint.



Fig 1: Preoperative x-ray of the elbow joint showing periosteal reaction and juxta articular osteopenia

TREATMENT

After carrying out investigation and anesthesia clearance the patient was planned for the arthotomy, drainage of the abscess and thorough lavage of the elbow joint and synovial biopsy of the elbow joint and a above elbow plaster of paris (POP) slab was given. After biopsy proved tubercular involvement the patient was started with antitubercular treatment with four drug therapy for three months and three drug for four months followed by two drug therapy for the remaining months with total duration of 18 months. A short course of the broad spectrum antibiotic was also given for secondary infections. The discharging sinus healed after three months of the Antitubercular treatment. Range of motion (ROM) exercises were promoted during whole treatment to prevent stiffness of the joint.

OUTCOME AND FOLLOW-UP

The patient was regularly followed for every four to six weeks. The discharging sinus healed after three months of the Antitubercular treatment. Radiologically, the changes disappear completely after 18 months of treatment (fig.2). ROM exercises were promoted during whole treatment to prevent stiffness of the joint.



Fig 2: X-ray of the elbow joint after the completion of Anti-tubercular treatment.

DISCUSSION

Tubercular involvement of the peripheral joints is rare. Before the advent of effective antitubercular drugs tuberculosis was a killer disease and claimed many lives. But the discovery of the antitubercular drugs the cases of TB decreased sharply. With the increase in the immunodeficiency condition like AIDS, alcoholism, and drug addiction there is resurgence in cases of Tuberculosis. Osteoarticular tuberculosis accounts for about 5% of the cases of tuberculosis and out of which elbow constitutes 2-5% of the cases. Clinically, the diagnosis of osteoarticular tuberculosis is most of time not straightforward. A high degree of suspicion combined with clinical examination followed by investigation can lead to the diagnosis. Symptoms of TB arthritis are always subtle and usually the diagnosis is delayed by weeks to years [3]. Usually Patients present with pain, swelling, decreased range of movement. The pathogenesis includes hematogenous spread of the tubercle bacillus from pulmonary foci and in some cases by lymphatic route. The synovium in response to the bacterial invasion produce inflammatory reaction with granulation and pannus formation, cicatrization followed by the erosion of the cartilage and bone. This early infection is non-pyogenic, so no proteolytic enzymes are formed; therefore cartilage is not damaged until later in the disease process when secondary pyogenic infection may develop [4]. Systemic symptoms are not present in extrapulmonary tuberculosis and pulmonary disease is seen on chest radiographs of 50% of patients only. Plain radiography of the joint show non-specific changes in early stages including joint effusion soft tissue swelling, juxta articular osteopenia and subchondral erosions. But as secondary pyogenic infection develops, narrowed joint space and peripheral osseous lesions [5] are seen followed by fibrous ankylosis. Anti-tuberculosis drug therapy and early mobilization is the aim. Most of the patients respond with conservative antitubercular therapy with reasonable joint movement. Surgery is indicated for biopsy, in resistant cases for Synovectomy and arthrodesis [2].

REFERENCES

1. Dhillon MS, Goel A, Prabhakar S, Aggarwal S, Bachhal V. Tuberculosis of the elbow: A clinico radiological analysis. Indian journal of orthopaedics. 2012 Mar 1; 46(2):200.
2. Jain R, Sawhney S, Berry M. Computer tomography of vertebral tuberculosis: patterns of bone destruction. Clinical radiology. 1993 Mar 1; 47(3):196-9.
3. Khan K, Muennig P, Behta M, Zivin JG. Global drug-resistance patterns and the management of latent tuberculosis infection in immigrants to the United States. New England Journal of Medicine. 2002 Dec 5; 347(23):1850-9.
4. Tuli SM. General principles of osteoarticular tuberculosis. Clinical orthopaedics and related research. 2002 May 1; 398:11-9.
5. De Backer AI, Mortelé KJ, Vanhoenacker FM, Parizel PM. Imaging of extraspinal musculoskeletal tuberculosis. European journal of radiology. 2006 Jan 31; 57(1):119-30.