

Case of Ulnar Intraneural Primitive Ossification in the Elbow Area

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Article Information

Received date: Nov 07, 2017

Accepted date: Dec 07, 2017

Published date: Dec 13, 2017

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Keywords Primitive Ossification; Elbow; Ulnar Nerve

Abstract

We report a case of primary ulnar intraneural ossification at the elbow. It is the case of a 54-year-old unemployed woman who presented bone metaplasia with thickening and calcification of the ulnar nerve resulting in the disappearance of the fascicles. Only a similar case is found in the literature review.

Case Presentation

It is about a 54-year-old jobless woman who is admitted in emergency ward for a closed right elbow trauma following a domestic accident.

In her medical antecedents this patient had a long history of neurological pain in the territory of the ulnar nerve dating back to more than 15 years. Without any other particular traumatic known antecedent, she also had an ulnar paraesthesia reported in 1995 with an unknown etiology. No improvement was noted at this time despite medical treatment. Hypoesthesia occurred secondarily and gradually developed into an anesthesia in the ulnar territory. With an electromyogram an alteration of the conduction of the ulnar nerve at the elbow was found.

In November 2014, the examination reported:

At the Elbow: A depression opposite the olecranon with loss of active extension of the elbow.

At the hand:

- An amyotrophy of the hypothenar box (Figure 1);
- Amyotrophy of the first commissure;
- A flexible ulnar claw of the 4th and 5th fingers (Figure 1);
- Anesthesia in the ulnar territory

The radiographic assessment (Figure 2) showed a fracture of the olecranon with presence of ossification supra-epicribral on the path of the ulnar nerve.

The patient was treated with an olecranon bracing and a surgical exploration of the ulnar nerve.

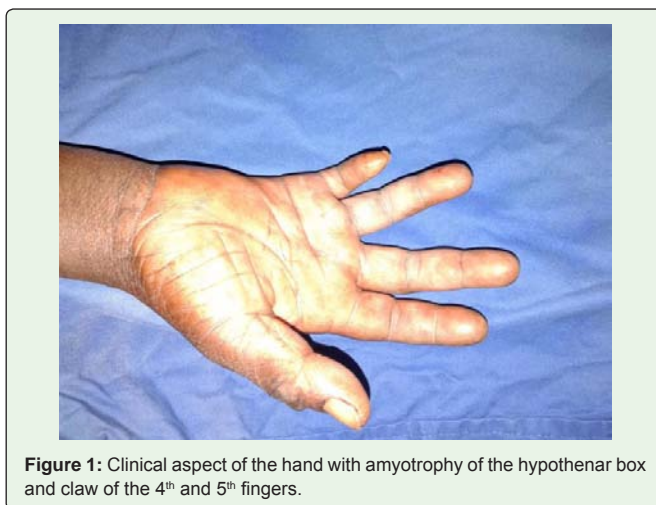


Figure 1: Clinical aspect of the hand with amyotrophy of the hypothenar box and claw of the 4th and 5th fingers.



Figure 2: Radiographic aspect of the elbow from the front and the profile showing the fracture of the olecranon with opaque radiopaque image on the path ulnar nerve.

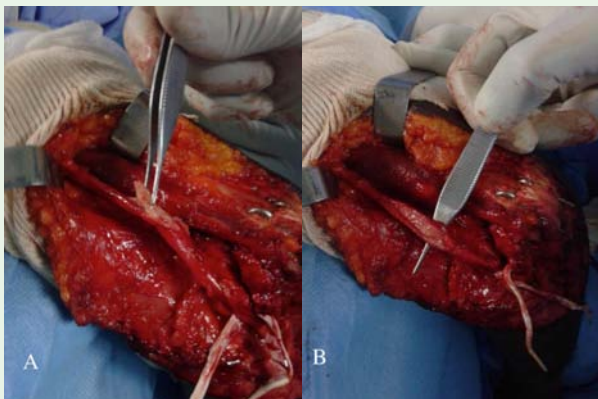


Figure 3 A and B: After epineurotomy the lesion is intraneural with disappearance of fascicles.

The latter performed with the help of magnifying glasses showed a swelling of the ulnar nerve about 2cm, a firm consistency with integrity of the epineurium. No extraneural ossification was encountered. After longitudinal spinotomy (Figures 3A and 3B), the lesion appears strictly intraneural. It was an isolated bone-type tissue which was removed surgically without any problem. A complete disappearance of the local fascicles was also noticed.

The histological examination confirmed that it was a bone metaplasia with thickening and calcification of the ulnar nerve known as an “Entrapment neuropathy”.

After surgery, the elbow flexion is regained but the ulnar paralysis remains residual. Palliative nerve surgery is contemplated.

Discussion

Progressive ulnar paralysis was described in 1816 by Earle [1]. However, the concept of ulnar neuropathy at the elbow belongs to Osborne [2]. Most common ossification of the ulnar nerve happen in the elbow [3,4]. The most common cause is from trauma origin [3,5]. In this case not seldom, the extraneural seat of ossification is the common feature. However, pure primitive intraneural site remains exceptional [6].

The analysis of this observation, of which we have not found any series in the literature, makes it possible to formulate some precisions.

The evolution of this pathology is very slow over more than ten years. The intraneural localization was found by Catalano [6] in only one published case.

The bone tissue gradually destroys the fascicles leading to their disappearance, contrary to what Catalano [6] noted, with a persistence of fascicles as said in his publication. This could be explained by the longer evolution time 20 years against 9 years.

Conclusion

Primary ulnar intraneural ossification at the elbow is a rare or even exceptional condition of a very slow evolution which may cause long-term nervous paralysis.

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