

AN UNFUSED ACROMIAL EPIPHYSIS A REASON FOR CHRONIC SHOULDER PAIN

by J. JEROSCH, R. HEPP and W. H. M. CASTRO

We report on a case of a 34 year-old female patient who had been suffering from chronic shoulder pain for 2 years although she received conservative treatment. The X-ray revealed a prominent distal clavicle and was interpreted as an old AC dislocation. An axillary view showed an os acromiale. The bone scintigraphy confirmed the clinical suspicion of reaction at the epiphysis. Local corticoid injections improved the patient's condition so that she refused further surgical treatment.

Keywords : chronic shoulder pain ; os acromiale.

Mots-clés : épaule douloureuse ; os acromial.

RÉSUMÉ

*J. JEROSCH, R. HEPP et W. H. M. CASTRO.
Os acromial, cause de douleur chronique de l'épaule.*

Les auteurs présentent le cas d'une malade de 34 ans qui souffrait depuis 2 ans de douleur chronique à l'épaule, résistant au traitement conservateur. La radiographie montrait une saillie de l'extrémité externe de la clavicule, interprétée comme une séquelle d'ancienne luxation acromio-claviculaire. Les incidences axiales révélèrent la présence d'un os acromial. La scintigraphie osseuse confirma la suspicion de réaction épiphysaire. Des injections locales de corticoïdes donnèrent un bon résultat qui permit de renoncer à une intervention chirurgicale.

SAMENVATTING

*J. JEROSCH, R. HEPP en W. H. M. CASTRO.
Os acromiale, een oorzaak van chronische schouderklachten.*

Wij beschrijven de ziektegeschiedenis van een 34-jarige patiënte die sinds 2 jaar chronische pijnklachten in de schouder had, waarvoor ze op conservatieve

wijze werd behandeld. Röntgenologisch werd een prominente distale clavicula gezien. Deze werd geïnterpreteerd als een oude AC-luxatie. Een axillaire opname toonde een os acromiale. Scintigrafisch onderzoek bevestigde de verdenking op een epiphyse-reactie.

Lokale corticosteroid-injecties verbeterden de conditie van de patiënte dusdanig dat van een operatieve ingreep kon worden afgezien.

INTRODUCTION

The painful shoulder joint is usually described nonspecifically as a humeroscapular periartropathy (HSP). This term was coined in 1872 by the French physician Simon Duplay (4). Nowadays many authors try to define this term more precisely. According to Welfing (20) HSP includes the chronic degeneration of the supraspinatus tendon, rupture of the rotator cuff with pseudo-paralysis, calcific tendinitis, and adhesive capsulitis. According to Idelberger (7), bursitis calcarea of the subacromiale bursa, arthritis of the acromioclavicular joint, and so-called coracoiditis also belong under the rubric HSP. Wagenhäuser's (19) clinical classification of PHS includes acute tendinitis of the supraspinatus and long biceps tendon, acute PHS, pseudoparalytic PHS, and frozen shoulder. An unequivocal diagnostic is the key to adequate therapy, including surgery.

There are only a few reports on an unfused acromial epiphysis as a reason for shoulder pain

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(11, 14, 17). In the following case we report on a 34 year-old patient suffering from this congenital variation of the shoulder joint.

CASE REPORT

In 1986, a 32 year-old woman complained of pain in her right shoulder. She never had any problems with her shoulder during childhood, she had never taken part in sports and she had suffered no previous trauma to the shoulder. First she noticed a restriction of motion and later she felt pain in her shoulder even at rest. The pain was alleviated for some time by local injections of corticoids, but in Autumn 1988 the problems began to increase. All blood parameters were negative. She was treated again by local injections, but this time the therapy failed. She then received physiotherapy, massage, and acupuncture. Because of continuous pain new x rays were taken in January 1989. The diagnosis of chronic ac-joint dislocation was made because of the prominent distal clavicle in the AP-view (fig. 1). The patient again received conservative treatment. In May 1989 the patient came to our department complaining of pain both at rests especially during the night, and on motion, especially when moving her arm above the shoulderlevel. Clinical examination revealed a tender point at the acromion, particularly along the dorsal rim. The ac joint and the rotator cuff did not show any pathologic patterns. Functional tests showed a painful arc during extreme eleva-

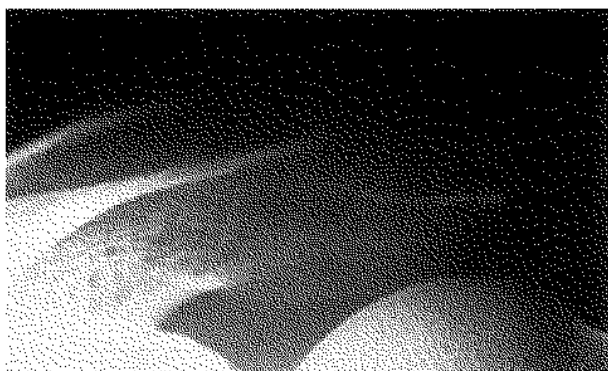


Fig. 1. — AP x-rays of a 34 year-old female patient with chronic shoulder pain. There is an upward migration of the outer end of the clavicle. This was judged to be a sign of a chronic ac-joint dislocation.



