

# OSTEOID OSTEOMA OF THE HAND AND CARPUS : PECULIAR PRESENTATIONS AND IMAGING

L. DE SMET<sup>1</sup>, G. FABRY<sup>1</sup>

Six cases, all females with a mean age of 35 years are reviewed. The clinical expression was suggestive, despite atypical radiological pictures. Surgical resection cured all of them.

**Keywords** : osteoid osteoma ; radiology ; tumor ; MRI.  
**Mots-clés** : ostéome ostéoïde ; tumeur ; radiologie ; IRM.

## INTRODUCTION

Osteoid osteoma is a rare bone tumor often with (nocturnal) pain relieved with aspirin, a typical radiological aspect and typical histological findings.

Despite these obvious data, the diagnosis is often missed or delayed for several months. We reviewed our cases to illustrate the peculiar presentations. The findings were compared to series recently published.

## MATERIAL AND METHODS

We reviewed 6 patients with histologically confirmed osteoid osteoma of the carpus and hand, seen in the orthopedic department of the University Hospital Pellenberg (Catholic University Leuven) from 1990 to 1993.

All patients were treated by the same surgeon (LDS). Files, xray films and pathology reports were reviewed.

The case histories are summarized in table I. All patients were females ranging in age from 22 to 54 years (average 35 years). All patients consulted for nocturnal pain. Aspirin was given to all patients, relieving symptoms in all.

## RESULTS

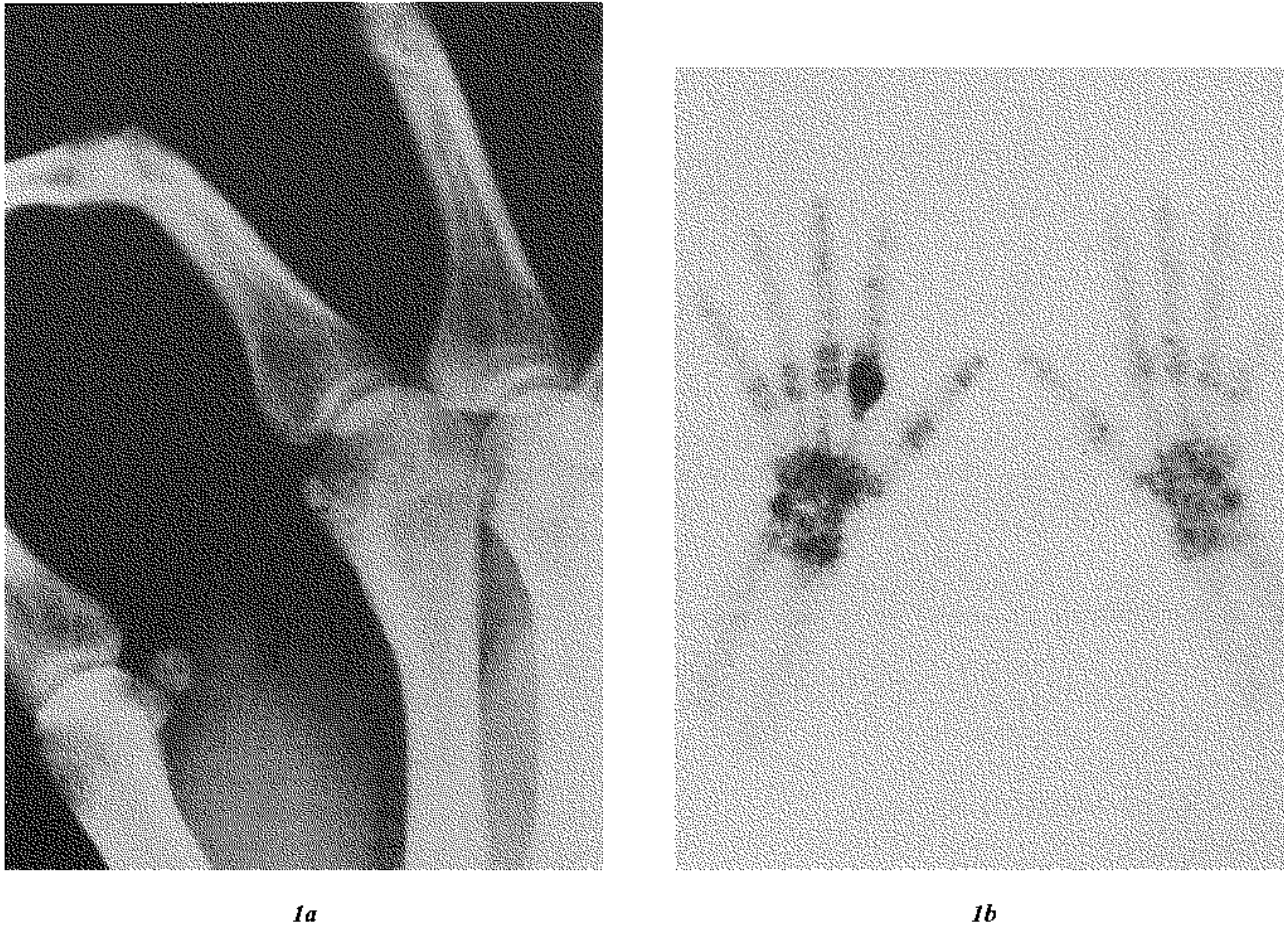
The radiographs demonstrated a typical nidus only in 1 case (case 3) (fig. 2), cortical irregularities

