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WHAT IS YOUR DIAGNOSIS?

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A 21-year-old male patient consulted with 2-year history of back pain and grinding sensation with shoulder movements. These complaints prevented him from doing his job as a waiter properly. On physical examination, left shoulder joint movements were performed actively. With rotational shoulder movements back pain and snapping sensation on scapula appeared. No palpable mass was found. Other clinical results were normal.

Figure 1: An osteochondroma which was seen as opacity in an area consistent with pulmonary tissue on the posteroanterior radiograph of the patient in the pre-operative period (intermittent ring).

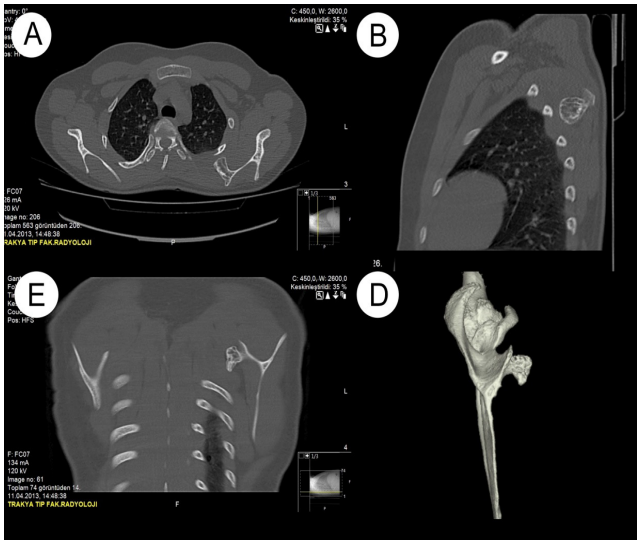

Figure 2: A) sagittal plane B) axial plane C) coronal plane D) three dimensional view of the osteochondroma originated from ventral side of superior angle of the left scapula on the computed tomography for further examination.

As the result of radiographic investigation on the snapping scapula syndrome pre-diagnosed patient, opacity was seen on the superior angle of the left scapula (Figure 1). Computerized tomography (Figure 2) for further radiographic examination revealed that the mentioned opacity is actually an osteochondroma occurred on the costal surface of the scapula.

DIAGNOSIS

This is a case of osteochondroma on the ventral surface of the scapula.

DISCUSSION

Snapping scapula syndrome, also known as Washboard syndrome, causes grinding sensation with or without pain. Symptoms include clicking and snap-

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ping of shoulder. Snapping scapula syndrome of the scapulothoracic joint differs from other shoulder problems. This syndrome is related to specific bone anomalies, though it could not be identified for a long time (1).

Scapula is a flat bone with three edges and two surfaces. It has a joint area with humerus bone, called glenoid, on its lateral side. It forms the shoulder joint with glenoid fossa and caput of humerus, as well as the acromioclavicular joint with its acromion process and clavicle bone. During shoulder movements, scapula slides over the thorax. Shoulder joint and the acromioclavicular joint are the two areas which allow the scapula to be attached to the skeleton. Scapula is completely floating except for these two areas.

The mechanism of snapping scapula syndrome is usually described with front movement of superior angle of scapula which compresses the scapulothoracic bursa between scapula and thoracic wall, and thus irritating it. This syndrome occurs in women two times the rate of men. The mean age of women is 29, while the mean age of men is 24 (2). This implies that the syndrome is more likely to occur in young and active people.

This syndrome was first defined by Boiret in 1867, while naming was done in 1933 by Milch. Milch also described the surgical treatment of snapping scapula. Most characteristic symptoms in snapping scapula syndrome are crepitations under scapula, rasping, pain along the medial edge, and palpable knots in soft tissues. These symptoms can even reduce the quality of life for some cases.

In physical examination, snapping sensation may appear with shoulder movements (3). The presence of a mass can be examined with palpation. Additionally, radiologic methods are essential in physical examination. These methods include classic tomography, scapular Y-view radiography and 3D tomography. While not being used frequently, MR can detect bursae and obtain some non-specific results. Scapulothoracic arthroscopy is also a technique which is used for both diagnosis and treatment purposes.

For the differential diagnosis, in addition to shoulder joints, nearby tissue and organs should also be examined. Especially cervical discopathies must be considered (4). Frozen shoulder and glenohumeral joint restriction, which lead to abnormal movements of scapula, should also be considered. Deformities such as the winged scapula can easily be noticed with physical examination.

In our patient, during differential diagnosis, an osteocondroma facing the ventral surface of the scapula was noticed. After excising the subscapular osteocondroma (Figure 3), the patient's complaints were releived gradually. 2 years after the operation, the patient's angular movements of the shoulder joint were normal and healthy, without any grinding sensation.

