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Osteoarticular tuberculosis of Elbow: A Rare Case Report

Orthopaedic

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ABSTRACT

Mycobacterial infections of the upper extremities are rare with musculoskeletal system involvement in 1-3% of tuberculosis patients and accounts for 10% of all extra-pulmonary tuberculosis. Elbow joint is most frequently involved in upper extremity accounting for 2 to 5% of all skeletal localizations. We report a case of extra spinal musculoskeletal Tuberculosis involving right elbow joint. Early diagnosis and treatment is important to prevent serious joint and bone destruction. Although biopsy is required to make definitive diagnosis, it is imperative that radiologists understand the typical distribution patterns and imaging manifestations. Reviews of literature with emphasis on imaging features are studied.

KEYWORDS:

osteoarticularTuberculosis, Biopsy, Elbow joint, monoarthritis therapy

Introduction

Tuberculosis is an airborne infectious disease. one third world's population has tuberculosis and approximately two million people die due to tuberculosis each year. There are approximately 30 million active tuberculosis cases worldwide. At though the lung is the primary tuberculosis involvement site, skeletal system involvement is seen in 1-3 % of patients ,vertebral involvement is most common in case of skeletal system involvement. hip, knee, foot, elbow, hand, shoulder joints and bursa may be involved skeletal system involvement as tuberculosis usually manifests as monoarthritis, but 10 % of the patient may have polyarthritis. Tuberculosis as upper limb is rare, elbow joint involvement is observed (1-5) ,we aim to present the case of 57 year old female who presented with septic arthritis to clinic but who diagnosed with tuberculosis of elbow.

Case presentation

A 57 year old female patient was admitted to our department with complaints of pain, swelling, redness and limitation of movement of his right elbow, His symptoms started 6 months ago, There was no history of trauma. The patient admitted to the orthopedic clinic and cefuroxime axetil and naproxen sodium treatment was started, Because of continued complaints he was referred to our rheumatology outpatient clinic. There was pain, swelling , redness and limitation of movement his right elbow. His medical history revealed pulmonary Tuberculosis (30 year ago). His family history showed that his father had lung Tuberculosis. and lung cancer, His blood analysis was as follows TLC- 7400/mins, platelet count- 372000/mm .Hb -12.1 g%, glucose level- 149 mg, reticulocyte level 0.6 mg/al. alanine transaminase level -189 IU /l, sodium- 138 ma/l contracture in the elbow joint and erosive degenerative changes in the proximal ulna were seen in his direct elbow graphic. bilateral sequevle changes in the apex of the long were seen in his attract lung graphics ,changes in bone density , thicking of synovial structures and contrast enhancement of the medullary bone marrow and effusion were seen on magnetic resonance imagine .MRI of the elbow a signification increased joint fluid level was detected in songraphic examination of the right elbow. joint fluid aspiration was performed and it was purulent, Acid resistance and gram staining . cell count the acid resistant stain was positive. Isoniazide, rifampicin, pyrazinamide and ethambutol therapy was started with the diagnosis of Tuberculosis elbow. On the fifth day of antituberculosis treatment, loss of color vision was detected and ethambutol was replaced with streptomycin. Despite the Tuberculosis there was no clinic improvement and the effusion and purulent appearance incresed. New cutures were studied ,On the eight day of treatment, vancomycin was added with septic arthritis kept in mind. After orthopedic consultahtion as the patient showed no improvement with art tuberculosis treatment, drainage was performed. The dignosis of tuberculosis artitis was corfirmed whom the treatment mycobactrium altire was positive . mycobactrioum tuberculosis bacilli were stained form there culture on 30th day of followup. patient was finally discharged with anti tuberculosis therapy, After two months patient had no complaint except limitation of elbow motion.

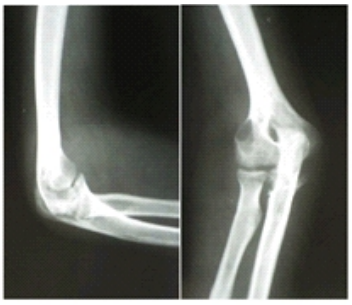

Figure1: AP and lateral view of right elbow joint shows multiple well defined non sclerotic lytic lesions in both humeralcondyles and olecranon process

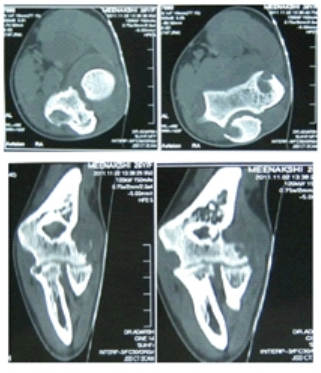

Figure 2: Axial and coronal plain CT of right elbow joint shows multiple well defined nonsclerotic lytic lesions in both humeralcondyles,olecranon and radial head region with synovial thickening and joint effusion

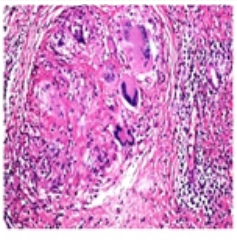

Figure 3: Histopathology report of synovial membrane of right elbow joint showing Tuberculosis giant cel

Discussion

musculoskeletal tuberculosis tends to be uncommon and accounts for

around only 1-3% of the most common site for tuberculosis. The spine is the most common site for musculoskeletal involvement, followed by the pelvic, hip and knee, ribs, elbow joint involvement is early reported litrature (4-7 %) because of HIV interaction .osteoarticular TB is difficult to clinically diagnose. The most important step in the diagnosis of TB clinical suspicious and good history. symptoms are usually nonspecific Edema, redness, warm, pain & limitation of motion can be seen. fever, malaise, anorexia, weight loss, night sweats & tachycardia may also occur. Many patients have high ESR but this is not diagnostic.

The positivity acid- resistant stain of joint fluid and positivity of M. tuberculosis barvi culture are diagnostic. Despite presence of tuberculosis infection, disinfection material is not stained or reproductive. In this conduction, biopsy is important for diagnosis.

Radiological investigations include Radiograph and MRI examinations; however, Radiographic changes are not specific. Effusion and soft tissue edema can be seen. early in the possible to separate patients with septic arthritis from those with joint TB.

after the diagnosis of TB, treatment showed initional very quickly and maintained for long in total, 90-95 % patients all records it treatment is started in the early period. There are indications for surgical debridement in the presence of intensive limitation. fever pain, limitation of joint movement on drug resistant.

TB should be consided in the diagnosis of monoanthritis in developing countries. In patient with antibiotic resistant septic arthitis, acid resistant starting showed be presumed and mycobacterium culture showed be taken. The most important step is remembering tuberculous arthitis.

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