CASE REPORT

Osteoid osteoma in the neck of the Scapula; A misleading case

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Abstract

Osteoid osteoma is a benign bone tumor that when located on the base of the coracoids process of the scapula is very rare and diagnosis and treatment is often delayed because of its rarity.
Almost any bone can be involved, but half of cases involve the femur or tibia. The radiologic features of osteoid osteoma are well known, but these tumors may present with unusual features and be easily misdiagnosed. In this report, we present a case of osteoid osteoma of the neck of the left scapula that took almost 27 months to be diagnosed accurately.

Key words: Misleading, Osteoid osteoma, Scapula

Introduction

Osteoid osteoma on the base of the coracoids process of the scapula is very rare and hence diagnosis and treatment is often delayed. Moreover, osteoid osteoma is the third most common benign bone tumor that usually affects the diaphysis of long bones, especially the femur or the tibia, but can involve any bone.

Case report

A 25-year-old man with a history of a minor trauma on the left shoulder referred to our clinic. He felt left shoulder pain after the trauma and was visited by four physicians for treatment, but no definite diagnosis was established. The patient complained of continuous pain at night that woke him up during the night. During the days pain was less, but exacerbated with activities. The patient was treated long term based on a diagnosis of cervical spine discopathy, impingement syndrome, and received various treatments including physiotherapy, and medical treatment, for about 27 months.

On the patient's initial visit to our hospital, he complained of pain around the left shoulder that radiated to the posterior aspect of the arm and to the anterior aspect of the arm and forearm to the fingers especially to the thumb. The pain was worse at night and improved with anti-inflammatory medication. Range of motion was not restricted and no swelling, tenderness, or local heat around the shoulder was noted.

The authors have obtained the patient's informed written consent for print and electronic publication of the case report.

Blood examination showed normal inflammatory markers and the remainder of the clinical examination was unremarkable. Plain radiographs were taken and x-ray did not show any lesion; however a nonspecific sclerosis of the coracoids base was noted (Figure 1).

T2-weighted magnetic resonance imaging (MRI) revealed a small, rounded, high-signal area surrounded by a low-signal ring at the neck of the scapula (Figure 2). Computed tomography (CT) scan confirmed a small calcification surrounded by a low-intensity area (Figure 3).

Tc99 triphasic whole body bone scan revealed the lesion at the neck of the scapula (Figure 4).

Surgical Technique

Due to the specific location of the lesion the surgical approach was challenging because it was not accessible

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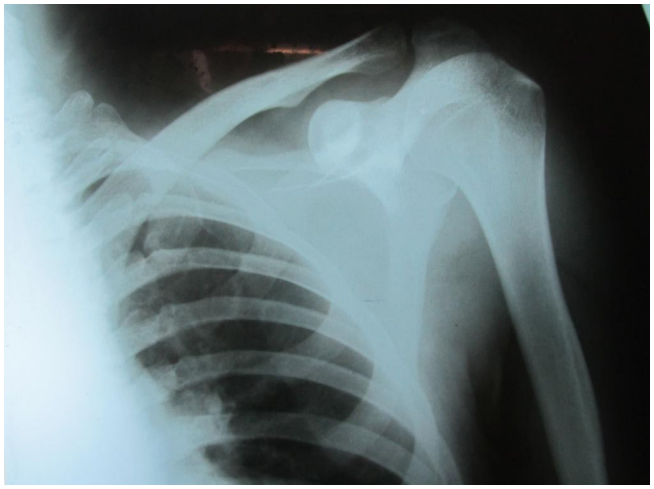

Figure 1. plain radiography of antero-posterior view of left shoulder.

Figure 2. T2-weighted magnetic resonance imaging (MRI).

by routine surgical approaches. After general anesthesia in the beach chair position first an incision through the deltopectoral interval was performed, then by dissecting the coracoacromial ligament tenotomy of the upper half of the subscapularis and capsule by insertion of a Fukuda retractor into the joint the coracoids base and glenoid neck were fully exposed. Nidus of the tumor was entirely resected and sent for pathology.

