Cumhuriyet Tıp Derg 2011; 33: 219-223
Cumhuriyet Med J 2011; 33: 219-223

Case report-Olgu sunumu

Shoulder pain due to enchondroma of the humerus

Humerus enkondromuna bağlı gelişen omuz ağrısı

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Abstract

Enchondromas, the second most common osseous neoplasms, are benign mature hyaline cartilaginous neoplasms that are usually solitary lesions in intramedullary bone. Enchondromas of the long bones are usually asymptomatic and often identified radiographically as an incidental finding. Pain is the most commonly encountered symptom. The most common clinical presentations are impingement syndrome and rotator cuff tears, respectively. The characteristic radiographic appearance is solitary lucent lesion in the diaphyseal part of short tubular bone or in the metaphyseal part of the long bones. We present a case of a 23 year old woman with humeral enchondroma in this case report.

Keywords: Enchondroma, long bone, chondrosarcoma, treatment

Özet

Enkondrom kemiğin medüller kavitesi içinde gelişen yaygın görülen benign hyalin kartilajinöz neoplazmdır. Uzun kemik enkondromları genellikle asemptomatiktir ve tesadüfen bulunurlar. Ağrı en yaygın ortaya çıkan semptomdur. Ağrı olmayan hastalarda lezyon genellikle diğer sağlık problemleri araştırılırken tesadüfen bulunur. En yaygın klinik görünümü impingement sendromu ve rotator manşon yırtığı şeklindedir. Karakteristik radyografik görünümü kısa tübüler kemiklerin diafizi veya uzun kemiklerin metafizi içindeki soliter lüsent lezyondur. Bu yazıda humerus proksimal epifizinde enkondrom saptanan 23 yaşında bir kadın hasta sunulmuştur.

Anahtar sözcükler: Enkondrom, uzun kemik, kondrosarkoma, tedavi

Geliş tarihi/Received: June 19, 2010; **Kabul tarihi/Accepted:** December 24, 2010

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Introduction

Enchondroma is benign mature hyaline cartilaginous neoplasm that presents itself usually as solitary lesions in intramedullary bone [1, 2]. Enchondroma is the second most common osseous neoplasm [1, 3]. Solitary enchondroma is typically first discovered in the third or fourth decade (average age 38 years). It is commonly located centrally, with a predilection for short tubular bones, the proximal femur and humerus. It is frequently located in the center of the bone (80%) [1, 4-6]. The occurrence between males and females is equal [1]. Enchondromas are generally asymptomatic [2]. The most characteristic radiographic appearance is solitary lucent lesion in the diaphyseal part of short tubular bone or metaphyseal part of the long bones [5, 7]. In this report; a case of 23 year old woman with humeral enchondroma were presented.

Case

A 23 year-old woman, presented to the physical treatment and rehabilitation department with a pain that was often felt over the front of the left shoulder over 3-4 months duration, with recent exacerbation of pain. There was no trauma that may cause a pain and the applicant did not have any other medical problem. Shoulder movements enhanced the pain. On physical examination, there was no skin abnormality, swelling or a palpable mass on the left upper limb. Her provocative tests (Hawkins and Neer signs) were positive for impingement syndrome of the left shoulder. The humerus was tender with palpation from proximal to middle on the left arm. There was not any limitations regarding shoulder and elbow movements. Neurological examination was within normal limits. The patient was referred for a radiological examination. Shoulder radiographs were normal. There was a cystic appearance located in the center of bone in the humerus radiograph (Fig 1).

