



Case Report

Rare case of fungal arthritis of knee joint in non-immunocompromised patient

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ABSTRACT

Fungal septic arthritis is a rare medical and surgical problem in orthopaedics. It mainly occurs in immunocompromised state. However our patient was not immunodeficient. The knee is most common site involved. Sometimes polyarticular involvement is also seen. Our case had monoarticular left knee joint involvement. Debridement and Antifungal therapy are the main stay of the treatment. Few cases of fungal septic arthritis are reported in literature. Our Patient showed good result with our treatment.

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1. Introduction

Fungal septic arthritis is a rare infection in joints caused by Aspergillous species. Though it mainly occurs in immunocompromised patients but our patient is not immunocompromised (Figures 2 and 3). Fungal septic arthritis is a medical and surgical emergency. If treatment is delayed it results in irreversible damage of the joints in terms of loss of function. Most commonly it involves large joints, especially knee joints. Common mode of spread is hematogenous. In some cases, direct inoculation by trauma, injection or implant is also possible. Aspergillous fumigatus¹⁻³ septic arthritis is also known as Mycotic arthritis.

The primary treatment of fungal septic arthritis is debridement of joint and Amphotericin B injection (other anti-fungal) drugs. Multiple joint involvement is seen rarely and is associated with disseminated disease.^{1,4}

2. Case History

A 9-year-old boy, without any immunocompromising disease (Figure 2 a&b), has a history of fall. Following the

fall, he has swelling of left knee joint (Figure 3) and abrasion with puncture wound on left knee joint.

He then had fever with rigors for few days, and with treatment from local doctor, his fever subsided but the swelling over left knee joint was not reduced. Later after 6 weeks, he had painful limp and swelling of left knee. He also had evening rise of temperature and night cries. His limp and pain increased with the swelling of left knee joint. Then he started getting consistent pain in left knee joint. Then he was admitted in our hospital, after about 3 months of ailment of the knee.⁵

After clinical and radiological evaluation he was provisionally diagnosed as tuberculosis of knee joint (chronic infective arthritis).

Aspiration of left knee was done in emergency but it turned out to be sterile as seen on culture sensitivity, gram staining and AFB staining. After investigation, he was taken for arthrotomy. No caseous material was revealed, but small soft tissue balls came out after debridement of knee joint. The histopathological report was suggestive of granuloma of fungal infection (Figure 2 c&d). After consulting with Paediatrician, IV Amphotericin B was started at 80mg/day for 14 days along with IV Linezolid 160mg BD.

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Fig. 1: a): Left knee joint in AP/lat view shows narrowing of the joint space and osteoporosis; **b):** Chest X-ray: No any evidence of Tuberculosis.

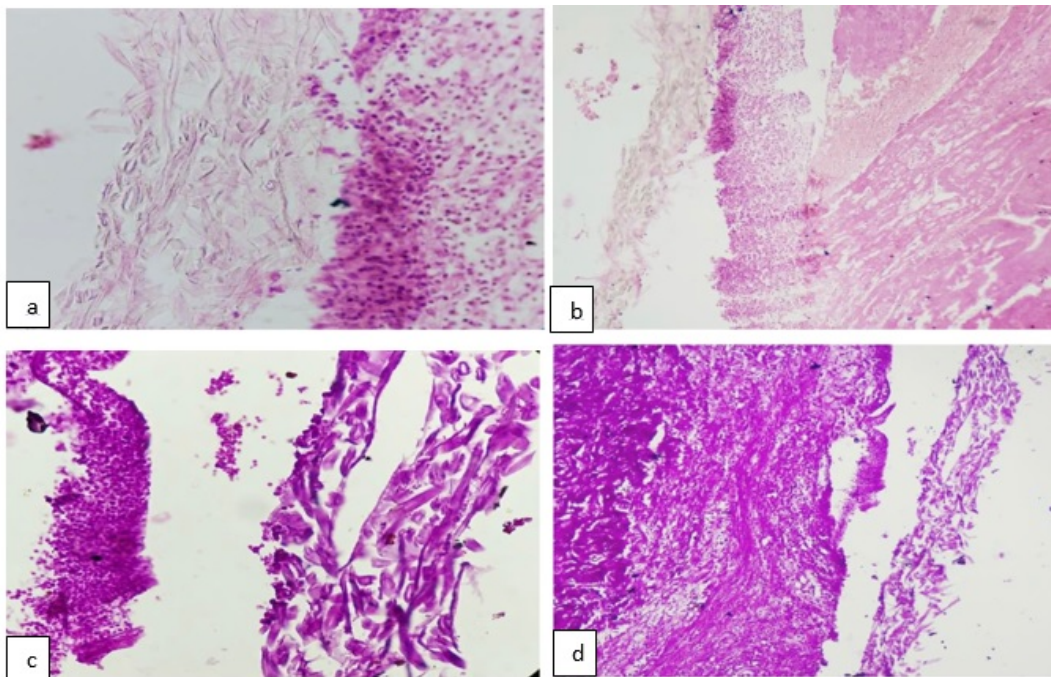


Fig. 2: Microscopic appearance of fungus in the granuloma

Patient was kept in the hospital for 60 days with below knee traction and physiotherapy. After discharge, he was given physiotherapy, traction and supportive medication.

After 1 month of discharge, his left knee could be straightened with traction. Swelling was less, knee was painless. Movement of the knee were painless. Patient was advised to continue physiotherapy and traction.



Fig. 3: Clinical photograph of patients left knee

3. Discussion

Infection of the joint by fungus are extremely rare. Almost always associated with immunocompromised individual. But our patient was not immunocompromised (Figure 2 a,b). Fungal arthritis usually develops by hematogenous spread. Direct inoculation due to trauma or by an iatrogenic event such as joint surgery or intra-articular corticosteroid injection. Our patient got fungal infection of left knee due to puncture wound due to trauma. Even with positive fungal report, all attempts should be made to rule out tuberculosis. Patient may be started on antiTB treatment if there is delay or no improvement in condition of patient. Our patient did not require antiTB treatment as he responded to anti-fungal treatment.

Inflammatory markers ESR, C-reactive protein(CRP), with culture of blood were done. Plain X-ray helped to determine the character and extent of joint damage. Joint fluid aspirated and in routine culture sensitivity found to be sterile. This sample was also analysed in lab for processing

fungal infection.

Histopathological report is suggestive of broad asepted hyphae(fungal granuloma)(Figure 2 c,d).

As our Xray report (Figure 1 a) shows reduction of joint space and articular erosion i.e presence of arthritis was evident.

Prognosis of the knee joints depends on the damage occurring to articular cartilage and bone.

Limited movements and pain on movement indicates poor prognosis towards function of the joint.

Rarely, multiple joints may be affected.

In follow up of this patient, we found full range of movement without pain. The better results in our case may be attributed to good debridement and washing of the joint and good physiotherapeutical methods.

Also younger age of the patient, may be an attributable factor towards good results.

4. Source of Funding

None.

5. Conflict of Interest

None.

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