

ENTHESOPATHY OF THE TUBEROSITAS RADII A DIAGNOSTIC PROBLEM

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The radial tubercle is rarely the site of enthesopathy. When it occurs, symptoms and radiological images are usually typical enough for unequivocal diagnosis. We report the case of a man with atypical pain and X-rays modifications of the radial tubercle. Correct diagnosis was established by histological analysis. Better knowledge of this pathology should prevent unnecessary excision.

Keywords : enthesopathy ; tuberositas radii.

Mots-clés : enthésite ; tubérosité radiale.

RÉSUMÉ

D. VAN LINTHOUDT, O. VERNET, A. PAZERA et H. OTT. Enthésite de la tubérosité radiale.

L'enthésopathie de la tubérosité radiale est rare. Le diagnostic est habituellement facilité par les plaintes et les radiographies assez caractéristiques. Nous rapportons le cas d'un homme présentant des douleurs et des modifications radiologiques atypiques. L'examen histologique a permis un diagnostic correct. Une meilleure connaissance de cette pathologie devrait permettre d'éviter, à l'avenir, des interventions agressives.

SAMENVATTING

D. VAN LINTHOUDT, O. VERNET, A. PAZERA en H. OTT. Enthesopathie van de tuberositas radii.

Enthesopathie van de tuberositas radii is zeldzaam. De diagnose is meestal gemakkelijk op grond van typische symptomen en röntgenologisch aspect. De auteurs beschrijven een geval met ongewone klachten

en radiologische afwijkingen. Het histologisch onderzoek gaf de precieze diagnose. Een betere kennis van deze ongewone aandoening zou onnodige operaties kunnen voorkomen.

INTRODUCTION

Tendon and ligament insertion areas are known as entheses. Alterations of these sites are generally termed enthesitis (23) or, more recently and correctly, enthesopathy (2, 30, 33).

Enthesopathy may be observed in many diseases : seronegative spondylarthropathies (14, 20, 33), rheumatoid arthritis (2, 14), degenerative (17, 30, 33) and endocrine diseases (33), diffuse idiopathic skeletal hyperostosis (24, 33), chondrocalcinosis (14), fluorosis (33), trauma (33) and sport-associated stress (3, 15, 37).

Every entheses can theoretically be involved, but the commonest sites of enthesopathy are the shoulder (33), the femoral trochanter (33), the pelvis (5, 33, 37), the epicondyle (34), the olecranon (33), the patella (17, 33), the calcaneum (14, 32) and the spine (23, 33). On the other hand, the radial tubercle has only been mentioned exceptionally (11, 21, 22, 23, 28).

Clinical and radiological features of enthesopathy are usually so typical that diagnosis is unequivocal.

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Nevertheless, when an unusual site is involved, the differential diagnosis may become difficult. We present a case of an enthesopathy of the tuberositas radii which needed histological study for correct diagnosis.

CASE REPORT

In June 1987, a 45-year-old, otherwise healthy, left-handed Spanish worker complained, without history of trauma, of increasing mechanical pain in his left elbow. He was referred 15 days later to our department for investigation of impaired joint function and progressive night pain.

General examination proved normal. Localized tenderness was elicited by pressure on the radial head. There was no local redness, swelling, heat, synovitis or muscle atrophy. There was a flexion contracture of 15° and free flexion to 130°. Pronation and supination were not limited.

Blood tests were all normal except for elevated uric acid (667 micromol/l; N < 450). X-rays and tomograms (fig. 1) disclosed an osteolytic lesion of the radius, near the radial tubercle, surrounded by homogeneous bone sclerosis. Total body ^{99m}Tc scintigraphy showed, only on the late phase, local increased isotope uptake. Cortical bone was slightly microlacunar on CT scan, without any irregularity of the outer surface. X-rays of the other entheses were not performed because there were no complaints nor increased uptake on scintigraphy.

Salicylate therapy did not relieve the symptoms but was rapidly discontinued because of gastrointestinal intolerance. Physical therapy, local steroid injections and plaster cast immobilization were ineffective. Because a tumoral process could not be excluded, he underwent a surgical excision in October 1987. The excised block (fig. 2) showed thickened cortical bone with a small, round, well-defined lesion.

