

OSTEO ARTICULAR TUBERCULOSIS: RARE CASE REPORTSM. D. Kumar¹, B. Vijayan²¹Professor, Department of Orthopedic Surgery, ESICMC & PGIMSR, Chennai.²Assistant Professor, Department of Orthopedic Surgery, ESICMC & PGIMSR, Chennai.

ABSTRACT: Osteoarticular tuberculosis is one of the rare forms of extrapulmonary tuberculosis especially when it involve the foot bones. This article highlights rare case reports of 3 cases of osteoarticular tuberculosis, 2 affecting the bones of foot and the third, the distal femur. Out of three cases 2 were treated as category 3 of RNTCP (Revised national tuberculosis control programme) and for the last case we added Inj. streptomycin during the first 2 months of treatment. It was found that the last case recovered quickly when compared to the other 2 cases. All three cases were very rare presentations amongst osteoarticular tuberculosis.

KEYWORDS: Osteoarticular Tuberculosis, Infection, Foot.

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INTRODUCTION: Osteoarticular tuberculosis is one of the rare forms of extrapulmonary tuberculosis 1... especially when it involve the foot bones. This article highlights rare case reports of 3 cases of osteoarticular tuberculosis 2, 2 affecting the bones of foot and the third, the distal femur. All three cases were very rare presentations amongst osteoarticular tuberculosis.

CASE REPORTS:

CASE 1: 27 Year old female home maker presented to our department of orthopaedic surgery with complaints of Pain and gradually increasing swelling in the right ankle and foot for 3 years. Pain was Insidious in onset, dull aching, Moderate in intensity, Aggravated by activities, Relieved by analgesics and taking rest. No history of constitutional symptoms or fever. On Local examination right ankle is in slight plantigrade position with fore foot in flexion and slight adduction. A Hemispherical swelling of size around 3 cm by 3 cm was seen over the medial border of the foot antero inferior to medial malleolus. (Fig. 1, 2).

On Palpation Soft boggy swelling was palpable over the medial aspect of the right foot which is warm and slightly tender. Range of movements in the Ankle and subtalar joints were restricted to less than 15-20 degrees. Radiographs were ordered (Fig. 3,4) and CT scan was also taken (Fig. 5,6,7). Investigations were within normal limits except for anemia (Hb -9.0 g%) and elevated ESR (30 Min-40 mm/ 60 min-85 mm).Mantoux test was positive.

CT REPORT suggested features of chronic osteomyelitis of talus with sequestrum and cloaca with soft tissue swelling. We planned for incision with thorough curettage. per OP photo showed caseous material along

with a cavity (Fig. 8, 9). The specimen was sent for histopathological examination showed the classical caseous necrosis (Fig. 10, 11). Post operative radiographs show the healed lesion (Fig. 12). sputum smears were negative. The patient was treated with category 3 regimen of RNTCP³.

CASE 2: 47 year old lady presented with Chief complaints of Pain and swelling in the left foot for 9 months. she didn't have any constitutional symptoms or fever. On Local examination swelling of size around 3 cm by 2 cm was seen over the medial border of the foot antero inferior to medial malleolus. The patient was admitted and the swelling was initially treated with IV antibiotics but there was no response. Investigations were normal except for anemia and raised ESR with a positive mantoux test. x ray was ordered along with CT scan showed a doubtful hypointense area with bony erosion (Fig. 13) hence the patient was planned for incision biopsy. Biopsy was taken from the navicular bone and sent for histopathological examination which confirmed the diagnosis of osteoarticular tuberculosis. The patient was started on ATT as category 3 of RNTCP initially. Patient had an active draining abscess at the end of 4 weeks and incision and curettage was repeated. Patient was a defaulter in treatment and follow up hence she was shifted to category 2 of RNTCP. Weight bearing as tolerated was allowed from 6 weeks.

CASE 3: A 26-year-old lady presented to our department of orthopaedic surgery with a painful, swollen right knee. we noticed a small swelling on the right knee and was treated with NSAIDS. she lost follow up and she presented 8 months later with a large lump on the antero medial aspect of her right knee.

