

AN UNUSUAL LOCALISATION AND PRESENTATION OF AN OSTEIOD OSTEOMA

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A case of osteoid osteoma of the scaphoid was discovered, in the absence of radiological (conventional and CT-scan) alterations. MRI findings were not conclusive.

Keywords : scaphoid ; osteoid osteoma.

Mots-clés : scaphoïde ; ostéome ostéoïde.

INTRODUCTION

Osteoid Osteoma (O. O.) is not an uncommon bone tumor, however localisation in the carpal bones is rare. We describe a case of O. O. of the scaphoid, presenting as a synovitis and without the typical radiographic appearance of an excentric area of cortical sclerosis and a radiolucent nidus on plain radiographs or CT-scan.

CASE REPORT

A 18-year-old boy presented at the hand clinic with a six months history of swelling and pain at the radial side of his right wrist. During the past few weeks nocturnal pain had been present, but disappeared since he began to take anti-inflammatory drugs. There were no trauma, no infections nor other specific conditions previously.

Physical examination revealed a soft tissue swelling at the radiopalmar aspect of the right wrist. The anatomic sniffbox was tender ; the mobility was strictly normal. Watson's scaphoid shift test was painful.

RADIOLOGY

Plain films : The AP-view two months before surgery showed no abnormalities (fig. 1A).

The AP- and lateral view at the time of surgical intervention demonstrated some periarticular osteopenia at the radial side of the proximal carpal row with associated thickening of adjacent soft tissues. However, there was no suspicion of any osseous lesion (fig. 1B).

Scintigraphy : was not performed.

CT-SCAN : Unenhanced slice at the level of the proximal carpal row (soft tissue and bone window) showed marked distension of the radiocarpal joint, consistent with synovitis without any bone lesion visualized (fig. 2).

Contiguous enhanced slices at the same level demonstrated hypervascularity of the thickened synovium. At the volar side of the scaphoid, only a vessel was recognized. There was no evidence of any focal enhancing lesion (fig. 3).

MRI : *Coronal Fast SE T1-weighted acquisition.* Hypointense zone with indistinct margins showing extension in the scaphoid as well as expansion of the adjacent recess of the radiocarpal compartment (fig. 4).

Coronal Fast Inversion Recovery acquisition. Showing marked signal hyperintensity in both scaphoid and the adjacent radiocarpal recess,

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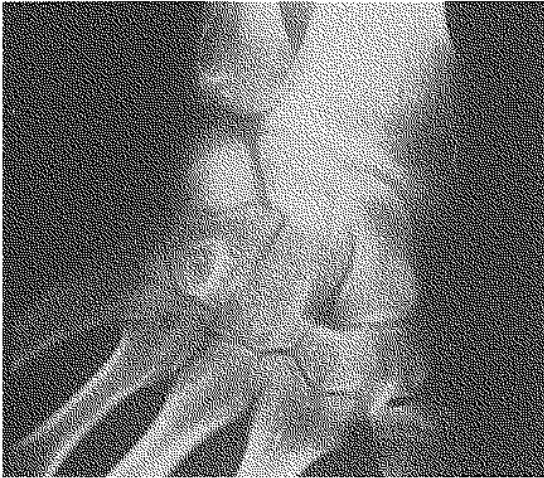


Fig. 1. — AP view, 2 months prior to the surgery.

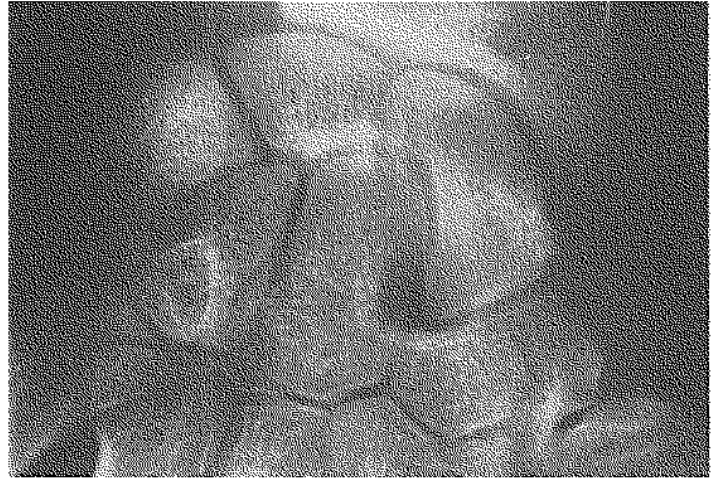


Fig. 1B. — AP and lateral view at surgery with some osteopenia.

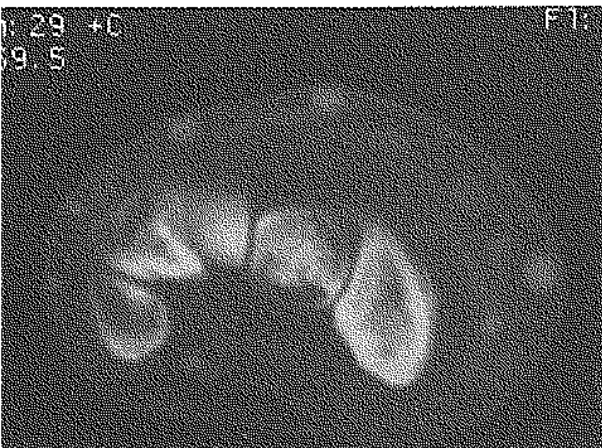


Fig. 2. — CT scan revealing the joint distention (unenhanced slice).

