

## Tuberculosis Arthritis of the Knee. An Inferred Presentation

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### Abstract

Arthritis tuberculosis (AT) [1,2] represents a diagnostic challenge, due to the low prevalence of AT involvement [3], as well as the insidious clinical presentation, with suspicion and early diagnosis being important for the prognosis of the patient.

We present the case of a 31-year-old male with chronic knee monoarthritis and a fatal end of the joint.

## Introduction

AT is caused, in most cases, by *Mycobacterium tuberculosis*. It is the result of hematogenous spread from a primary focus, which is usually pulmonary. A normal chest X-ray does not allow us to rule out the tuberculous etiology of arthritis, since cases of joint involvement have also been described from a proximity osteomyelitic process.

The most frequent is the involvement of the spine, followed by load joints: hip and knee (85% of the AT) [1,2,3].

The most frequent risk groups are: Patients under immunosuppressive treatment, alcoholics, drug addicts by injection and immigrants from depressed areas [3,4,5].

## Clinical Case

A 31-year-old man with no personal history of interest except axial and peripheral spondyloarthritis HLA B27 positive, on treatment with etoricoxib 60mg/day, methotrexate 20mg subcutaneous weekly and prednisone 10mg/day.

Follow-up in the last 12 months due to pain and persistent inflammation in the right knee, despite treatment. The physical examination was normal except at the level of the right knee that presented a non-reducible 30° flexo and joint effusion. In blood test, a PCR of 80mg/L and a VSG of 91mm/h was highlighted.

Admission in April 2017 to perform scheduled synovectomy in the presence of the clinic. In the surgery, a marked destruction of the articular cartilage and synovial hypertrophy was observed. Within 24 hours of the intervention, he started with fever and constitutional symptoms. Sputum culture, blood cultures, complete serology, Mantoux and booster were negative.

Arthrocentesis with fluid of inflammatory characteristics, isolated in culture in Lowenstein-Jensen medium *Micobacterium Tuberculosis*.

The anatomic-pathological results of the extracted synovium were subsequently obtained, reporting as a necrotizing granuloma, for which study was extended by polymerase chain reaction (PCR) of mycobacteria, finally reaching the diagnosis of tuberculous monoarthritis.

With normal chest radiography, a high resolution chest computed tomography (HRCT) was performed in which a cavitated nodular lesion was observed in the left upper lobe. He started treatment with isoniazid 600mg/day, rifampicin 600mg/day and ethambutol 800mg/day for 2 months, followed by isoniazid and rifampicin 10 months, with complete resolution of fever and constitutional symptoms. On the contrary, the knee has evolved in a torpid manner, having required 3 surgical cleanings and several evacuating arthrocenteses. Finally an arthrodesis of the joint has been performed.

## Discussion

AT is an infrequent form of the disease (1-5% of all cases of tuberculosis) [4]. It usually occurs as a monoarthritis, although it may produce polyarticular involvement in immunosuppressed patients, with extreme ages and in areas of high prevalence of tuberculous disease [2,5].

Without treatment, the natural history consists of the involvement of the subchondral bone, formation of cold peri-articular abscesses, fibrosis and ankylosis of the joint. In clinical practice, the disease presents as a picture of pain and / or monoarticular swelling of insidious course. Sometimes fever and general condition appear. Starting an early specific treatment is essential to improve the prognosis and sequelae of the disease [6].

## Conclusion

With the presentation of our case we want to highlight the importance of protocoling the application of mycobacteria in joint fluid.

It is not the most common monoarticular infection [1,4,7], but in endemic areas it cannot be ruled out and can sometimes provide us with the diagnosis of pulmonary tuberculosis [1,4,6].

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