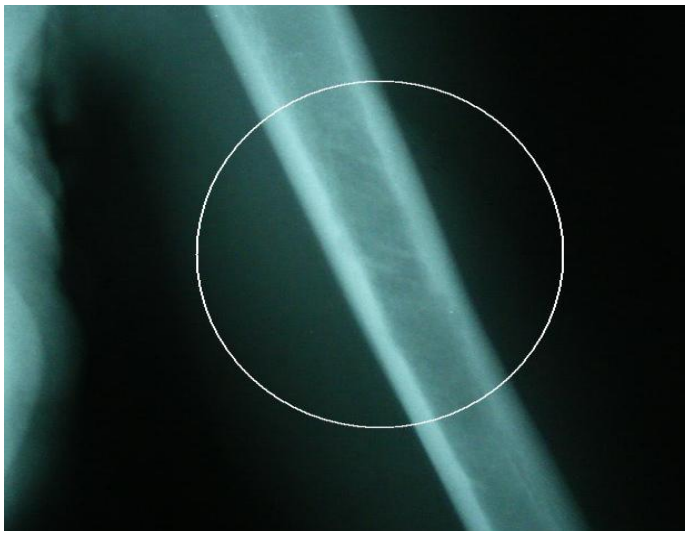

Figure 1. X-Ray; A cystic appearance located in the center of bone in the humerus radiography

Magnetic resonance (MR) imaging revealed a benign characterized mass lesion positioned intramedullary in the diaphyseal part of the left humerus and caused slight expansion and thinning in the bone cortex. This cartilaginous lesion was showing a low signal on T1 and a very high signal on T2. The lesion was cystic in nature and had dimensions of 114 x 12 x 0.8mm. Bone destructions, periosteal reactions or an obvious area of calcification were not seen. The lesion did not have significant contrast enhancement. Epiphysis and physis were intact. After an injection of Gadolinium diethylene triamine tetra acetic acid; homogeneous enhancement was detected in the lesion (Fig 2A and B).

Ultrasound guided biopsy of the lesion was performed and pathological examination revealed solitary enchondroma (Figure 3). The patient did not accept any surgical intervention and she was discharged with control in every three months. As the patient refused surgical treatment, nonsteroidal antiinflamatuary drugs, hot pack, kinesiotherapy, and transcutaneous electrical nerve stimulation therapy were given. There was not any significant difference in the lesion and the patient's symptoms after two years.

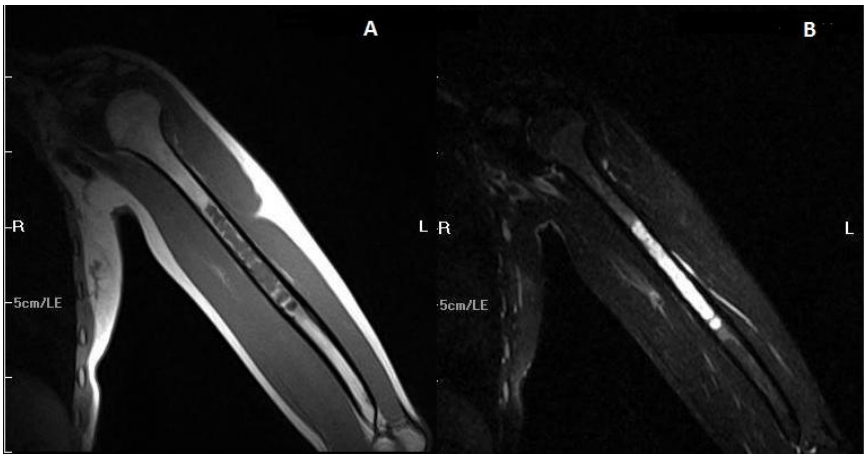

Figure 2. T1 (A) and T2 (B) weighted MR images of the lesion with fat saturation after gadolinium contrast in the coronal planes showing lobular peripheral and central dot like areas of enhancement.

