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Case Report

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Osteoid Osteoma of The Scaphoid Bone

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ABSTRACT

The carpal localization is an infrequent condition for the osteoid osteoma which is a benign, solitary, painful osteoblastic bone tumour. In the hand the diagnosis may be delayed because of the nonspecific symptoms, and the tumor is often mistakenly treated as another disease. We present an unusual case of osteoid osteoma of the scaphoid treated previously as a de Quervain's tenosynovitis. The treatment of choice was the curettage and autogenous bone grafting in this case. The symptoms were dramatically settled down just after the operation. *©2008, Firat University, Medical Faculty*

Key words: *Osteoid osteoma, scaphoid bone, benign tumors*

ÖZET

Skafoid Kemiğin Osteoid Osteoması

İyi huylu, soliter ve ağrılı osteoblastik bir lezyon osteoid osteomanın karpal yerleşimi oldukça nadir görülen bir durumdur. Elde görülen lezyonlarda tanı spesifik olmayan semptomlara bağlı olarak gecikebilir ve tümör yanlışlıkla başka bir hastalık olarak tedavi edilebilir. Burada daha önceden de Quervain tenosinoviti olarak tedavi edilmiş nadir bir osteoid osteoma olgusu sunulmuştur. Küretaj ve otojen kemik grefti uygulaması ile semptomlar operasyonun hemen ardından hızlı bir şekilde yatışmıştır.*©2008, Fırat Üniversitesi, Tıp Fakültesi*

Anahtar kelimeler: *Osteoid osteoma, skafoid kemik, benign tümörler*

Osteoid osteoma is a benign, solitary, painful osteoblastic bone tumour, first identifed as a clinical entity by Jaffe in 1935 (1-3). This is often localised in long bone, but the carpal localization is another, although infrequent, condition. It usually occurs in the second and third decades of life, and men are affected more frequently then women. Osteoid osteoma of the carpus is often misdiagnosed because of the polymorphism of the clinical signs (4,5). We report herein a case of osteoid osteoma of scaphoid bone previously diagnosed as de Quervain's tenosynovitis and treated surgically.

CASE REPORT

A 37 year-old man, state employee, presented to our clinic complaining of a three year history of nonspecific right wrist pain. The pain was initially intermittent but later it became more constant and severe. He had antiinflammatory medication for two years as a nonspecific synovitis; then, one year prior to admission, a decompression of the first extensor compartment was carried out in another institution because of suspected de Quervain's tenosynovitis. The patient did not benefit from this operation and was still suffering from continuous pain, aggravated by daily activity and worsened at night.

At the date of admission the patient had a mild swelling on the dorsoradial side of the wrist, pain over the anatomical snuffbox of the right hand on palpation, and a limitation of motion. The plain radiograph showed a suspicious round radiolucent area. The computed tomography (CT) scan and the magnetic resonance imaging (MRI) signified a reactive sclerosis surrounding a central lucency and verified the diagnosis. An excisional biopsy was performed through dorsal approach. Macroscopically there was a synovitis in the scapho-trapezo-trapezoid articulation. The tumor had fractured the dorsal cortex of the scaphoid and a reactive bone formation could be observed. After the excision curettage and motorized burr application was performed. The defect was filled with autologous cancellous graft from the distal radius. The histologic examination verified the diagnosis of osteoid osteoma. Immediately after the operation the nocturnal pain disappeared and there was no recurrence at one year afterwards.

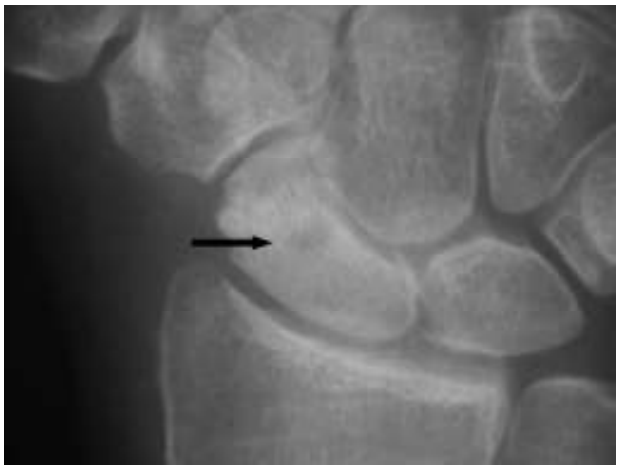

Figure 1. The nidus presented as a radiolucent area noticed with difficulty.

