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CASE REPORT

Idiopathic snapping scapula in a Moroccan patient: A rare cause of shoulder pain

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KEYWORDS

Scapula;
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Abstract *Introduction:* The jumped shoulder blade or "snapping scapula" is a rare cause of shoulder pain that entails cracking of the scapula in connection with multiple causes. In 30% of cases no etiology is found.

Case presentation: We report a case of a 54 year old Moroccan male patient with left shoulder pain lasting for 14 years associated with pain at the anterior-upper corner of the scapula. Clinical examination did not reveal any deformation of neither cervical nor thoracic spine on inspection; testing of the tendons of the shoulder rotators and active and passive shoulder mobility were normal and an audible crack was noted during the arm movement or apprehension test with left arm pain on mobilization of the scapula "vital sign" without limitation of the range of motion. The anterior drawer sign of laxity and refocusing sign were negative. Imaging performed including plain radiographs, musculoskeletal ultrasound and CT scan of the scapula with 3D image reconstruction found no bone or soft tissue abnormalities that could explain this syndrome. The diagnosis of jumped scapula of unknown origin was made and symptomatic treatment with non-steroidal anti-inflammatory drugs and a rehabilitation protocol based on isometric and isotonic strengthening periscapular muscles, posture and endurance exercises were instituted.

Conclusion: Our case illustrates a new case of a jumped shoulder blade of unknown origin after completion of all etiological imaging. Further analysis of clinical events is needed to better understand this type of jumped shoulder blade.

1. Introduction

The scapula is a thin triangular-shaped bone that serves as an attachment site for most of the extrinsic and intrinsic muscles providing movement and stability to the glenohumeral and scapulothoracic joints [1]. The scapulothoracic articulation is a sliding junction between the deep aspect of the scapula and

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thoracic rib cage at the levels of ribs 2 through 7. Motion at this articulation is dynamically stabilized by a variety of muscular attachments, allowing for controlled positioning of the glenoid to assist in glenohumeral joint function [2]. This biomechanical construct provides the smooth gliding movement of the relatively concave scapula on the convex thoracic cage [1]. The scapula is attached to the axial skeleton via the clavicle, which acts as a strut allowing scapular rotation and translation along the thoracic wall and opposing medially directed forces of the periscapular muscles [3].

The jumped shoulder blade, otherwise called shoulder impingement syndrome, may be defined simply as pain and cracking of the shoulder during mobilization of the scapula. It was described for the first time in 1987 by Boinet [4]. Symptomatic scapulothoracic disorders are often poorly understood. Possible causes include direct or indirect trauma, overuse syndromes, glenohumeral joint dysfunction, osseous abnormalities, muscle atrophy or fibrosis and idiopathic [1,5]. Each cause leads to the common pathway of disruption of the normal motion between the anterior surface of the scapula and the underlying bony thorax [1]. Idiopathic jumped scapula was reported in 30% of cases [1,6].

This rare condition is also known as 'snapping scapula syndrome' caused by the disruption of the gliding articulation between the anterior scapula and the posterior chest wall. In addition to the multifactorial etiology contributing factors include scapular dyskinesis, bursitis from repetitive use or trauma, and periscapular lesions [7].

Scapulothoracic crepitus is defined by a grinding, popping, or thumping sound or sensation secondary to abnormal scapulothoracic motion. It can be a source of persistent pain and dysfunction in the active overhead throwing athlete [1]. Patients with snapping scapula syndrome typically present with a history of pain with overhead activities and the associated audible and palpable crepitus is near the superomedial border of the scapula [5].

Various imaging studies may be used to rule out soft-tissue and bony masses, which may cause impingement at the scapulothoracic articulation [5]. Three-dimensional CT and MRI aid in detecting these abnormalities [8].

Nonsurgical therapy is the initial treatment of choice but is less successful than surgical management in patients with anatomic abnormalities. In many cases, scapular stabilization, postural exercises, or injections eliminate symptoms [5,8]. Although the majority of cases are initially treated with nonoperative modalities, recalcitrant snapping scapula syndrome can warrant surgical management [7]. Open and endoscopic techniques have been used with satisfactory results [8].

The clinical history and physical examination of the patient is the key element of making this diagnosis. We report a case of a jumped scapula of unknown origin in a Moroccan male patient.

2. Case presentation

A 54 year old man without significant past medical history consulted in the rheumatology department for mechanical left shoulder pain lasting for 14 years associated with pain at the anterior-upper corner of the scapula. Clinical examination did not reveal any deformation of neither cervical nor thoracic spine on inspection; testing of the tendons of the shoulder rotators and active and passive shoulder mobility were normal. We noted an audible crack during the armed arm movement (abduction-external rotation) or apprehension test with left arm pain on mobilization of the scapula "vital sign" without limitation of the range of motion. The anterior drawer sign of laxity and refocusing sign were negative.

Imaging performed in search of any etiology included plain radiographs (Fig. 1), the musculoskeletal ultrasound and CT scan (Fig. 2) of the scapula with 3D image reconstruction was then performed in sequential acquisition with cuts of 3 mm rebuilt every 2 mm with multiplanar reformations and three-dimensional in neutral and armed arm position, had found no bone or soft tissue abnormalities that could explain this syndrome. The diagnosis of jumped scapula of unknown origin was made and symptomatic treatment with non-steroidal anti-inflammatory drugs (NSAIDs) and rehabilitation was instituted.

The rehabilitation was focused on posture, strength, and endurance.

The rehabilitation protocol was progress along a continuum: from isometric and isotonic periscapular and rotator cuff strengthening to endurance eccentric strengthening of the periscapular muscles [1]. The case management was approved by the local ethics committee and the patient gave an informed consent.

3. Discussion

The jumped shoulder blade or scapulothoracic syndrome also called snapping scapula by the English" entails pain and cracking in the mobilization of the scapula. The positive armed arm sign in an essential element in physical examination for diagnosis [4,8,9]. Several etiologies have been cited in the literature

Figure 1 Plain X-ray of the shoulder and scapular region to exclude any underlying cause.