Fig. 2. — Axillary x-rays of a 34 year-old female patient with chronic shoulder pain. An unfused os acromiale is clearly visible.

tion. X-rays in 3 views showed an os acromiale on the axillary view (fig. 2). The ultrasound examination of the rotator cuff did not reveal any anomalies. The bone-scan revealed a local signal in the area of the epiphysis (fig. 3).

We injected the epiphysis with a local anesthetic which soon improved the patient's condition. We then injected cortisone. The pain was reduced, range of motion increased, and the patient declined any further treatment.

DISCUSSION

Non-union of the ossification centers of the acromion to the rest of the scapula has been studied by several authors (1, 8, 11). The lack of fusion of the epiphyseal center on X-ray was named os

acromiale, meta-acromion, and bipartite acromion. The first reports on this phenomenon were published early in the twentieth century by German anatomists (13, 18).

The acromion has two or sometimes even three ossification centers (fig. 4) (10, 11). They normally fuse with the spine of the scapula at the age of 12, and then they unite to each other at the age



Fig. 3. — Bone scan of a 34 year-old female patient with chronic shoulder pain and an unfused epiphysis at the acromion clearly shows a reaction on the side of the open epiphysis.

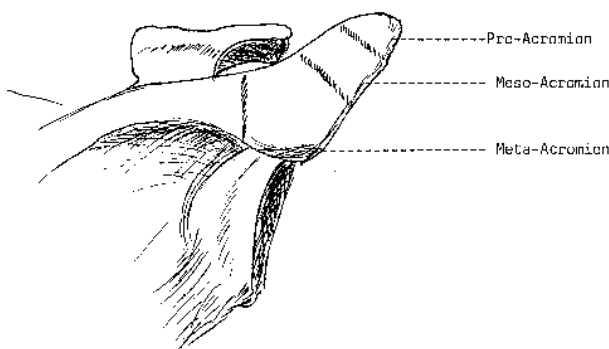


Fig. 4. — Three different segments are possible in the case of an os acromiale. The pre-acromion is the smallest and second most frequently affected segment. The meso-acromion appears most often and the meta-acromion is the largest fragment.

of 15 to 18 (5, 13). Anatomic studies revealed that there is sometimes a failure of union, leading to a fibrous non-union between the spine of the scapula and the acromion (2, 6, 9, 10). This non-union is sometimes confused with a fracture of the acromion (3, 9, 18). According to Liberson's review (9) of 1800 shoulder X-rays, there was an incidence of 1.4% of an os acromiale. In these cases he documented a bilaterality in 62% of the patients. Therefore X-ray evaluation of both shoulders may be helpful if there is confusion about a traumatic fracture or an os acromiale.

Some authors found a significant coincidence of rotator cuff disease with an os acromiale (11, 14, 17). If such a coincidence exists in a patient who undergoes surgery, Mudge *et al.* recommend a resection of the unfused fragment. In order to avoid loss of function of abduction, secure suturing of the deltoid muscle to the acromion is important (3, 15). If there are huge segments, the resection might lead to a loss of function. Several authors demonstrated significant weakness of the abductor mechanism after the release of the acromion caused by loss of the lever arm (12, 15, 16). Post (17) recommended an operative stabilization of the epiphysis in cases of a large fragment.

Plain AP X-rays do not reveal the pathology of an os acromiale. As our case shows, the superior migration of the clavicle may be confused with an ac-joint dislocation. Therefore standard X-rays in 3 planes including an axillary view are required. In our patient, the clinical findings indicated unfused epiphysis. There was no local tenderness and no pathologic findings on ultrasound evaluation of the rotator cuff. The bone scan revealed a local abnormality epiphysis. The successful injection justified our suspicion on a painful unfused epiphysis.

Conclusion : An unfused epiphysis of the acromion can cause chronic shoulder pain. This entity is only seen on an axillary X-ray. A local injection may cure the symptoms.

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