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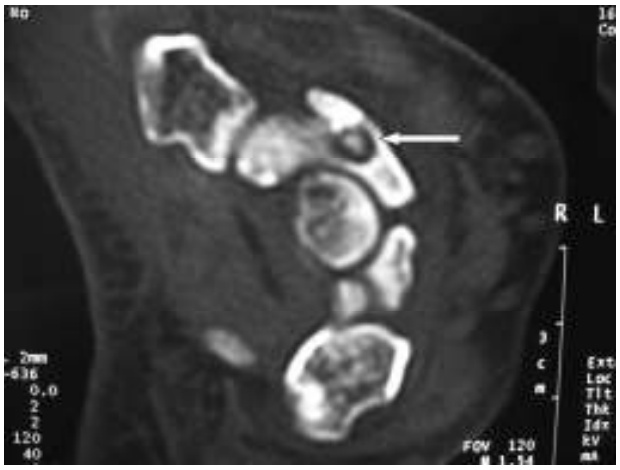

Figure 2. The CT view of the nidus as a well demarcated radiolucent area in the scaphoid.

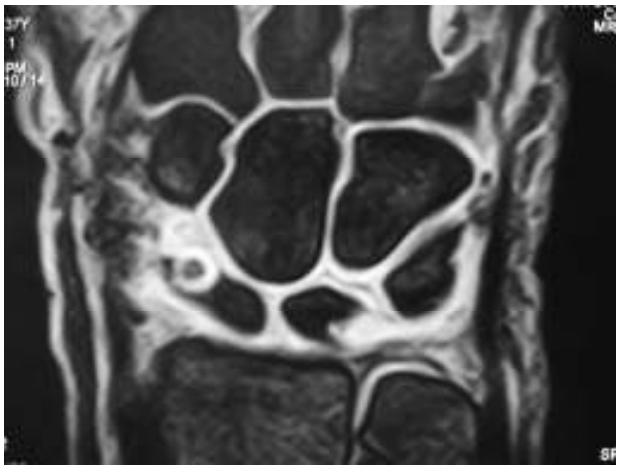

Figure 3. The MRI is the most appropriate technique for the diagnostic and shows the nidus with a sclerotic rim.

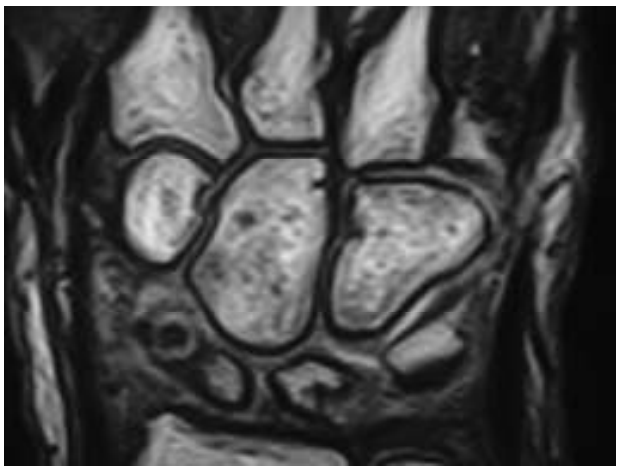

Figure 4. The MRI is the most appropriate technique for the diagnostic and shows the nidus with a sclerotic rim.