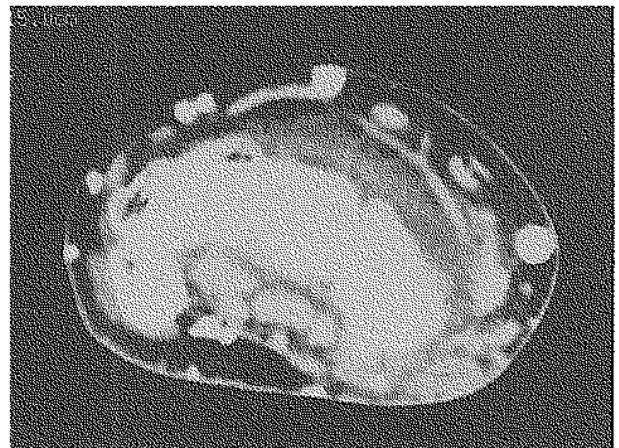


Fig. 3. — CT scan (enhanced slice).

consistent with intra- osseous edema and inflammatory synovitis. No tumoral lesion could be demonstrated. The synovitis at the ulnar side of the joint could be noticed (fig. 5).

Despite the normal findings, the possibility of an O.O. was strongly suspected. The wrist was explored through an anterior Russe approach and a massive synovitis of the wrist joint was found with abundant cloudy fluid. The synovial lining was hypertrophic. At the waist of the scaphoid a bony cherry red bubble was seen and removed en-bloc. The histology confirmed the diagnosis of O. O.

DISCUSSION

The clinical, radiological and scintigraphic features of osteoid osteoma are well known. The majority however are localized around the knee. Localisation in the upper limb is usually in the proximal part of the limb. Carpal localisations are exceptional.

In the series of Bednar *et al.* (1), 6 carpal osteoid osteomas were reported out of 24 cases in the hand and wrist, of which 4 were in the scaphoid. Ghiam and Bora (3) compiled a series of 26 cases. Loca-



Fig. 4. — MRI - T₁ (see text).

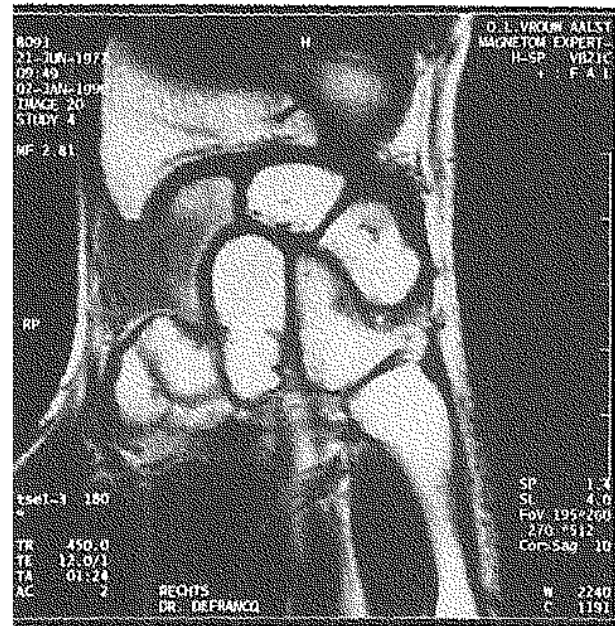


Fig. 5. — MRI Coronal Fast Inversion Recovery (see text).

lisation in the scaphoid seemed to be the most frequent of all carpal localisations.

The radiology of hand and wrist localisations is often peculiar (2). The diagnostic value of plain radiographs has been questioned by several authors. Swee *et al.* (4) reported that 25% of osteoid osteomas were missed. In the series of Bednar *et al.* (3) however, the diagnosis was made by radiography alone in 35 of 46 cases ;

With intra-articular localisations of the osteoid osteomas (within the capsular insertion) a joint effusion and reactive synovitis is often present. This has been reported in the elbow and hip-joints.

The classical picture of an area of sclerosis with a central region of lucency, or nidus, is well known but this is the picture of a cortical O. O. In the cancellous type, usually present in the hand, foot and vertebrae, the sclerosis is less dense and the nidus may not be present in this sclerosis. The subperiosteal O. O. is located in the soft tissues and the only bony changes are secondary to pressure. Tomograms and CT scan are helpful in localising the nidus. MRI imaging is less accurate. Abnormal signal changes enhanced with gadolinium are suggestive but these changes can be mis-

taken for a malignant tumor or osteomyelitis (5). Scintigraphy is positive with the exception of an occasional case report.

In this particular case the diagnosis was suspected, based on the clinical features, but imaging techniques failed to clearly diagnose the lesion and its exact localisation. In our opinion the typical symptomatology with an alteration seen on the plain radiograms and a positive bone scan are usually sufficient to justify a surgical exploration.

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SAMENVATTING

L. DE SMET, P. BRYIS, G. FABRY, A. BAERT. Een ongewone lokalisatie van een osteoid osteoma.

Bij een 18-jarige man met pijnlijke synovitis van de pols, doch met een normale radiografie en CT scan, werd bij exploratie een osteoid osteoma in het scaphoid ontdekt.

RÉSUMÉ

L. DE SMET, P. BRYIS, G. FABRY, A. BAERT. Localisation et présentation rares d'un ostéome ostéoïde.

Chez un jeune homme de 18 ans, présentant une synovite douloureuse du poignet et une imagerie normale, un ostéome ostéoïde du scaphoïde a été découvert à l'exploration chirurgicale.