

## CASE REPORT

### ACTINOMYCOSIS OF THE KNEE

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**We report a case of actinomycosis presenting as a knee swelling in a 34 year-old man. Knee actinomycosis poses a diagnosis challenge to clinicians as it is rare, often mimics knee tuberculosis and culture of the causative microbes is technically difficult. The classic microscopic appearance of this Gram-positive bacteria often forms the basis of diagnosis.**

*Key words : Actinomycosis, knee*

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#### Introduction

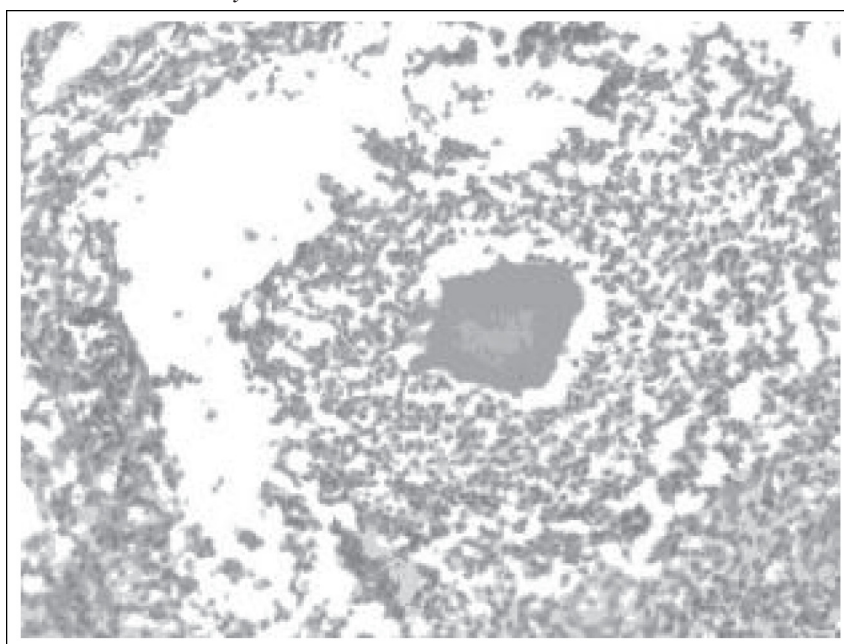
A 34 year old teacher presented with progressive right supra patella knee swelling for 2 months. It was not associated with fever or limitation of joint movement. He started to have intermittent painless swelling of the knee for the past 4 years, following his daily activities. However it was not

associated with fever, locking or instabilities. No recent trauma, loss of weight or appetite were noted.

Local examination revealed painless gross swelling of his right knee. There was no sinus or discharge noted. The synovium was thickened and range of movement was normal.

Hemoglobin and total white counts were normal. Erythrocyte Sedimentation Rate (ESR) was

*Figure 1: Histopathology of the synovium (H&E) shows central area of sulphur granule containing aggregate of branching, pleomorphic rods, surrounded by intense reaction of leucocytes.*



above 100mm/hr, C-Reactive Protein (CRP) was more than 24 mg/L and alkaline phosphatase was 176 Iu/L. MRI shows cystic lesion in the anterior compartment of the lower thigh with thickened synovium in the suprapatella bursa.

Total synovectomy was done. Intraoperative findings revealed total cartilage erosion over the medial femoral condyle and inferior patella. Synovial cultures for both aerobic and anaerobic were negative. No organism seen (including Acid Fast Bacilli) were seen on microscopy. However synovium histopathology examination was consistent with actinomycosis. No tuberculous granuloma was noted.(Figure 1)

He was treated with Bactrim and Amoxycillin for a period of six months. He responded well with the treatment. Two and half years after the treatment, he is almost pain free. However the movement of the affected joint was limited due to articular surface damage secondary to the infection.

## Discussion

Actinomycosis is a chronic disease involving mainly cervicofascial, thoracic and abdominal regions. The infection is characterised by abscess formation, draining sinuses and tissue fibrosis. Main pathogens are *Actinomyces israelii* or *A.naeslundii*.

*Actinomyces* sp is strictly a commensal of the oropharynx, gastrointestinal and female genital tracts therefore Actinomycosis is usually secondary to trauma to these area. Intrauterine device may predispose a patient to Actinomycosis of the genital tract. A case of infected total knee replacement secondary to *Actinomyces naeslundii* had been reported.<sup>1</sup> However other forms of actinomycosis is usually visceral in nature.

Actinomycosis involving a joint is very rare but it may occur in any joint, especially in an immunocompromised patients. Hematogenous spread of an actinomycotic granule to the hip joint had been reported in a woman under immunosuppressive treatment.<sup>2</sup> Actinomycosis of the ankle in an elderly diabetic patient had also been reported.<sup>3</sup> Synovial actinomycosis of the knee had been reported by Bose.<sup>4</sup> However, the pathogenesis in these two patients remains unexplained as they are not immunosuppressed.

Tuberculous arthritis may mimic knee Actinomycosis, especially in countries where tuberculosis is endemic. High ESR more than 100 mm/hr is typical and tuberculous arthritis is far more common.

Actinomycosis of the knee can also be mistakenly diagnosed as soft tissue tumor. Actinomycosis of the thigh presented like a neoplasm has been reported.<sup>5</sup>

Actinomycosis of a knee is rare. Therefore high index of suspicion and proper investigations including tissue culture and histological examination should be routine in certain situations.

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