She had a moderate effusion of her right knee and a large swelling in the antero medial aspect. on clinical examination the swelling was warm and tender and she was afebrile at the time of examination, the range of movements were full and relatively pain free for the

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amount of swelling (Fig. 14). She was admitted for evaluation. The swelling was fluctuant and hence aspiration was attempted but even with a 14 gauge needle we had a dry tap. Radiography was done and a small hypodense area was identified in the distal femur for further evaluation CT and MRI was done (Fig 15 and 16 respectively) and showed a well demarcated osteolytic lesion with a cortical break and was reported as focal osteomyelitis in the epimetaphyseal region of medial aspect of lower femur with cortical break in the medial aspect of lower femur & a large abscess in the subcutaneous plane extending into the suprapatellar recess under the vastus medialis muscles by our radiologist. Clinically and radiologically giant cell variants, osteomyelitis or malignancy were considered for the diagnosis. Empirical broad spectrum antibiotics were started but did not show any response. Hence open biopsy was planned and pre anaesthetic assessment obtained. The incision was planned taking consideration of the future incision considering it may be a malignant lesion.

On opening cheesy white material was seen and a large sac was identified and the entire contents were found communicating with the bone and removed in total and sent for histopathological examination separately and the aspirate sent for biochemical and microbiological examination. On gross appearance we suspected tuberculosis and a total of 100 - 150 mL of caseous material with fluid was removed from the swelling and sent for Gram staining, AFB staining, culture and microscopy. Culture yielded negative results, and no crystals were seen. AFB Staining was positive and cytology reports HPE reports the joint was rested with a plaster slab. Histopathology reports confirmed the diagnosis and was reported as caseating necrosis seen along with chronic inflammatory cells like epithelioid cells, lymphocytes, plasma cells and occasional langerhan's type giant cells consistent with tuberculosis⁴... Mantoux test was done only after surgery and found to be weakly positive.

Along with category 3 as per RNTCP this patient received weekly streptomycin injections topically during the intensive phase. Patient was followed up showed a dramatic response and full range of motion. (Fig. 17, 18) subsequently the patient was followed up and eventually got married and was continuing ATT as per schedule. She subsequently developed a similar osteolytic lesion in right arm confirmed to be of tuberculosis and x-ray was taken (Fig. 19) She did not have chest involvement despite migratory osteoarticular tuberculosis and her chest x ray was clear. (Fig. 20) She had a cold abscess which was drained and again injected with 1 gram of inj. Streptomycin her intensive phase of ATT was started again with the consent of chest physician she in follow up. Surgical debridement was deferred in this case and aspiration alone was done and she is in follow up.

DISCUSSION: All our patients had presented in an atypical manner and in the third case mantoux were found to be only weakly positive compared to other two cases. All

the three patients were females and the first and last case was in third decade while the second case was in fifth decade. The predominance of extremity involved was found to be the dominant side and all three cases involved the lower limb first and second case involving the foot bones while the third distal femur. In cases which involved the foot bones articular destruction⁵ was found to be more when compared to the involvement of knee. But any way our sample size is very small to conclude on it.

All the three patients were of low socio economic status and had no known exposure or contact with tuberculosis. None of them had a positive sputum reports and they were purely extra pulmonary tuberculosis. Except for the last case both were illiterate. The patient with good literacy followed up regularly when compared to other 2 cases. All our patients had anemia which shall be considered as a predisposing factor for infection and their low socio economic status with poor dietary habits may have added to deficient protein intake. Tuberculosis in this scenario. Despite positive mantoux, microscopy and HPE, culture reports were deemed negative.