<sup>1</sup> Orthopedic Department, University Hospital Pellenberg, K.U. Leuven, Weligerveld 1, B-3212 Pellenberg, Belgium.  
Correspondence and reprints : L. De Smet.

Table I. — Summary of clinical findings.

R = right, Sc = scintigraphy, MP = middle phalanx, PP = proximal phalanx,  
DP = distal phalanx, MC = metacarpal, Cap = capitatum

Case Nr	Age (years)	Sex	Location	Diagnosis	Number of operations	Follow-up (months)
1 (ref.6)	32	F	R.4 MP	RX	1	24
2	38	F	R.2 MC	RX-CT-Sc	3	18
3	22	F	R.3 PP	RX-CT	1	12
4	40	F	R.4 DP	RX	1	12
5	54	F	R Cap	RX-MRI	1	10
6	32	F	R Cap	RX-CT	1	8



*Fig. 1.* — Case 2 radiographs (a) with cortical irregularity and the high uptake on scintigraphy (b).

Table II. — Review of recent series.

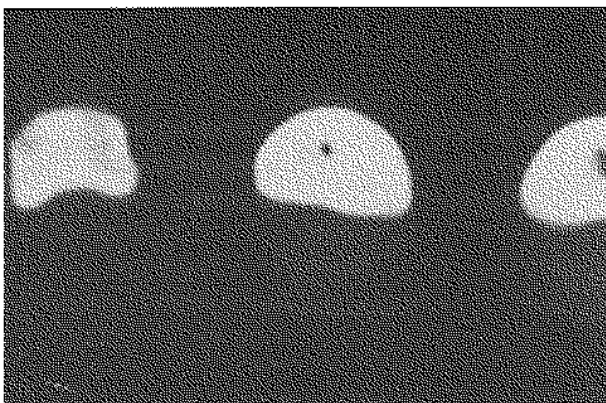
C = carpus, MC = metacarpal, PP = proximal phalanx, MP = middle phalanx, DP = distal phalanx

	N	Age	MIF	Delay in diagnosis (months)	Localization				
					C	MC	PP	MP	DP
Ambrosia <i>et al.</i> (1987)	19	23	11/8	16	4	1	9	1	4
Allieu <i>et al.</i> (1988)	46	28	21/19	26	12	5	11	8	10
Bednar <i>et al.</i> (1993)	46	20	35/11	15	6	2	8	0	3
	19								
	(carpus & hand)								
Doyle <i>et al.</i> (1985)	7	21	5/2	13	1	1	2	0	1
	5								
	(carpus & hand)								
This series (1994)	6	35	0/6		2	1	1	1	1

in 2 (cases 1 and 2) (fig. 1), an extra-articular density in 1 (case 4) (fig. 3), and they were normal in 2 (cases 5 and 6) (fig. 4).

