

# Olecranon Bone Tumor Complicated by Ulnar Nerve Paresis Revealing Tuberculous Osteitis—About a Case

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## Abstract

**Introduction:** The localization of bone tuberculosis at the level of the olecranon is rare and can pose a problem of differential diagnosis with a tumoral affection. Only the biopsy allows the diagnosis of certainty. The goal was to report our first case to do a review of the literature. **Clinical Observation:** This was a 64-year-old patient who consulted 2 years after the onset of symptoms for swelling and mechanical pain in the left elbow. On clinical examination there was a firm consistent mass measuring 6/4 cm in diameter, not very painful and hot on the posterior surface of the left elbow, accompanied by paresthesias in the territory of the ulnar nerve associated with partial functional impotence of the left forearm with little altered general condition. The X-rays of the left elbow showed extensive bone lysis of the olecranon with fracture of the base of the olecranon. The CT Scan of the elbow performed showed osteolysis of the olecranon with extensive bone reactions at the distal end of the humerus. The biopsy carried out with histological examination concluded with an aspect of tuberculous osteitis and the culture came back sterile. A curettage was performed associated with anti-tuberculosis treatment for 12 months as well as the placement of a posterior splint. The evolution at 9 months was unsatisfactory with persistence of paresis and stiffness of the elbow. **Conclusion:** Tuberculous osteitis of the olecranon can simulate a malignant tumor with non-specific signs of bone tuberculosis. Only the anatomopathological examination is definitive for the diagnosis. The treatment is multidisciplinary. Orthopedic evolution is difficult to predict.

## Keywords

Osteitis, Tuberculosis, Olecranon, Evolution, Mali

## 1. Introduction

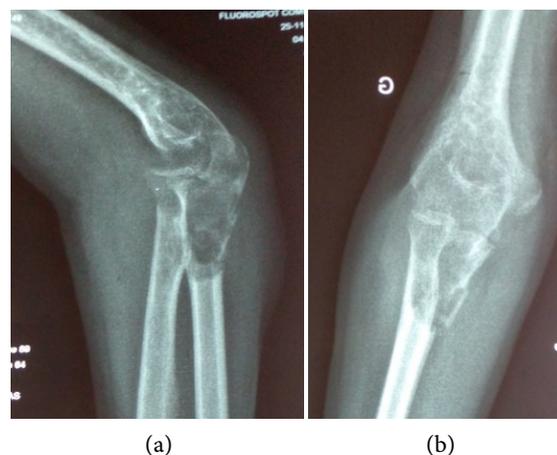
Bone and joint tuberculosis represents 2% to 5% of all tuberculosis cases [1]. The olecranon is not a preferred site for tuberculosis infection. The localization of bone tuberculosis at the level of the olecranon is rare and can pose a problem of differential diagnosis with a tumoral affection [2] [3] [4]. Only the biopsy allows the diagnosis of certainty. The goal was to report our first case to do a review of the literature.

## 2. Clinical Observation

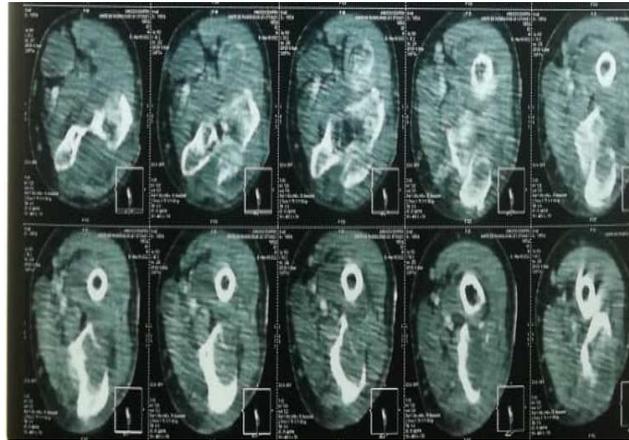
This was a 64-year-old patient who consulted 2 years after the onset of symptoms for swelling and mechanical pain in the left elbow. On clinical examination, there was a firm consistent mass measuring 6/4 cm in diameter with no signs of inflammation opposite, not very painful and warm on the posterior surface of the left elbow. There was paresthesia in the territory of the ulnar nerve associated with partial functional impotence of the left forearm with little altered general condition. Lymph node examination was unremarkable. The range of motion was limited with 90° flexion and 30° extension. The radiographs of the left elbow revealed extensive bone lysis of the olecranon with a fracture of the base of the olecranon (**Figure 1(a)** and **Figure 1(b)**).

The CT Scan of the elbow performed showed osteolysis of the olecranon with extensive bone reactions at the distal end of the humerus (**Figure 2**).

