Osteoarticular tuberculosis of wrist: A rare case report

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ABSTRACT
BACKGROUND: Osteoarticular tuberculosis is an infrequent form of the disease and monoarthritis of the wrist accounts for 1% of all cases of skeletal involvement. We describe a 24 year old patient presented with progressive left wrist pain and swelling, worsened for the last one month. Pain and swelling associated with fever. The past medical history was nonspecific and chest X-ray was normal. Laboratory findings were normal except moderate elevation of ESR and CRP levels. He had a strong PPD reaction with 17 mm induration. The radiographs of the wrist illustrated typical features for TB. He was started on anti-TB chemotherapy (Cat-I) and improved significantly. The differential diagnosis of this rare condition was discussed with the review of the literature.

Keywords: Osteoarticular Tuberculosis, Monoarthritis therapy

INTRODUCTION
Osteoarticular tuberculosis (TB) is an infrequent form of the disease and accounting for 1-5% of all cases1,2 peripheral joints are the most uncommon site of infection and presents as a low grade chronic progressive local infection with a paucity of systemic manifestations and most frequently in the trip or knee3 unawareness of the existence of this disorder and the absence of distinct sign and symptoms often lead to considerable delay in diagnosis and treatment1,4. We describe a patient with left wrist monoarthritis who was diagnosed as TB osteoarthritis and represenating a number a features typical for the condition.

Clinical History: A 24 year old male patient presented with progressive left wrist pain and swelling following a trauma 15 days earlier, in which he had fallen on his left upper extremity. At that time he had little swelling without erythema and mild pain on range of motion (ROM) of left wrist. When seen in hospital, the general physical examination was entirely normal. Slight increase in body temperature was present. He had considerable pain and severely restricted range of motion of the left wrist. Radiographs of the wrist was obtained, degenerative changes but no fracture was observed and he was prescribed non-steroidal anti-inflammatory agents no improvement was obtained and the stiffness and pain were progressively abasened. Early medical history was non significant. He had no history of TB or any immunosuppressive disease. There was no family history of TB infection nor of any rheumatic or autoimmune disease constitutional symptoms such as intermittent fever, anorexia, weight loss were present. He was not receiving a regular medication. Routine laboratory investigation including biochemical tests, complete blood cell count were all normal apart from an elevated ESR (80 mm/hr, normal <20 mm/hr) and CRP +ve, serological test for hepatitis viruses were negative. An HIV test, antibody were also negative. His chest X-ray was normal and USG Level put infant shown it. Sided not obscess, over velar a spect. An antero-posterior Radiograph of left wrist indicated soft tissue swelling joint space loss, gross articular destruction with erosion and cavities throughout corpus and metaangle bones. The abscess cavity was drained which was present over velar aspect or left wrist. USG guided FNAC was obtained which shows coseous and pyogenic.

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necrosis with occasional epitheloid cell nuclei, cultures for synovial fluid was negative.

**Diagnosis:** A diagnosis of osteoarticular TB was made depending on the clinical, radiological and pathological finding and he was started an antitubercular treatment with isoniazide, riforcin, pyozinome and streptomycin. Over a three month period, his symptoms and functional disability regressed. ESR returned to normal. He continues to follow-up as an out-patient in the orthopaedic non

**Treatment:** We decided to treat the patient with surgical drainage of abscess to confirm the diagnosis to suck out osteoarticular TB of wrist with histopathological examination. Drainage of left wrist yielded pus and inflammatory tissue sent for histopathological examination. Histopathological assessment showed caseous granuloma wrist staining confirmed the presence of acid-fast bacilli. The diagnosis of extrapulmonny tuberculosis arteries distal radius and corpal bone with tuberculous tenosynoritis.

**DISCUSSION**

Although TB is rarely seen in developed countries. It is still common in developing countries as a case of osteoarticular infection. TB arthritis most frequently causes a monoarthritis with a prediction for weight bearing joints such as hip, knee, shoulder or elbow. The wrist is an unusual site for osteoarticular TB. Isolated involvement of the wrist is rare and accounts for only 1% of all cases of peripheral osteoarticular TB. Our case represents a number of typical features for this condition

- Only about one third of patients who have osteoarticular TB have evidence of pulmonary disease and the majority of cases have normal chest X-rays.
- A history of trauma is commonly followed by inert progressive inflammation, weeks or months later.
- Constitutional symptoms are usually absent and signs of inflammation are mild.
- Although the symptoms may not be dramatic, chronic infection tends to be progressive and eventually length in radio graphically evident destruction of cartilage and bone.
- Synovial fluid culture for mycobacteria is positive in only 60-90% of cases and synovial biopsy is frequently required to establish the diagnosis of arthritis in the vast majority of cases.
- A positive PPD test result can be helpful in confirming a suspicious TB, but a negative result cannot rule it out.
- The diagnosis is often delayed and surgical intervention may be indicated especially when there is extensive bone and articular destruction.

Persistent monoarticular inflammation should raise concern about chronic infection or malignancy. The deferential diagnosis of this case includes, septic arthritis, lyme arthritis, chronic infection or malignancy. Septic arthritis produces dramatic inflammation followed by irreversible destruction of cartilage and bone. There are no specific radiographic features that are pathognomnic of TB infection or losses and joints and no clinical features that distinguish TB synovitis from other rheumatologic condition such as rheumatia arthritis or osteomychitis common radiological findings that should arouse suspicion of TB arthritis include, soft tissue swelling with little penosteal reaction and periarticular osteopenia, later joint effusion, narraring of the joint space and finally subchondial erosion involving both sides of the joint, cortical irregularly and large areas or cystic osteolysis. Our patient had all of these extensive radiological findings. A triad of radiographic findings (Petritsters triad) is characterstic of TB arthertis are Juxter-articuler osteoporosis, peripheral osseous erosion and gradual narrowing of interossous space, tumors
should always be suspected when there is chronic monoarticular inflammation with soft tissue mass and cartilage and bone destruction. Osteoarticular TB is a treatable condition with the course and progression testing on early recognition and aggressive treatment. Extrapulmonary TB should be managed according to the principles used for pulmonary TB. Initial treatment includes combination therapy with four drugs (Isonazid, Retapin, Pyrozinamide and Streptorycin or Ethambutol) because of frequency to isonized resistance. Antimicrobial therapy should be of minimum of month duration surgical intervention may be indicated for the treatment of intra and extraarticular destruction. Large abscess or joint determity and to restore movement as peumed in our patient, debudement, anetuge and arthrolyis, followed by vigorous physiotherapy are essential to active a better ROM. A program of isometric and ROM exercise should be established to preserve musae development and joint function.

CONCLUSION
In conclusion we report a patient who illustrate typical features and the aggressive nature or osteo-articular TB. The possibility of TB should be considered among young population with chronic progressive monoarticular symptoms that do not respond to conventional treatment to avoid long delay before the diagnosis and to establish the appropriate therapy.

REFERENCES