CASE REPORTS

The Elbow Tuberculosis: Rare and Exceptional Localization

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Abstract:

The tuberculosis of the elbow is an exceptional localization of the mycobacterium tuberculosis. This raises a diagnostic problem which is often tardy. This could therefore, have important consequences. We report 2 cases of chronic arthritis of the elbow, where the diagnosis was built on the anatomic-pathology investigation. In addition to the surgical synovectomy, the antibacillar treatment had stopped the infection. This led to stiffness of the elbow in one of these two patients.

Through these observations, we discuss the rarity of this tuberculosis localization which must be treated promptly to avoid heavy consequences.

Key words: Tuberculosis, bone, Joint, arthritis, Elbow

INTRODUCTION:

The synovitis tuberculosis is a usual localization of the Koch bacillus in the endemic countries. However, the elbow is shielded from this specific infection. Very often, this makes the diagnosis very late; therefore the consequences are mostly hurtful.

MATERIALS AND METHODS:

Observation 1:

Our first patient (L. M) was 32-year-old, living in a city of endemic tuberculosis. He consulted for pains and stiffness of the right elbow. The clinical exam showed slightly swollen elbow without inflammatory signs, pain on movement with a limitation of the mobility of the elbow (flexion extension between 80 and 110 °). X-rays revealed a diffuse decrease of mineral bone density with pinching (Fig. 1). The CT scan showed a synovitis (Fig. 2). The serology was strictly normal. The skin reaction to tuberculin was in the negative.

The external arthrotomy discovered a thick synovial membrane, with brown pus. The bacteriological exam with Ziehl Nelson Stain did not isolate any germ. The histological exam of the synovial membrane showed a giaintocellular granuloma at the centre of a caseous tubercle confirming the diagnosis.

The patient was put on Rifampicin, Isoniazid, Pyrazinamide and Streptomycin for 2 months, and relieved by Rifampicin and Isoniazid during 4 months.

In 1 year the patient was asymptomatic with full recovery of the mobility.

Observation 2:

Our second patient (L. M) was 25 year-old, without any particular pathological history. He had very low social and economic level. He consulted for arthritis of the elbow with fistular lasting for 6 months. On examiniation, we found a swollen elbow with 2 fistulae: one was internal, and the other posterior allowing a flow of serious fluid. The radiography of the elbow revealed some demineralization with pinching. The bacteriological exam did not isolate any germs. The histological examination of the synovial membrane confirmed the diagnosis. Besides the drainage of the joint and synovectomy, the patient was put on antibacillar drugs 6 months with good resolution of infection but the elbow joint has remained stiff in the last one year.

Figures:

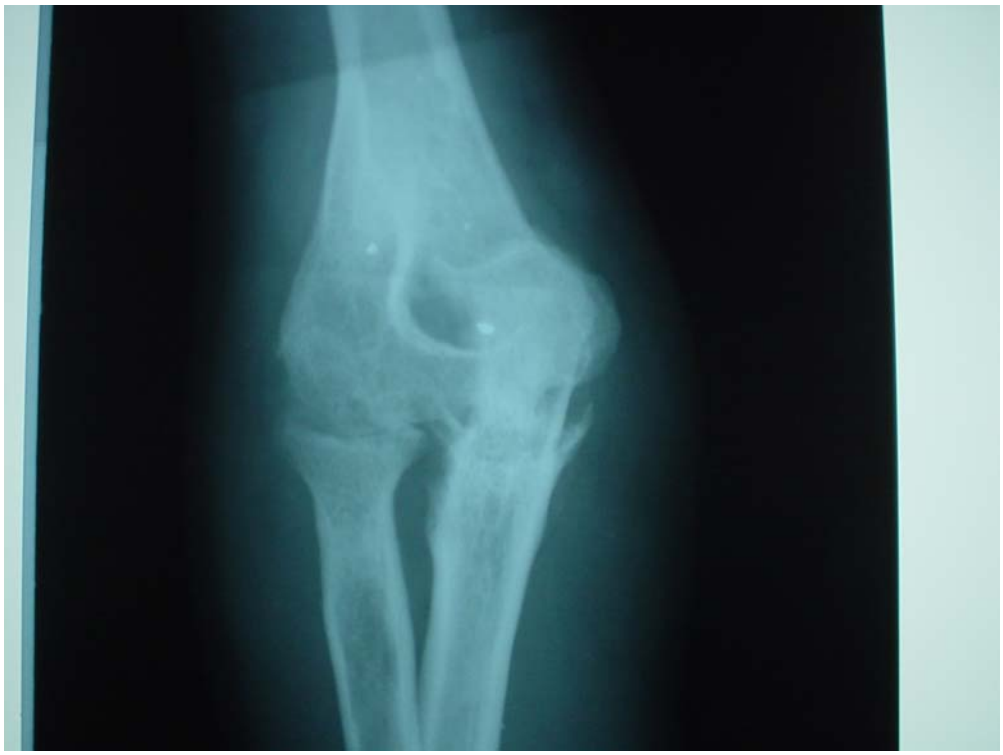

Fig. 1: X ray of the elbow showing a pinching of the joint

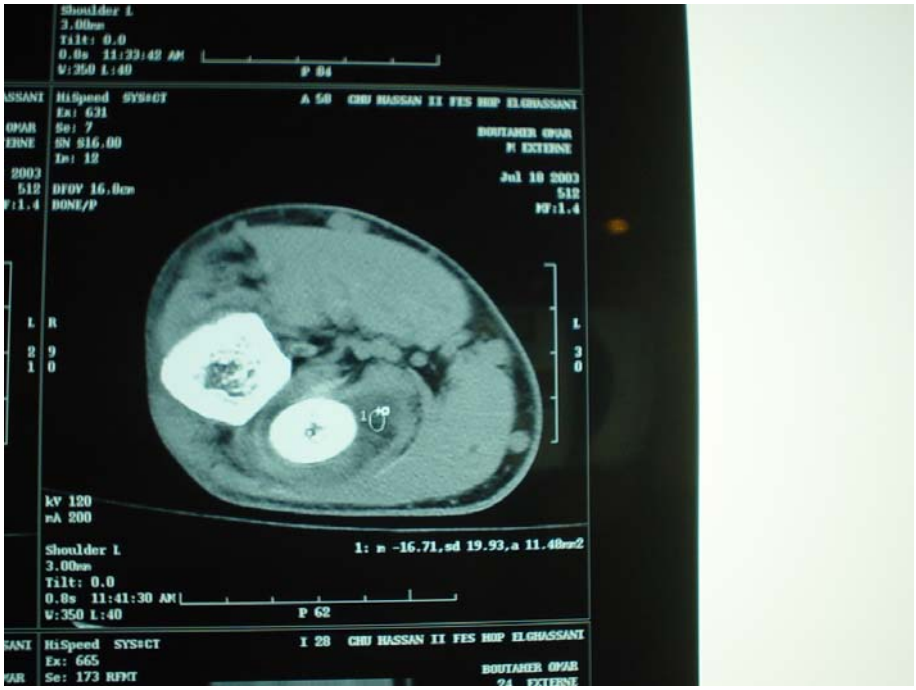

Fig. 2: CT scan of the elbow showing a synovitis

DISCUSSION:

Bone and joint tuberculosis represent 1 to 3 % of all the forms of tuberculosis. Two to four occurs in the endemic countries, where the extra lung tuberculosis represents 15 % of all the tuberculosis cases. It occurs at the level of the spine and the joints of the lower segment. The isolated affectation of the elbow represents only 1 to 2 % of all the forms of bone and joint tuberculosis [6, 10].

The increased incidence is due to AIDS, chronic deficiency of kidney and immunosuppressive treatment 11. Our 2 patients were previously healthy and no specific pathology treatment was reported in their history. The single joint forms are usual[5,7] and the spread of the Koch's bacillus from lung or ganglionic site is via the haematogenous or lymphatic routes. Otherwise the direct contamination is possible through exceptional[3,8]. So, we have not found reports discussing findings such as our observations. Joint arthritis tuberculosis expresses itself by chronic pains and progressive development of stiffness. The initial symptom is always

confusing, which significantly contributes to delays in the diagnosis. The lung radiography is normal in half of the reported cases [3, 4, 5, 7]. The skin reaction to the tuberculin test is significant if it is positive. Radiography is normal at the beginning. Later, reduction in mineral bone density occurs. Pinching of interline evolves progressively yielding an ankylosis(1). All the radiographic signs together compose the Phemister graft, that is associated with a regional osteoporosis, an osseous erosion and a joint pinching which are characteristic of tuberculosis[7]. The CT-scan shows evidence of an osseous lysis or a synovial hypertrophy, but it is helpful, especially in guiding the synovial biopsy. The diagnosis is based on isolation of the Koch's bacillus or finding of an epitheloid granuloma and giaintocellular granuloma by the anatomic pathologic investigation [9].

The treatment is medical and surgical. The medical treatment is compulsory and should be instituted once the diagnosis is establishment. It is based on several antibacillars combination, the most used at present are: Rifampicin, Isoniazid, Pyrazinamide and Ethambutol, which can be combined with Streptomycine. They are combined during two to four months and the continuation covered by the Rifampicin and the Isoniazide until the sixth or ninth month according to the general state of the patient and the degree and of the lesions. The short term protocols are more and more recommended and they could yield cure without sequelae, especially when they are meticulously administered[9]. Clinical, bacteriological and radiological supervision are required systematic. It allows for follow-up of the resolution of the disease to estimate the efficiency of the treatment and to detect possible complications. Surgical treatment is also necessary to confirm the diagnosis and to remove cold abscesses which may develop since the slow evolution of the pathology allows development outside the osseous site. The spontaneous osseous resolution after treatment is the imperative in the bone and joint tuberculosis.

CONCLUSION

Joint tuberculosis remains rare and it is always diagnosised late. Although exceptional, it is always recommended that certain locations be looked out for particularly in geographical areas or in case of immunosupression. Since it is a dx

with insidious onset, it is a high index of suspicion needs and sufficient tissue for histologic examination are necessary in order to avoid missing the diagnosis especially since medical treatment os very rewarding.

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