CONCLUSION: Despite the regular prescribed medications the third patient still developed tuberculosis. So we have made a trial again by adding weekly injection of streptomycin into the lesion of course we need more subjects to assess the efficacy of this treatment in pure extra pulmonary tuberculosis we need to know the regimen and large clinical trials are planned in the near future the current treatment for extra pulmonary tuberculosis shall be deemed to be taken with caution and we should not be over confident in treating the patients with tuberculosis with medical therapy alone the question of malnutrition in relation to tuberculosis is un doubted and all our patients were recommended high protein diet. Nature of the organism still needs to be understood and research in this gesture is mandatory in the near future especially in india the classical principle of treating osteolytic lesion⁶ in the bone with grafting still holds good if autologous cancellous bone grafting is used which are rapidly revascularised. But in none of our cases we have grafted just to assess the efficacy of medical treatment alone with or without debridement. So to conclude never trust the medical treatment alone and always assess and reassess the patient in periodic intervals and add topical injection streptomycin in every case of osteoarticular tuberculosis.

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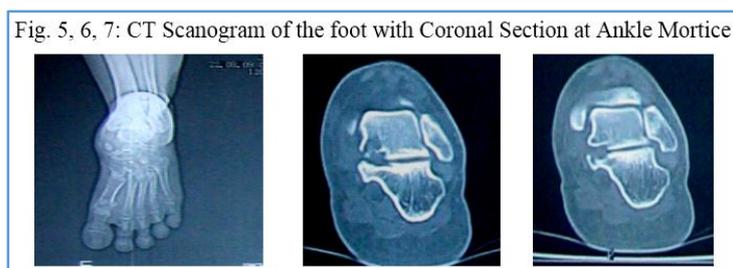
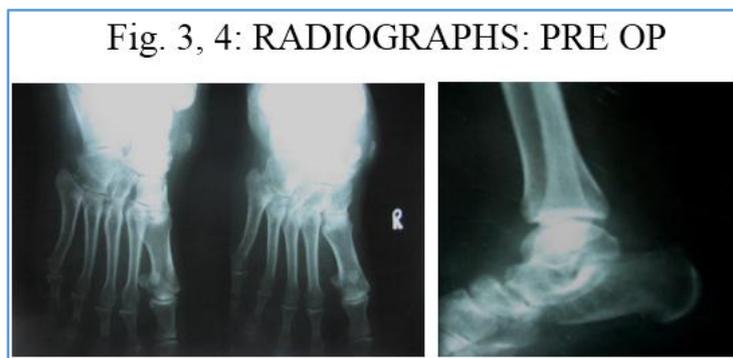
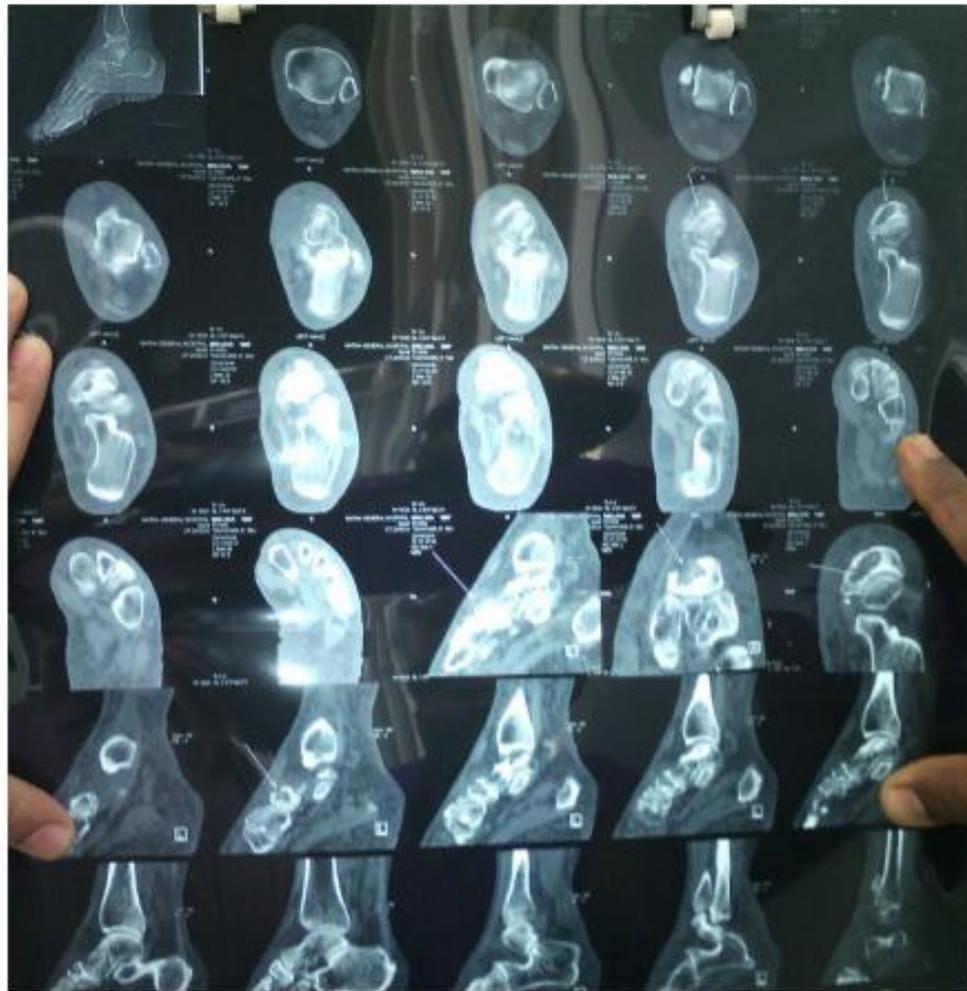


