

## OSTEOMYELITIS OF ISOLATED DIAPHYSEAL REGION FIBULA :A RARE CASE REPORT

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### **Abstract:**

Introduction: Osteomyelitis is a painful Inflammatory disease of bone secondary to its infection often of bacterial origin that may lead to the necrosis of bone tissue. It frequently involves metaphysis of long bones of knee but isolated involvement of diaphyseal region of fibula is a rare phenomenon .

Case report: 6 year female presented with swelling, pain and discharge from leg which was diagnosed as chronic osteomyelitis of fibula and treated thoroughly with sequestrectomy and antibiotic therapy which led to complete resolution of the symptoms on followup.

Conclusion: early diagnosis and treatment provides favourable outcome in patients.

Key words: osteomyelitis, infectio, sequestrectomy.

### **Introduction:**

Osteomyelitis is defined as an infection and subsequent inflammation of bone marrow commonly caused by pyogenic organisms or fungi<sup>11</sup>. Mode of infection can be : hematogenous, contiguous or direct inoculation of microorganisms through trauma<sup>(2)(3)</sup>. Clinically osteomyelitis is classified as acute (within 2-3 weeks) and chronic(after 3 weeks). If left untreated, pieces of dead sclerotic cortical bone called sequestra and beneath it new periosteal bone formation occurs called involucrum<sup>(4-7)</sup>. Formation of small defects in involucrum "cloaca" forms later and pus discharges through it via the sinus tract in the skin. Due to lack of blood supply to sequestra, chronic osteomyelitis is difficult to treat. But by multidisciplinary action in diagnosis

and treatment, complications and thus significant morbidity and mortality can be prevented.

### Case report:

We present a case of a 6 year old female child who came to our outpatient department with chief complaint of discharge through sinus over the middle lateral aspect of left leg for 4 months . The patient had a history of fall on ground while playing 6 months ago and complained of open wound with severe pain and swelling in the left leg. Patient was taken to a local hospital where local dressing of the wound was done and antibiotics for 7 days along with daily dressing. But even after 10days pain and swelling persisted. Pain was insidious in onset, on and off in nature, gradual in progression, mild to moderate in intensity which progressed to severe later on, aggravated on movements and weight bearing and relieved on taking oral medications and rest. Pain and fever aggravated after which the patient was taken to a local hospital where incision and drainage was done. The patient put on oral antibiotics and was advised for dressings. Patient stopped antibiotics after 7 days. The wound did not heal and serous discharge continued from the wound. 8 days later patient presented to us with acute severe pain an swelling over the mid lateral aspect of the left leg.[9,10]



Figure 1 examination shows sinus and scar

On examination, there was swelling, redness with pus discharge from the sinus and scar formation on anterolateral aspect of middle third of left leg as shown in figure 1. The swelling was tense and shiny. On palpation, there was local rise in temperature with bony irregularity and discharge of pus from the sinus. On investigations there was increase in ESR and CRP levels. On radiological investigations, as depicted in figure 2, xray showed destruction of cortex and medulla involving diaphysis and metadiaphysis of fibula with thick periosteal reaction.



Figure 2 xray AP and lateral view Showing destruction of bone with thick periosteal reaction

A magnetic resonance imaging was obtained which showed large sequestrum with secondary infective myositis but no involvement of tibia and adjacent joint as shown in figure 3.

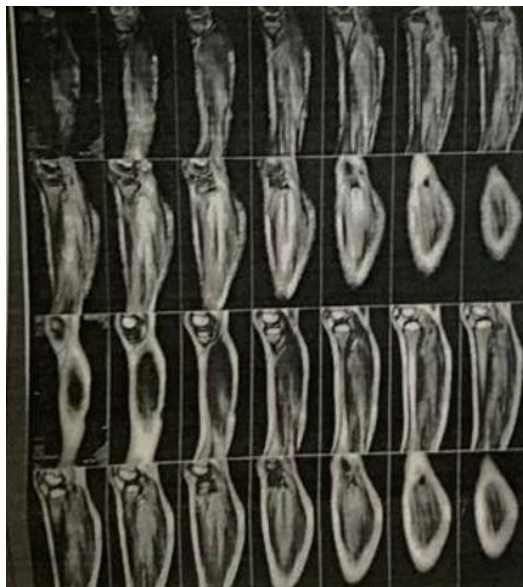


Figure 3 periosseous abscess formation with sequestra

Patient was operated through lateral approach and the dead piece of sequestrum was removed with debridement and sinus tract was excised completely as shown in figure 4.



Figure 4 intraoperative photo showing destruction of fibula

The wound thouroughly washed and negative suction drain was kept for 48 hours after the surgery shown in figure 5.

On histopathological examination, it was confirmed as chronic osteomyelitis and culture sensitivity shown staphylococcus aureus sensitivte to cefazolin and linezolid and so the patient was given intravenous cefazolin for 2 weeks followed by oral linezolid for 4 weeks. After completion of the tratment, patient has complete resolution of the symptoms with complete weight bearing on follow up upto 12 months as depicted in figure 6.



Figure 5 postoperative xray showing drainage in situ



Figure 6 of healing sinus tract

**Discussion :**

Infection of bone and its marrow tissue is termed as osteomyelitis. Incidence of osteomyelitis in pediatric patients is approximately 2.9 per 1 100000 children and in fibula is rare<sup>(8)</sup>. Chronic osteomyelitis is characterized by presence of sinus tract and sequestrum. Diagnosis is mainly clinical with the help of routine investigations like ESR and CRP for the purpose treatment. Differential diagnosis include cellulitis, bonr tumor like ewings sarcoma etc. With the help of microbiological and radiological investigations like X-rays, CT, MRI we can identify osteomyelitis at very early stage before significant disability or deformity takes place. Chronic osteomyelitis requires sequestrectomy with extended debridement of non viable soft tissue and bone with proper antibiotic coverage.<sup>(9)(10)</sup>

**Conclusion :**

Early recognition and differentiation from other such conditions followed by aggressive treatment combining sequestrectomy and antibiotic therapy, chronic osteomyelitis can be treated effectively with minimum of postoperative morbidity and complications.

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