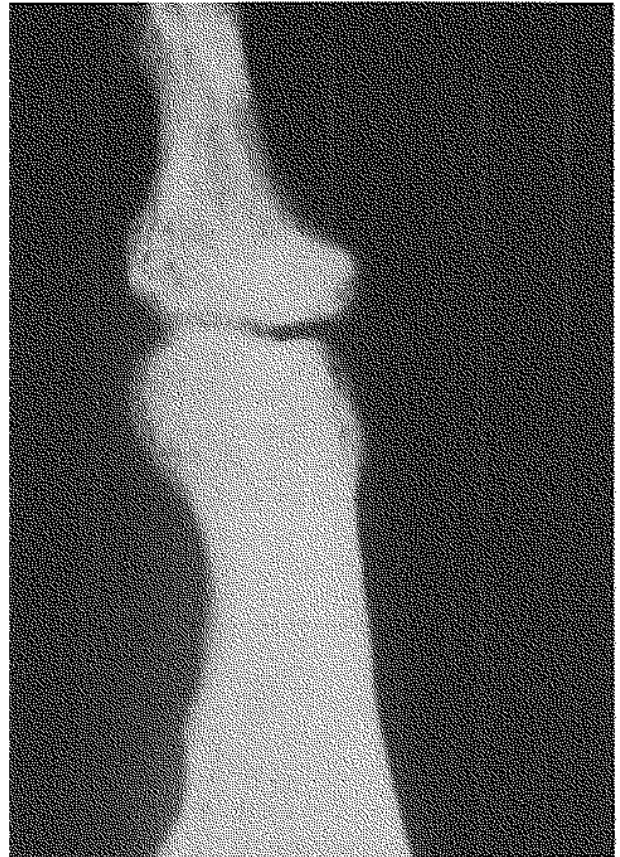


2a

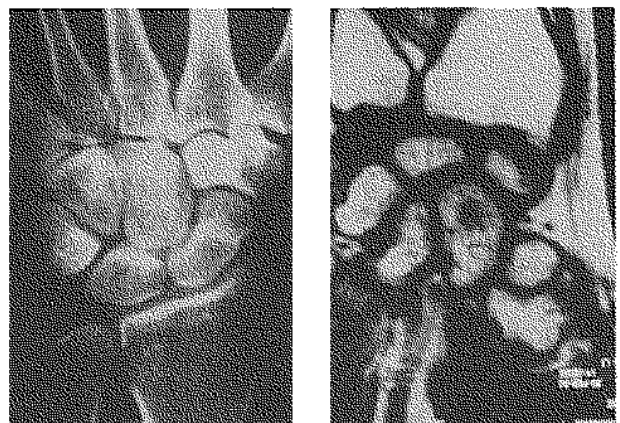


2b

*Fig. 2.* — Case 3 radiographs (a) and CT scan (b), with a typical nidus and cortical sclerosis.



*Fig. 3.* — Case 4 radiographs demonstrate the increased density at the base of the distal phalanx.



4a

4b

*Fig. 4.* — Case 5 radiographs (a) and MRI (b). Even after careful examination the capitate does not demonstrate any abnormality on xray.

Tomodensitometry was performed in 3 cases and demonstrated a nidus in all (cases 2, 3 and 6). An MRI was necessary for the diagnosis in case 5. All patients were surgically treated with "en bloc" resection of the suspected zone. Pain relief was dramatic in the first 48 hours, and all remained pain free at follow-up (mean 14 months, range 8-24 months).

### DISCUSSION

Most publications on osteoid osteomas of the hand are case reports of unusual localization and/or presentation (4, 6).

Recently 4 larger series were reported (1, 2, 3, 5). Our series is different due to (table II) the older age (35 years versus 20, 21, 23 and 25 years) and the female predominance.

The history and clinical findings were very suggestive for the diagnosis of this tumor, but conventional radiography often failed to be as typical as has been described for other localizations, and more sophisticated imaging techniques were necessary mainly to confirm and to localize the presumed diagnosis. Surgical excision was curative in these patients.

The possibility of osteoid osteoma must be considered when one is confronted with a painful hand or wrist and only minimal radiographic changes.

### SAMENVATTING

*L. DE SMET, G. FABRY. Osteoid osteoma van hand en carpus.*

De gemiddelde leeftijd van 6 gevallen was 35 jaar, allen waren vrouwen. De kliniek was erg suggestief doch de radiologie atypisch. Een chirurgische resectie was curatief.

### RÉSUMÉ

*L. DE SMET, G. FABRY. Ostéome ostéoïde de la main et du carpe.*

Les auteurs rapportent 6 observations d'ostéome ostéoïde de la main et du carpe, toutes chez des femmes dont l'âge moyen était de 35 ans. L'histoire clinique était fortement suggestive mais l'imagerie conventionnelle était atypique, nécessitant dans 4 cas le recours à une imagerie plus sophistiquée. La guérison fut obtenue par exérèse chirurgicale dans tous les cas.

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