Fig. 12: Post op Radiographs



Case 2: Fig. 13



Case 3: Fig. 14:



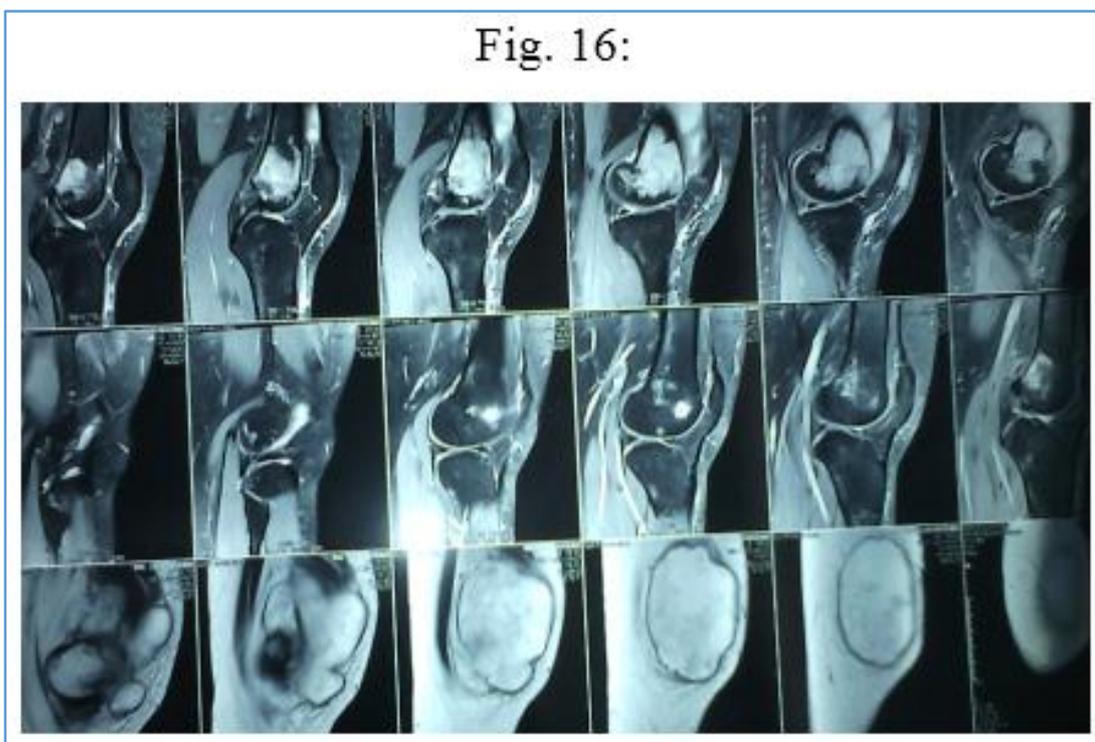


Fig. 19, 20