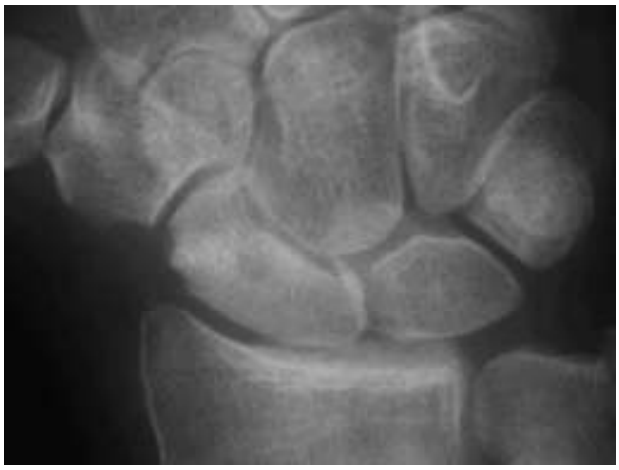

Figure 5. Postoperatif view of the case.

DISCUSSION

Osteoid Osteoma is a benign bone tumor usually localized in or on the cortex of a long bone (6). In hand it is frequently seen in the proximal phalanx; the carpal and metacarpal bones are unusual sites for osteoid osteoma. This osteoblastic lesion is characterized by a well-demarcated nidus usually less than 1 cm and by a distinctive surrounding zone of reactive bone formation. Histologic features include a nidus of irregular trabeculae with numerous osteoblasts in osteoid, surrounded by highly vascular stroma.

The main symptom is pain followed by swelling. The pain is characteristically deep, dull and constant and frequently relieved with nonsteroidal antiinflammatory drugs especially with salicylate therapy which are believed to inhibit the increased prostaglandin synthesis of the tumor. As time passes the pain become more severe, especially at night.

In hand the diagnosis may be delayed because of these nonspecific symptoms. The average duration of symptoms before diagnosis is 15 months and the tumor is often treated as another disease (7). Carpal tunnel syndrome, osteomyelitis, stress fracture, avascular necrosis, posttraumatic periosteitis, capsular strain, malign tumors like ewing sarcoma or osteosarcoma, inflamatory arthritis and Brodie abscess are common misdiagnosis hiding the real lesion (4-7). In this case, the patient was operated upon a misdiagnosis of de Quervain's disease. De Quervain's tenosynovitis' symptoms are usuals for the tumors localized at the radial styloid but not in the scaphoid (4).

The prevalence of the osteoid osteoma may be higher than reported due to misdiagnosis and radiographic misinterpretation. If a patient presents with persistent nocturnal pain and nonspecific symptoms, it is important to include osteoid osteoma as a possibility although it is rare.

The plain radiographs can demonstrate a well demarcated radiolucent area but the computed tomography is essential if the x-rays are not sufficiently qualified especially for the carpal bones as in the presented case. In the plain radiographs the nidus is commonly concealed by the adjacent area of extensive sclerosis and the diagnosis may often be missed. The CT scan shows the exact localization of the tumor and guides the surgical procedure. The magnetic resonance imaging is the most appropriate technique for the diagnostic. It shows the

nidus with a sclerotic rim and the perifocal edema causing the swelling. This observation may be due to the elevated levels of prostaglandin levels in the nidus which lead to an increased permeability of the capillaries (8).

The treatment of the osteoid osteoma is surgical. Nonsurgical treatment has been reported with long standing use of salicylates (three to four years) (4,9). The curettage of the lesion with ablation of the nidus leads to regression of the symptoms. Motorized burr is useful to clean the cavity and if a large cavity is present cancelleous bone graft is indicated. Percutaneous radiofrequency ablation is used for the upper and lower extremity tumors; however, this technique is not routinely performed in the hand.

Osteoid osteoma in carpal bones is a rare entity. The diagnosis is difficult because of the nonspecific symptoms and possibility of misinterpretation of the radiographs (10). In patients under the age of 40 years with pain of unclear etiology, the osteoid osteoma diagnosis must be included in the differential diagnosis and the patient should be asked about relief with nonsteroidal antiinflammatory agents.

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