

## Hip Tuberculosis: About 54 Cases

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**Abstract:** Osteoarticular tuberculosis can affect all bone and joint structures in the body, accounting for 2 to 5% of all tuberculosis cases and 11 to 15% of extrapulmonary tuberculosis cases. We conducted a retrospective study of 54 cases of hip tuberculosis collected in the orthopedic traumatology unit of Ibn Sina University Hospital in Rabat between 1998 and 2016. We found that it affects both sexes with a clear predominance male, and all ages with a predilection of adulthood between 17 and 39 years. The symptomatology is most often insidious characterized by inguinal or gluteal pain most often associated with functional impotence. All our patients benefited from a paraclinical assessment made of radiographs of the pelvis and the hip and 20 of them benefited from a CT scan. The diagnosis of certainty was based on bacteriology and histology: the first often negative (76.47%) because of the pauci bacillary character of coxalgia, against the histological analysis of surgical biopsies can highlight specific lesions tuberculosis (76%). Medical treatment with antituberculous drugs was considered for all patients either according to the 2RHZ / 7RH protocol. Regarding surgical treatment, it was performed in 34 patients: 20 to drain an abscess and 14 to reduce ankylosis or stiffness of the hip: establishment of a total hip prosthesis. The results of the treatment were very good for 11.11% of our patients, good for 33.33%, average for 33.33% and bad for 22.22%. The prognosis depends on the early diagnosis and treatment.

**Keywords:** Osteoarticular tuberculosis, Koch's bacillus; Anitibacillary; Total hip prosthesis.

## INTRODUCTION

Tuberculosis can affect all bone and joint structures in the body [1]. Osteoarticular tuberculosis accounts for 2 to 5% of all tuberculosis and 11 to 15% of extrapulmonary tuberculosis [2, 3], occurring in frequency after urogenital, ganglionic and pleural localizations [1, 2]. Its prognosis was reserved and the mortality could reach 15% of the patients [4, 5]. In fact, tuberculosis is an infectious disease that raises many epidemiological, diagnostic and therapeutic problems [6].

## MATERIALS AND METHODS

It is a retrospective study based on the detailed analysis of the files of patients treated in orthopedic traumatology department at the University Hospital Center in Rabat, which reported 54 cases of tuberculosis of the hip collected during 19 years, from 1998 to 2016. Our study aims to analyze the epidemiological, clinical, therapeutic and evolutionary aspects of hip tuberculosis.

## RESULTS

The age of our patients varies between 17 and 65 years with an average age of 39 years. We note that more than half of our patients are under 40 years old. Our patients are divided between 34 men (63%) and 20 women (37%). We found in one patient an antecedent of medically treated pains and in another the notion of tuberculosis of the ankle treated medically in childhood. We also noted the concept of tuberculous contagion in 2 other patients.

Inguinal pain, most often associated with functional impotence, was the predominant reason for consultation. All our patients have total or partial functional impotence. The pain is present in all the patients of our series. Episodes of mostly nocturnal fever were found in 26 patients (48.1%). The deterioration of the general state has very variable degrees is present in 12 patients is (22%). Weight loss, anorexia, asthenia and night sweats were found in 12 patients (22%). The consultation period ranged from 2

weeks to 7 months with an average of 3 and half months.

Palpation; it is a single swelling of the inguinal region or buttock, hard or soft with or without inflammatory signs. It was found in eight patients or 29.6%. In addition, there was one case of fistula with pus from the anterior aspect of the thigh. In our study all hip movements (active and passive) are affected, they are either limited, painful, or almost impossible.

Biologically sédimentation rate (ESR) was incérasse in 74% of cases, and C-reactive protein (CRP)

was positive in 62% of cases. Hyperleukocytosis was noted in 55.5% of cases, there was no case of lymphocytosis or neutropenia. Intra-dermoreaction to tuberculin was performed in only nine cases including four positive and five negative.

All of our patients received a radiograph of the pelvis face and 20 of them benefited from a computed tomography. To stadify the various radiological lesions, we have adopted the MARTINI classification [1]. Most patients have very advanced radiological lesions with destruction and bone deformities (Table 1).

**Table-1: Different radiological stages in our series**

Stages	Number of cases	Percentage
Stage I	4	7,4%
Stage II	8	14,8%
Stage III	12	42,2%
Stage IV	30	55,5%

The discovery of tubercle bacillus by abscess puncture or during the surgical approach is fundamental for diagnosis and prognosis; since it makes it possible to test the sensitivity of BK on antibiograms. Nevertheless it is rarely positive. In our series, bacteriological examination was performed in 34 patients; it was negative in 76% of cases.

Histology, after surgical biopsy, made it possible to establish the diagnosis of tuberculosis of the hip by highlighting the epithelio-gigantocellular follicle with caseous necrosis, characteristic of the disease. The biopsy was positive in 38 patients (76%). In two cases the biopsy was not done because of the positivity of the Koch's bacillus search. Six patients were treated without histological certainty, but on clinical, radiological, bacteriological and biological presumptive criteria.