Osteochondroma is one of the most common benign bone tumours. It represents a 10-15% of all bone neoplasms. Osteochondromas can be encountered on the bone surface as solitary, multiple, pedunculated or sessile neoplasms. Most common areas are the cartilaginous parts of the long bones in the lower limbs, distal femur and proximal tibia topping the list (50%) (5). The osteochondroma encountered in scapula represents 4% of all cases and usually they are located in the costal surface (6).

Osteochondroma are usually found in children and adolescents, but they are also common in the second decade. The osteochondroma, which occur in relevance to growth plate remnants, grow correspondingly to the bone growth and stop progressing once the skeleton becomes mature. If not, then some other malignant tumour should come to mind, which is in most situations chondrosarcoma. The probability for solitary osteochondroma to turn to chondrosarcoma is less than 1%, while it is 10-20% for multiple hereditary exotoses (7). Multiple hereditary exotoses are usually inherited autosomal dominantly and it is characterised with presence of many osteochondromas.

Bursa developed over the osteochondroma causes the process to become more conspicuous. Bursa is diagnosed by ultrasonography. Cartilage cap may be thicker in children and evaluating the thickness with USG is used as a malignity marker. Measuring the apical thickness on MRI contributes to the differentiation of bursitis and osteochondroma. Acute increase of the cartilage cap thickness; the cartilage cap becoming longer than 2 cm, containing calcification zones and proliferating to periphery could be malignity markers (8). Furthermore soft tissue masses with irregular calcifications provide diagnostic information about malignity. Nerve compression developing independently from fracture and bursitis, pain, acute growths in the lesion are guidelines for malignity. For these

conditions excision is frequently recommended.

Common complaints of patients with osteochondroma on their scapula are immobilization, painless nodules and cosmetic deformities. Clinical symptoms, neurovascular compressions, mechanical irritations, occur relevant to fractures and sarcomatous transformations (9). Osteochondromas developing on ventral surface of the scapula may cause complications like winged scapula, immobilization and snapping scapula syndrome.

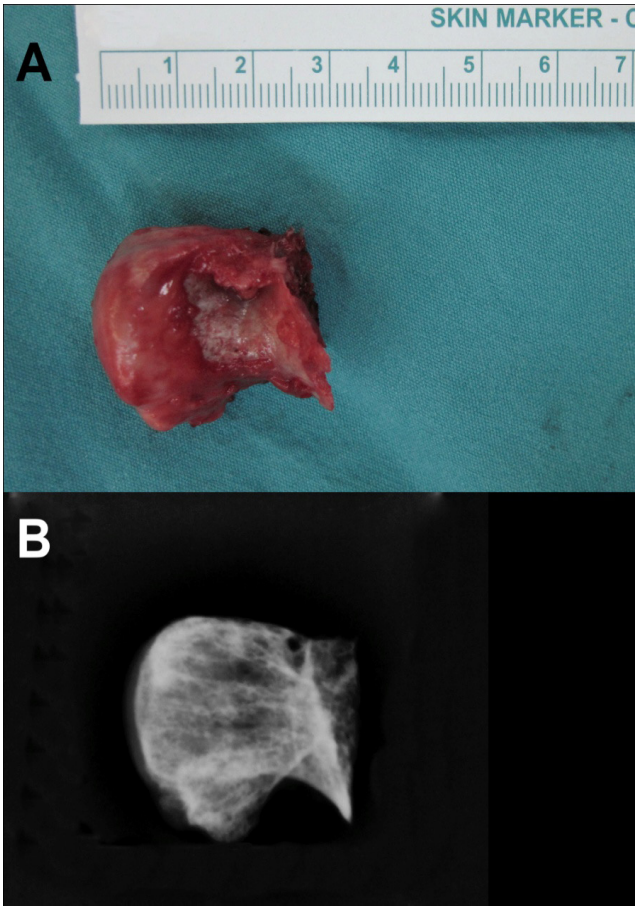

Figure 3: A) Macroscopic B) Radiographic view of the surgically excised osteochondroma.

Although not occuring frequently, snapping scapula syndrome is an idiopathic skeletal system disorder disturbing the comfort, reducing the life quality of patient characterized by the compression of scapulothoracic bursa (10). However masses located in scapulathoracic space sometimes may cause this syndrome. In this case report we aimed to emphasize differential diagnosis providing to diagnose snapping scapula syndrome by evaluating a case with osteochondroma on the ventral surface of the scapula.

Ethics Committee Approval: N/A
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Conflict of Interest: The authors declared no conflict of interest.
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