Madelung Deformity In Ulna Osteochondroma: A Case Report

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INTRODUCTION:

Madelung deformity is a rare deformity of the wrist characterized by a volar and ulnar tilted distal radius. It is more common in females, with a ratio of 4:1 occurrences. We describe a patient with right distal ulna osteochondroma with Madelung deformity of the right wrist.

REPORT:

A 16-year-old girl presented with right forearm swelling and pain for the past one year. She was a handball player, and had multiple impact on her right forearm before. On physical examination, there was a 6x3cm hard and tender swelling over her distal forearm with no skin changes. There was ulnar deviation of the wrist and limitation of extension of the wrist (0-30 º) and supination of the forearm (0-10º) (Figure 1). There was no carpal instability, and neurovascular findings were intact. Blood investigation results were unremarkable.

Radiographs of the right forearm revealed an irregular sessile mass over the distal third ulna with sclerotic and lytic content, as well as shortening of the ulna styloid, increased radial bowing, and triangular-shaped carpus (Figure 2). The lateral view showed an increased volar tilt and palmar carpal subluxation. Features of the radiographs are suggestive of a right distal ulna osteochondroma with Madelung deformity of the wrist.

Madelung deformity can be classified into four groups of etiology: idiopathic, dysplastic, genetic, and post-traumatic. The deformity is linked with premature epiphyseal plate arrest at the volar medial aspect of the distal radius. As the remaining physis develops, the radius bows with increasing volar tilt and radial inclination. Eventually, the distal radioulnar joint does not form normally and the distal ulna dislocates dorsally.

Figure 1: Bilateral forearm image

Figure 2: Anteroposterior and lateral radiographs of the right radius/ulna

CONCLUSION:

Madelung deformity is marked with increased radial and dorsal tilt of the distal radius and palmar subluxation of the hand. It can be diagnosed with radiographs. However, radiological findings that do not correspond with functional impairment found in certain cases would require better analysis of the lesions, preferably by MRI.

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