Clinical symptoms dramatically improved and pain disappeared. One year after the operation the patient was pain-free with no recurrence of the tumor at the site.

Discussion

Because the scapula is a rare site for osteoid osteoma, it is not often included in the differential diagnosis of chronic shoulder pain (1). Osteoid osteoma is a benign bone tumor that presents between the ages of 10 and 30 years with a male-female ratio of 2:1 (2). The lesion usually occurs in the lower extremity, mainly the femur and tibia, in approximately 80% of cases (3). In the upper extremity, the tumor occurs with a frequency of 19% to 31% (4). Osteoid osteoma in the proximal humerus is particularly infrequent, with only 13 cases in the proximal humerus out of 803 cases of osteoid osteoma (5). Osteoid osteoma is a well-recognized entity that can cause diagnostic difficulties (6).

Previous reports describe cases of osteoid osteoma misdiagnosed as stress fracture, gout, and bacterial or rheumatoid arthritis (5-8). The diagnosis is often delayed by a mean of 1 to 2 year, especially in cases of juxta-articular osteoid osteoma (5-8).

Szendroi et al. reported that the interval from symptom onset to correct diagnosis was 26.6 months in patients with juxtaarticular osteoid osteoma and 8.5 months in patients with extra-articular osteoid osteoma (9). Although the present case was extra articular (the glenoid notch), it took 27 months to be diagnosed correctly.

Night pain is often attributed to rotator cuff pathology. However, the age range of the patients in these cases would make rotator cuff pathology less likely. Glanzmann et al. reported osteoid osteoma presented by localized stiffness of the anterosuperior capsule which led to the chief complaint of painful restriction of external rotation in the adducted arm position only (1).

According to Ogose et al.'s report, bone tumors of the coracoid process may be difficult to detect on plain radiographs. In the patient with persistent shoulder pain unresponsive to the selected treatment, additional imaging studies should be considered to eliminate the possibility of a bone lesion (10). Mosheiff et al. reported a case of osteoid osteoma of the scapula with excision of the lesion by guided needle biopsy (11).

In surgical treatment by Poynali et al., the excision of the lesion and grafting was performed by a deltopectoral approach (12). In other case reported by Akpinar et al., the enbloc excision of the osteoid osteoma was managed by an anterior approach using an osteotomy of the coracoids process with successful results (13). Similarly Pourfeizi et al. reported a case of osteoid osteoma of the coracoid base which was managed by an anterior approach using an osteotomy of the coracoid process (14). But we did not perform a coracoid osteotomy and therefore patient rehabilitation was reached quicker. Dussaussois et al. reported a new therapeutic modality used in a patient with an osteoid osteoma of the scapula. They successfully destroyed the nidus by percutaneous laser photocoagulation under CT guidance. Clinical improvement was manifested after 72 hours and the patient remained asymptomatic during the follow up period (15). In our case the unusual site as well as age and gender of the patient and common compliant of radicular neck and shoulder pain with a mechanical nature caused long delayed diagnosis and treatment. Although osteoid osteoma is a very rare cause of radicular shoulder pain, complaints

Figure 3. Computed tomography (CT) scan.

of prolonged relentless night pain should not be ignored and paying attention to night time increasing nature of the pain is the key to correct diagnosis.

In osteoid osteoma the choice of treatment is radio frequency ablation (RFA). This treatment is noninvasive and with good results (16). In RFA a minimum amount of bone is removed during the procedure and the patient can return to normal function almost immediately (17). Another treatment of osteoid osteoma is surgical excision of the nidus if RFA is not accessible (14, 18).

Figure 4. whole body bone scan.

Overall, osteoid osteoma of the scapula is a challenging case to diagnose for several reasons.

Since a differential diagnosis is unlikely and far-fetched, these tumors can be misdiagnosed for a long time and treated as cervical radicular pain.

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