

Tuberculous pseudotumor of fibular head

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Abstract

Tuberculous osteomyelitis of long tubular bone is uncommon, the reported incidence is about 2-3 %. Tuberculous osteomyelitis of fibular head is very rare and it mimics neoplasm. Here we report a case of a 28 year old male presenting with unremitting right knee pain with swelling around fibular head with knee radiography showing lytic lesion of proximal fibula, excisional biopsy was done and histopathological report confirmed it as tuberculous osteomyelitis.

Keywords: Fibular head; peroneal nerve; tuberculosis

Introduction

Tuberculosis remains a major public health problem.¹ Tuberculous osteomyelitis (without involvement of joint) especially of long tubular bone is uncommon, the reported incidence is about 2-3 %.² Tuberculous lesions often mimics neoplasm, a small amount of fresh tissue should always be sent for culture, even if a clinical diagnosis of a tumor seems likely.²

Case

A 28year male, presented to Orthopedics outpatient department at Tribhuvan University Teaching Hospital with complaints of Right knee pain and swelling for 9 months. Knee pain was gradual onset, progressive, unremitting type, aggravated with knee flexion and was associated with swelling around the fibular head region, which was gradually progressive. There was no history of local trauma, fever, discharging sinus around knee. There was no significant past medical, surgical, personal history. Treatment history reveals multiple hospital visits and conservative management but there was no improvement of symptoms.

On examination of right knee region there was diffuse swelling approximately 4 X 4cm in proximal fibula

region, with shiny overlying skin, local temperature was raised, markedly tender. Swelling had ill defined markings, hard in consistency, fixed to bone, free from overlying skin, non transilluminant. Knee Flexion was restricted to 0-70 degree. Distal neurovascular status was normal. No inguinal lymphadenopathy.

Laboratory investigation showed raised ESR (29mm/1st hr), increased C-reactive protein and other parameters were normal. X-ray of right knee showed lytic expansile lesion of fibular head with breach in cortex (Figure 1). MRI showed T2W/STIR hyperintense and T1W hypointense signals involving fibular head with cortical destruction, adjacent soft tissue showed T2W hyper intensity.

With all these findings we made Infectious osteomyelitis as provisional diagnosis with giant cell tumor/metastatic tumor as differential.

En-bloc excision of the fibular head and neck and soft tissue mass was done after careful mobilization of common peroneal nerve (Figure 2). The lateral collateral ligament was fixed with soft tissue screw and washer to the most isometric point on lateral proximal tibia (Figure 3). The resected specimen was sent for histopathology, culture and Acid fast bacilli (AFB) stain.

AFB stain and culture were negative however the histopathology report showed necrotizing granulomatous inflammation consistent with tuberculosis. Antitubercular treatment (ATT) was started and immobilization on long leg posterior slab was continued with Partial weight bearing crutch walking. After 6 weeks the slab was removed, and knee range movement was started. ATT was continued for 15 months with regular follow up. There was no evidence of recurrence, knee range of movement was normal and there was no varus instability at end of treatment.

Discussion

Our case represents very atypical presentation of osteoarticular tuberculosis. This case is rare because of involvement of the head of fibula that destroyed cortex but spared the adjacent synovial joint mimicking a neoplastic rather than infectious process. There are very few similar cases reported in literature



Figure 1. X-ray Right Knee AP/Lat. View-Expansile Lytic lesion of fibular head with cortical destruction

A similar case of atypical focal osteomyelitis of fibular head was reported from the Traumatology Unit, Chablais Hospital, Switzerland in a 24 year old male presenting with unremitting right knee pain with swelling around fibular head with knee radiography showing lytic lesion of proximal fibula.² Surgical debridement was done and the pathoanatomical analysis revealed presence of acid alcohol

resistant bacillus within an inflammatory process. PCR analysis show the presence of an atypical nontuberculous mycobacterium identified as *Mycobacterium haemophilum*. The patient had HIV and HCV infection, thus was immunocompromised unlike our case.



Figure 2. X-ray right knee AP/Lat. View-Excised fibular head with screw over lateral tibial condyle

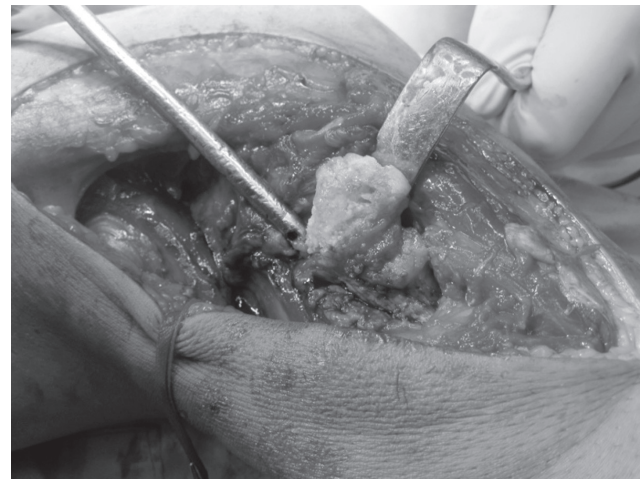


Figure 3. Intraoperative photograph of necrotic fibular head

In a review of surgical management of 121 benign proximal fibula tumors, a case of Tuberculous pseudotumor of proximal end of fibula in a 72 year old lady was reported.³ She had presented with soft tissue mass around the proximal fibula. Conventional radiograph and MRI demonstrated a destructive lesion of the head of fibula

with an intact superior tibiofibular joint and as abscess surrounding the destroyed bone. Histopathology revealed necrotizing epitheloid granulomata and culture positive for mycobacterium tuberculosis. When tuberculosis affects the end of long tubular bone, the adjacent synovial joint is usually involved. Cases where joint involvement doesn't occur are extremely rare and unusual.

Common peroneal nerve injury and varus knee instability are substantial concern with fibular head resection.⁴ The incidence of CPN palsy after fibular head resection is not well established given the paucity of literature, with estimates ranging anywhere from 20-57%.^{5,6} In a review of outcomes and complications of fibular head resection, grade 2 varus laxity was observed in 9 out of 14 patient.⁶ In a retrospective study of 104 patients who had resection of fibula for various reasons, twenty six had resection of the proximal fibula for reconstruction of excised distal radius, however none of these patient had any demonstrable instability of the knee.⁷ There was varus instability in 9 out of 19 patients who underwent fibular head resection for giant cell tumors in the distal end of radius despite attaching the tendons and ligaments detached from the fibular head to the proximal fibula with the drill holes.⁸

Conclusions

Isolated tuberculous osteomyelitis of fibular head is an very unusual presentation and requires a good clinical suspicion to detect it at early stage. There is substantial risk of common peroneal nerve injury and varus knee instability during resection procedure.

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