

Osteolysis of the distal clavicle: an important consideration in chronic shoulder pain

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Post-traumatic osteolysis of the distal clavicle must be considered as a differential diagnosis in all cases of progressive shoulder pain with insidious onset. While its mechanism is still not fully understood, its incidence of recognition is rapidly increasing in clinical practice. Two case reports with substantially different etiology are documented. Osteolysis is a largely self-limiting disease that responds very well to chiropractic care.

KEY WORDS: chiropractic, manipulation, osteolysis, shoulder

L'ostéolyse post-traumatique de la clavicle distale doit être considérée dans le diagnostic différentiel de tous les cas de douleur progressive de l'épaule à insidieux. Bien que le mécanisme n'en soit pas encore parfaitement compris, la fréquence de ce diagnostic augmente dans la pratique médicale. Deux cas dont l'étiologie est essentiellement différente sont présentés. L'ostéolyse est un grande partie une maladie au décours spontané limité, qui répond très bien au traitement de chiropractie.

MOTS CLEFS: chiropractie, manipulation, ostéolyse.

Introduction

Post-traumatic osteolysis of the distal clavicle was first reported in 1961 by Kohler in Swiss and German literature. It may follow simple contusion to the shoulder or separation of the acromioclavicular joint, or, occasionally, fracture of the distal clavicle. It is significant because it is so often misinterpreted.¹ Our emphasis in shoulder diagnosis has so centred on subacromial impingement syndromes and recurrent instabilities that the osteolysis possibility is very often overlooked. It is not as rare a condition as the literature would lead us to believe.²

Osteolysis of the distal clavicle is characterized by insidious onset of a dull, gnawing pain with increasing limitation of normal shoulder movements. In most cases, there is a report of a previous injury to the same shoulder. The pain can begin from two weeks to two years after the original injury has subsided. Most of the patients report pain at night and, indeed, this condition is very often mistaken for a malignant tumour. There is pain in the anterior capsular mechanism and point tenderness at the acromioclavicular joint. Elevation of the arm becomes increasingly difficult and carrying objects with the affected arm in the dependent position becomes increasingly difficult. Recently, the literature has begun to report a strong preponderance of this condition in body builders and weight lifters.² The pain is noted initially in performing the bench press, push-ups, dips, military press, and any throwing motion exacerbate the pain.²

There have been no reported laboratory findings associated with this condition.

Radiographic evidence demonstrates bone resorption of the distal clavicle. If x-ray examination is done four to eight weeks after onset, and if no fracture is present, the distal clavicle appears cupped or concave (figure 1). With time, the distal

clavicle become blunt or convex. There may be widening of the acromioclavicular joint space (figure 2).^{3,6} The margin of clavicular resorption is often indistinct but the acromion remains normal with sharp outlines (figure 3).³ There are signs of osteoporosis, loss of subchondral bone detail, and cystic changes in the distal clavicle.² Joint scintigraphy shows increased activity in the area. In addition to the clavicle, post traumatic osteolysis can be recognized in the pubic and ischial rami, femoral neck, carpus, and distal radius and ulna.⁴

Clinically, hyperparathyroidism, rheumatoid arthritis, and scleroderma can all attack the clavicle but these conditions show positive serological findings and are multi-site, progressive orthopaedic entities. Neoplasms, chronic granulomas, Gorham's disease, and aneurysmal bone cysts are to be differentiated by their distinctive radiographic patterns.

Case reports

The following two case reports were derived from the specialty clinics at the C.M.C.C. Bayview Clinic. Both cases had initially been orthopaedically evaluated and had followed a course of conservative physiotherapy. They were then examined by the author and both were misinterpreted as chronic impingement syndromes. Slow clinical progress led to reevaluation, including x-ray, and the correct diagnosis of osteolysis was made.