Microscopic examination (R. Lagier, Department of Pathology, Osteoarticular Unit, University of Geneva) disclosed enlarged and thickened bone trabeculae beneath the tendon insertion. Lamellar bone structure was nevertheless normal. Muscle and tendon fibers were also normal. The bone

marrow was fibrous and highly vascularized. There were no inflammatory or tumoral cells (fig. 3).

The postoperative course was complicated by a transient radial nerve palsy. After one year follow-up, the patient was doing well, without recurrence of pain. There was a slight residual supination impairment.



Fig. 1. — Tomography of the left elbow. Osteolytic lesion of the radial head surrounded by homogeneous bone sclerosis.

DISCUSSION

There is a wide differential diagnosis of lytic bone areas limited by a sclerotic rim. Our patient had associated night pain, and the radiological aspect suggested primarily an osteoid osteoma (9). Neoplasia, giant cell tumor, microbial or fungal bone infection, cortical bone defect and bone cyst were also considered.

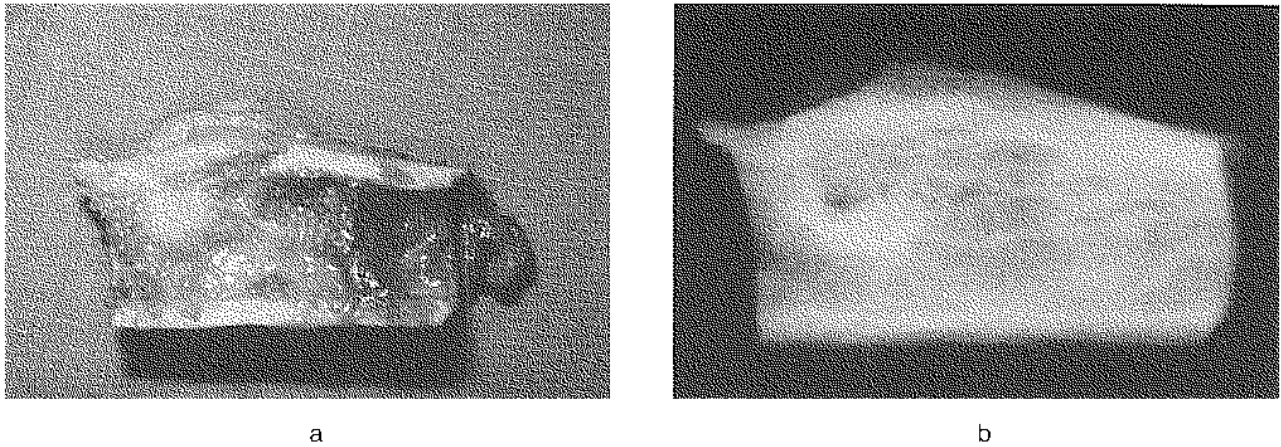


Fig. 2. — Photograph of the surgically excised block. Thickened cortical bone with a round, definite lesion reaching the endosteal surface. A : macroscopic specimen (2.4 X) ; B : radiography (3.4 X).