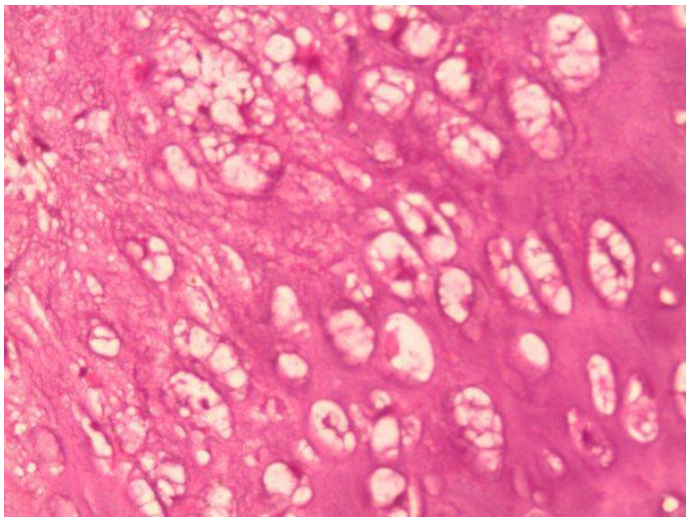

Figure 3. Histological evaluation; A section shows the hypo cellular chondroid matrix containing small, bland chondrocytes.

Discussion

Solitary benign enchondroma of the bone was defined by Jaffe and Lichtenstein as a "benign cartilaginous growth" [8, 9]. Enchondroma is the second most common benign bone tumor and represents 3-17% of all primary bone tumors that have biopsy examinations [2]. They are typically centrally located in the intramedullary portion of bone [2, 10]. Enchondromas of the long bones are usually asymptomatic and are often identified radiographically as an incidental finding [1]. According to the results of study of the Levy et al. [2] the most common symptom is pain (88%). Pain was the major complaint in our case. The most common clinical presentations in the study performed by Levy et al. were impingement syndrome and rotator cuff tears respectively in the cases with the enchondroma in the proximal humerus [2]. Our clinical examination was consistent with impingement syndrome. The average duration of symptoms at presentation was 9.3 months (range, 2 weeks-36 months) [2]. Our case had been suffering from pain for the last six months. Their characteristic radiographic appearance is one of the solitary lucent lesions within the diaphysis of the short tubular bones or metaphysis of the long bones [1]. We determined the same features in the humerus radiographs.

Enchondroma typically reveals low-to-intermediate signal intensity on T1-weighted MR images [11, 12]. We found a low signal on T1 and a very high signal on T2 at proximal humerus in our case. Malignant transformation of solitary enchondroma is extremely rare (<1%) [1]. In enchondromatosis (Ollier disease, Maffucci syndrome) the risk of malignant transformation (chondrosarcoma) is increased up to 35% [1, 4, 11]. Of 158 secondary chondrosarcomas seen at the Mayo Clinic, 21 (13%) had preexisting enchondromatosis [4, 7]. In general, small peripheral lesions are more likely benign whereas large axial lesions have a higher likelihood of malignancy [2, 11]. The lesion in our patient was large and axial. Symptomatic and asymptomatic, modest to large enchondromas are typically found in the femur and humerus [10]. The lesion of our patient was located in the humerus. Brien et al [7] states that; the chance of a modest-sized solitary enchondroma (3-7cm) eventually becoming malignant is not minuscule, but estimates the risk to be about 2-3% and large solitary enchondroma between 8 and 15cm in maximum dimension has approximately a 5% chance of eventually developing into a malignant condition. Treatment for enchondroma can be substantially different, ranging from observation, to biopsy, complete curettage with or without adjuvant therapy and bone grafting. Treatment of small (<3cm), asymptomatic, incidentally found lesions is usually nonsurgical with radiological follow-up examinations suggested for a few years. For symptomatic lesions and atypical radiological findings, core biopsy and large curetting's to preserve and evaluate cortical and intramedullary tissue patterns are suggested [7, 10, 12]. In conclusion, enchondromas, although uncommon, represent a distinct clinical entity and deserve consideration in the differential diagnosis of radiolucent or chondroid epiphyseal lesions [2, 6, 5]. Enchondroma should be considered in the differential diagnosis of patients diagnosed with impingement and radiographs of the humerus should be evaluated cautiously. In the absence of the symptoms, the atypical location of these tumors also may justify earlier biopsy for pathologic diagnosis as opposed to the serial radiographic observation [5]. Because of the high probabilities of malignant transformation in the large (>7cm), symptomatic, and long bone localized lesions; close radiographic follow-up or early surgical treatment of these lesions appears warranted.

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