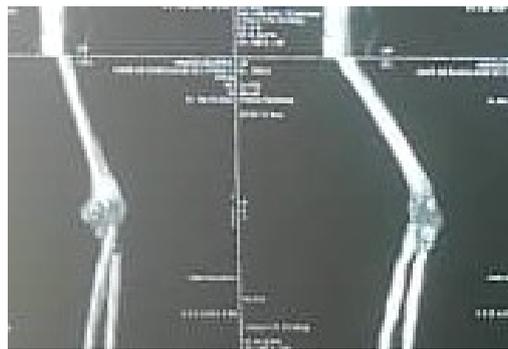
The biopsy was performed. The culture came back sterile. The macroscopic examination noted jagged fragments sometimes firm consistency, sometimes hard. The histological study of the fragments examined show an infiltrate of the chorion made up of lymphoplasmocytes, epithelioid cells, histiocytes and multinuc



**Figure 1.** Standard X-ray of the right elbow: (a) (profile) showing extensive osteolysis of the olecranon, (b) (front) showing a pathological fracture of the olecranon with diaphyseal extension.

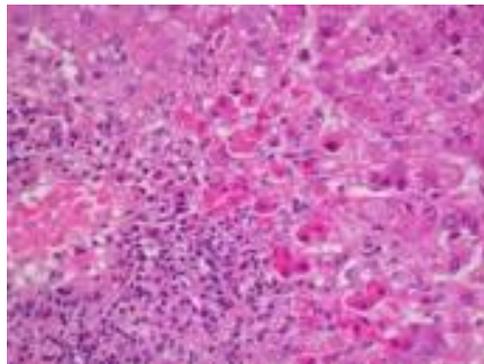


(a)



(b)

**Figure 2.** The CT Scan of the right elbow: (a) (axial slices): showing a gap at the level of the olecranon with rupture of the posterior cortex and invasion of the adjacent parts; (b) 3D reconstruction: lysis of the posterior part of the proximal end of the ulna.



**Figure 3.** Histology of the examined fragments: histology report:infiltrate of the chorion made up of lymphoplasmocytes, epithelioid cells, histiocytes and multinucleated giant cells of the Langhans type with caseous necrosis.

leated giant cells of the Langhans type with caseous necrosis (**Figure 3**).

Elsewhere there are regular osteo-cartilaginous lamellae. Thus the histology concluded to tuberculous osteitis. A curettage was performed associated with anti-tuberculosis treatment for 12 months as well as the placement of a posterior splint. The evolution at 9 months was unsatisfactory with persistence of

the functional impotence of the forearm and the stiffness of the elbow on the clinical level, and on the radiological level the absence of complete union of the fracture despite an improvement of general condition.

### 3. Discussion

To our knowledge, no case of bone tuberculosis of the olecranon has been reported in Mali, even less complicated by fracture and injury to the ulnar nerve. During our research, 3 cases of tuberculous osteomyelitis of the olecranon were reported, those of Vohra *et al.* [2], Shikhare *et al.* [3] and Mahdjoub *et al.* [5]. The symptomatology in our case was marked by mechanical pain of moderate intensity in the olecranon region, swelling of the elbow, functional impotence of the elbow, paresthesias in the territory of the ulnar nerve, stiffness of the elbow and slight deterioration in general condition. This clinical picture is different from those in the literature [2] [3] [4] [5]. Impairment of the ulnar nerve is possible and seems to be related to a synovial cyst of the anterolateral seat under the neck of the radius [1]. The radiological signs consisted of extensive osteolysis with rupture of the cortex of the olecranon with invasion of the elbow joint simulating a malignant bone tumor of the olecranon. These radiological signs have also been described by Vohra [2], Sikhara [3] and Mahdjoub *et al.* [5]. On the other hand, in the cases of these authors, the cortical rupture with invasion of the soft tissues and the humero-ulnar joint has not been described. Surgical biopsy with histopathological examination allowed the diagnosis of tuberculous osteitis. Tsukasaki *et al.* [6] state that it is particularly difficult to differentiate tuberculous osteomyelitis from bacterial osteomyelitis or bone tumors. Our hypothesis of osteolytic tumor of the olecranon corroborates Tsukasaki's thesis. Bone healing poses a lot of difficulty constituting a challenge for the orthopedist.

### 4. Conclusion

Tuberculous osteitis of the olecranon can simulate a malignant tumor with non-specific signs of bone tuberculosis, be complicated by fracture and a compression syndrome. Only the anatomopathological examination is definitive for the diagnosis. The treatment is multidisciplinary. Orthopedic evolution is difficult to predict. The authors declare that there is no conflict of interest. The patient's consent has been found for the publication of the work.

### Conflicts of Interest

The authors have no conflict of interest to declare.

### Patient Consent

Informed consent was taken from the patient for case publication.

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