Regarding treatment, all our patients received medical treatment according to the scheme adopted by the Ministry of Health, for 9 months. Surgical treatment was performed for two types of our patients. Patients with an abscess or joint or peri-articular hip collection benefited from drainage with abundant washing (20 patients). Patients who experienced stiffness or ankylosis following neglected or poorly treated coxalgia (10 patients) received total hip arthroplasty. The rest was systematic prescription, and 32 patients followed a more or less complete rehabilitation program.

Therapeutic outcomes were rated as good or very good in 44.4% of cases, average in 33.3% and poor in 22.2% (Table 2). With an average follow-up of 2 years, the results were good for the patients seen early, with a disappearance of the pain and an improvement of the mobility: 16 patients. The 20 patients seen late have retained sequelae.

**Table-2: Therapeutic results in our series**

Results	Percentage
Very good	11,1%
Good	33,3%
Average	33,3%
Bad	22,2%

**DISCUSSIONS**

According to most authors, tuberculosis of the hip ranks second among tuberculous arthritis after knee arthritis [1-4]. Multifocal tuberculosis is not uncommon and represents 3 to 20% [5, 6] according to the authors. Some authors have observed that hip tuberculosis affects all ages with minimal frequency at puberty and adolescence [24]. In our study, it appears that hip tuberculosis is confined to young adults aged between 18 and 39 years.

The main factor favoring tuberculosis of the hip is the existence of a history of tuberculosis, whether treated or untreated. In large series of osteoarticular tuberculosis, this antecedent is found in 10 to 19% of cases [2, 5]. The existence of a tuberculous contagion is a difficult concept to collect. In our study, 2 patients were treated for articular tuberculosis (sore throat and tuberculosis of the ankle) and we also noted, the concept of tuberculous contagion, in 4 other patients is

15%. Undernourishment decreases the resistance of the body and promotes the emergence of active tuberculosis. In the BERNEY series only 10% of the patients were under-nourished, whereas in our case most patients had a diet level that was not satisfactory. The importance of trauma in the development of osteoarticular tuberculosis has always been widely appreciated by orthopedic surgeons. According to the data of the literature, the germ is often grafted on the pathological hip; that is to say having already undergone microtrauma [7-9], and this notion of triggering trauma is often reported by patients. Corticosteroid therapy can be involved in both joint infection and during general or local therapy. It is reported with variable frequencies from 20% to 42% [10-12].

The articular invasion by the Koch's bacillus is most often by blood, the tubercle bacillus hematogenously reaches the synovial folds and proliferates there; thus, it constitutes a tuberculous synovitis, then the process extends to give the cartilaginous, bony and periarticular attacks. The lymphatic affinity of Koch's bacillus, which has been known for a long time, is accepted by all, but it is difficult to consider it as a primordial factor of dissemination. Inoculation by direct intra-articular introduction is exceptional. The clinical symptomatology of tuberculosis of the hip is very polymorphous, and can lead to confusion with non-specific inflammatory or infectious arthritis. The regression of this location of the osteo-articular tuberculosis in favor of that of the knee, seldom think

about the diagnosis ; however, simply observing the rules of a routine clinical examination, supplemented by precise biological data (bacteriology and histological study) and careful radiological examination, would be sufficient to establish a correct etiological diagnosis [13]. Improved medical treatment has significantly reduced surgical indications in hip tuberculosis [1, 6, 14]. In the most recent series of osteoarticular extravertebral tuberculosis (where osteoarthritis predominates), the percentage of patients in whom surgery was required was fairly homogeneous, ranging from 29% to 34% [7, 15]. Early surgery is the most common. It has a twofold objective: to participate with antibiotherapy in the control of tuberculous infection, to preserve for the future, articular function (mobility, stability, functionality) or bone stability. Early surgical procedures include drainage of soft tissue abscess, surgical synovectomy, osteoarticular debridement with excision of all necrotic tissue (excision of bone sequestrants, purulent cavities) [16].

Functional joint surgery is discussed when TB arthritis has largely or completely destroyed the joint, including articular cartilage [6, 3], and painful stiffness ensues, sometimes with deformity and / or instability. a functional disability. In tuberculous coxitis [1, 17] there is no choice but the prosthesis. These obviously in cases where the bone fusion has not made itself in good position what can occur at the hip [1, 18]. The establishment of a total hip prosthesis is a reference surgical procedure [1] that ensures infectious healing and provides a stable and painless articulation.



**Fig-1: X-ray of the pelvis face showing mirrored geodes with loss of sphericity of the femoral head**



**Fig-2: Bony lysis at the level of the greater trochanter of the neck with sub-chondral geodes at the level of the head clinically the patient presents a gluteal abscess**

### CONCLUSION

Tuberculosis of the hip continues to strike low in our endemic country. If it has evocative characteristics such as its subacute or chronic character, it is responsible for an anatomoclinic polymorphism, which means that the clinician must know how to think about it if he does not want to ignore it. He now has at his disposal powerful methods of investigation and medical imaging and here we must emphasize the importance of CT and MRI. Surgical treatment has become much more rare, it has to be discussed on a case-by-case basis, and without forgetting the usually slow nature of the evolution towards healing.

### Conflicts of interest

The authors do not declare any conflict of interest.

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