Case number one

A twenty-six year old male fell backwards onto the ledge of a table, striking his right posterior shoulder against this ledge. He felt extreme pain along the spine of the right scapula and in the right acromioclavicular joint. He suffered extreme muscle spasm so that his shoulder was very limited in all ranges of movement for one month. He was evaluated at a hospital, given a sling, and told to use ice. Pain was exacerbated by sleeping on the shoulder and by turning the upper body. Examination of the patient elicited a positive Dugas sign, a positive impingement III test, and a painful pattern of abduction from 40° through 120°.

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³ S O'Brien 1987



Figure 1: 2 months after onset. Distal clavicle appears cupped.

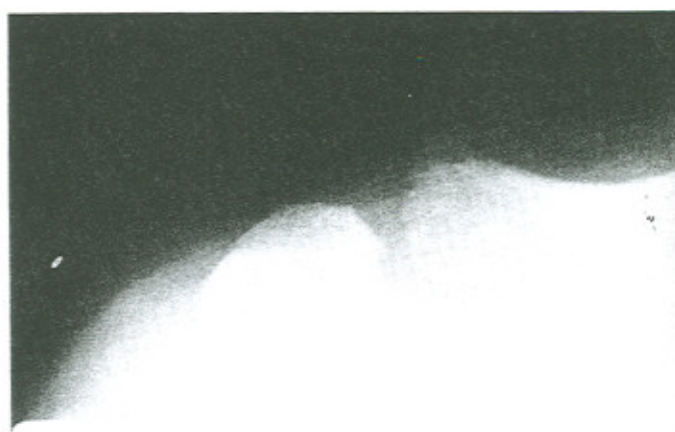


Figure 2: 4 months after onset. Distal clavicle appears blunt with widening of the acromioclavicular joint space.

Case number two

A twenty-four year old body-builder complained of insidious onset pain that was aggravated by the bench press exercise. This pain had been present intermittently for fourteen months and was becoming progressively worse. The patient had continued to lift weights. Examination elicited positive results with impingement tests I, II, III. Yergason's test was positive. Resisted abduction was painful at 90°. There was pain on palpation of the intracapsular portion of long head of biceps.

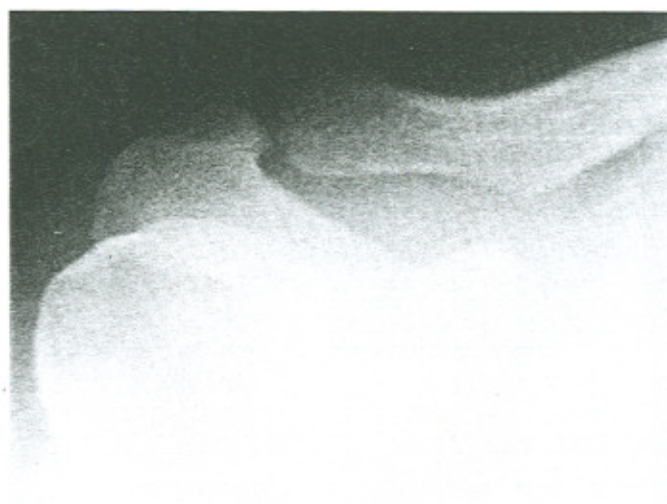


Figure 3: 6 months after onset and 2 months after treatment started.

Both cases were treated with rest, ice, and interferential current. Exercise of any type was disallowed until we could not elicit pain with joint compression testing. At that time, mobilization, manipulation, and exercise were instituted. Both cases reported complete remission of symptoms within three months and have resumed normal activities.

Discussion

The pathogenesis of this condition as reported is obscure. It has been attributed to avascular necrosis, haemangiomas, and reflex autonomic vascular insufficiency of the clavicle.⁵ More recent insight into the condition attributes it to subchondral stress fractures related to repeated micro-trauma.²

Conclusion

This condition receives limited mention in publications but is rapidly emerging as a common clinical entity. It is a self-limiting disease that responds well to conservative chiropractic care. Because of its clinical pattern of post-injury, slow onset, progressive pain, it should be considered as a possible differential diagnosis in all cases of chronic shoulder pain.

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