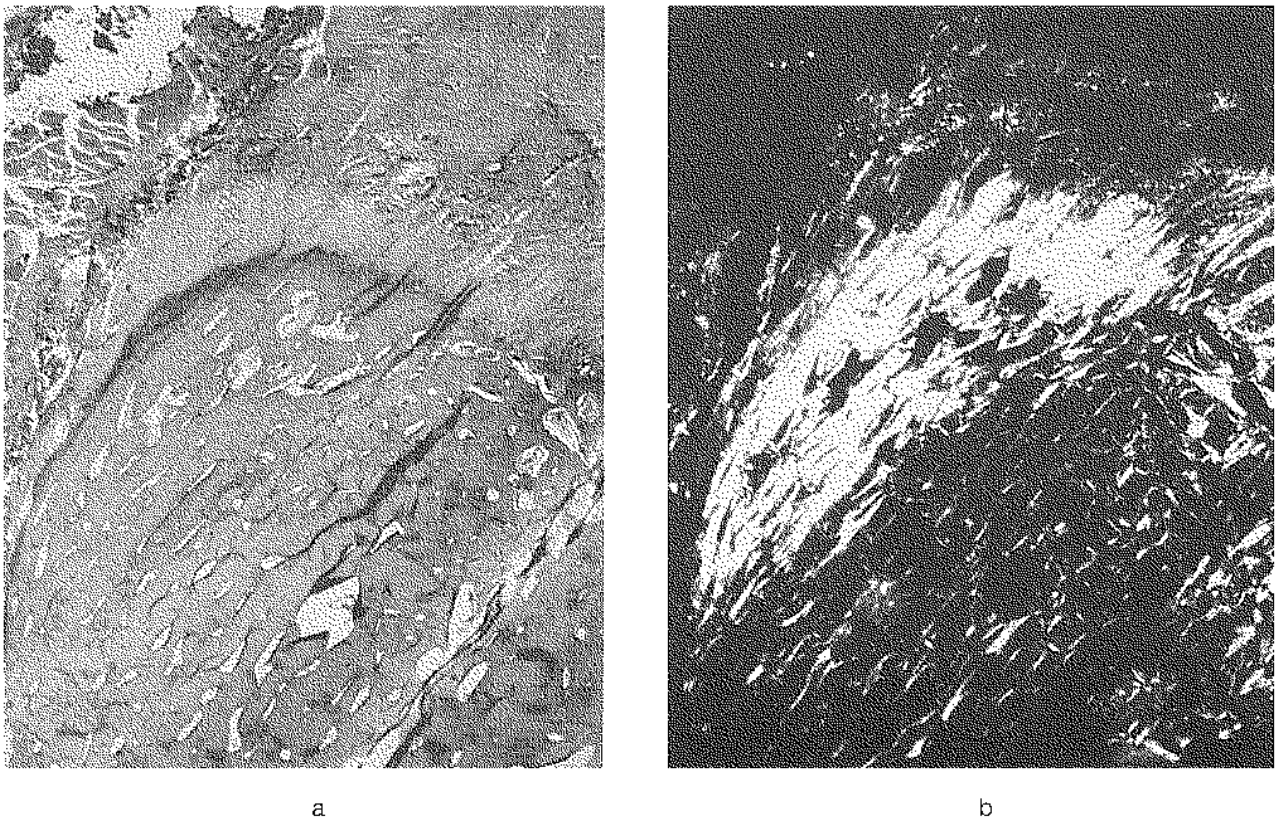


Fig. 3. — Histological appearance of the excised tissue (T. 14599/87-HE stain — low magnification). Thickened bone trabeculae (lower left) beneath the tendon insertion (upper right) ; well-individualized Sharpey's fibers. Absence of inflammatory or tumoral cells. (a) Normal light. (b) Polarized light.

In this case, the clinical presentation was misleading. Mechanical insertion pain is usually increased by exercise and improved after local therapy or immobilization. Moreover, flexion is usually not impaired in elbow enthesopathy, as it was in the case reported. On the other hand, night pain and restricted joint mobility is quite common in osteoid osteoma (27, 35), evoking the latter diagnosis.

X-rays of stress enthesopathy are frequently normal or show tendon calcifications (21, 23) or spur formation (3, 26, 31). Lucent defects (6, 19) and bone erosion surrounded by a sclerotic reaction are much more uncommon (5, 37). This last characteristic is more frequently seen in inflammatory rheumatic diseases (1, 2). Isotope uptake on scintigraphy may be increased in degenerative enthesopathy. In osteoid osteoma, it is nearly always increased, already in the early phases (13), which was not the case here. The CT scan was unhelpful.

Normal entheses are formed by four gradually merging zones : tendon, fibrocartilage, mineralized fibrocartilage and lamellar bone (2, 10). There is a prominent nerve (28, 30, 33) and vascular (28) supply. Pathological changes in our case were restricted to enlarged lamellar bone trabeculae with fibrous and highly vascularized bone marrow. Degenerative enthesopathy is usually characterized by enchondral (8, 16, 18) or fibrous (12, 25) ossification. Osteoclastic resorption with secondary bone sclerosis is more uncommon (7). None of these features was seen in our case. Bone trabeculae enlarged by new lamellar apposition or reactive woven bone are occasionally encountered in inflammatory enthesopathy (2). In our case, there were nevertheless no local inflammatory lesions. Enthesopathy of the elbow is frequent but localization to the radial tubercle is rare. Despite repetitive arm tendon stress, baseball pitchers (4, 36) and javelin throwers (29) do not develop this lesion. Better recognition of this unusual localization, even in nonpredisposed subjects and in patients with atypical symptoms, should prevent unnecessary excision or biopsy.

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