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SHOULDER PAIN DUE TO ACROMIOCLAVICULAR ARTHRITIS SECONDARY TO ANOMALOUS CORACOCLAVICULAR JOINT

Orthopaedics

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KEYWORDS

INTRODUCTION:

Coracoclavicular joint (CCJ) is a rare anomalous joint which can become symptomatic and become a cause of shoulder pain [1]. Its awareness in general orthopaedic community is little despite many recent publications on this topic [2]. When present CCJ can change biomechanics of shoulder which can cause abnormal loading and concentration of forces especially at Acromioclavicular joint (ACJ)[1,2,3]. Authors would like to present a case of a 40-year-old man who presented with ACJ pain due to ACJ arthritis secondary to anomalous CCJ. Authors believe that this is first report case of its type and no similar case has been reported before.

Case history

A 42 year old right hand dominant farmer presented in our outpatient's clinic with complains of severe pain at top of the left shoulder last 6 months. His VAS score on presentation was 9/10. Pain was gradual in onset and there was no history of recent trauma. Pain was sharp in nature and located specifically on top of his shoulder. Pain got aggravated on lifting heavy weights and overhead activities which was part of his occupation. He consulted few doctors for the same complain and was treated symptomatically with analgesics. He took painkillers which relieved his pain temporarily.

Examination in outpatients showed prominent ACJ and point tenderness at ACJ. He had normal range of motion in shoulder but reported increased pain in ACJ after 90 degree abduction and flexion. Cross arm adduction test was positive. His rotator cuff muscles were normal on examination and clinical test on shoulder impingement was negative. Provisional diagnosis of ACJ arthritis was made and shoulder X-Ray was requested. X-ray of his shoulder showed loss of joint space in ACJ as well as presence of fully formed Coracoclavicular joint (Fig 1,2). A diagnosis of ACJ osteoarthritis secondary to presence of anomalous CCJ was made.

Patient was treated non surgically with painkillers and activity modification and ultrasound guided intraarticular ACJ injection of 40 mg depot medron. Activity modification predominantly involved avoiding heavy weights and minimizing overhead activities. Patient reported excellent pain relief at 6 week follow up and reported VAS 2/10.His symptoms were well controlled even at 6 months follow-and he reported VAS of 3/10. He had returned back to work and discharged from the clinic with advice to come back in future if symptoms worsen. He was counseled that if symptoms recur then surgical intervention to excise the anomalous joint may be necessary.

DISCUSSION

The presence of true synovial diarthroidal coracoclavicular joint (CCJ) is rare in humans[4]. Gruber was the first to describe its presence in1861 [5]. It's reported to have incidence of 0.8%-1.2% of CCJ discovered in autopsy, radiological and ontological studies [6-9].

Human shoulder movements are a result of various complex forces in form of ligamentous constrains and bony articulation. These forces stabilize the shoulder and permits wide range of motion than any other joint in our body[10]. Alteration in any of these factors may affect normal shoulder mechanics. The coracoclavicular ligament complex involves two distinct parts: trapezoid and conoid which joins the coracoid process and clavicle[10].The stout ligament suspends the shoulder girdle from the clavicle at an average distance of 13 mm[10]. The clavicle participates in all shoulder-joint movement in all directions, including superior, inferior, posterior and anterior[10]. As the sternoclavicular joint is fixed, majority of movements occur primarily at lateral end of clavicle [10]. During shoulder abduction, the coracoclavicular ligament complex prevents undue upward displacement of the clavicle on one hand and on the other hand, it provides the clavicle with sufficient freedom to permit reasonable physiological movement in the upwards direction due to inherent laxity[10]. This creates sufficient space underneath and prevents the underlying structures from impingement. Normally the clavicle moves in all direction freely with scapula participating in movements of shoulder joint the presence of a CCJ hampers the free movement of clavicle which causes increased joint force concentration in different areas[11,12]. This has been attributed to cause proximal Humerus fracture in one series[11]. We hypothesize that due to presence of anomalous CCJ there was loss of physiological movements of clavicle in our patient. This caused force concentration mostly at ACJ due to its proximity to CCJ. This is the reason our patient had early degenerative changes in his CCJ causing pain and symptoms. His job as a farmer also contributed as he was extensively involved in lifting heavy weights and overhead activities. ACJ OA is pretty common our however we believe that this is first reported case of ACJ OA due to presence of an anomalous CCJ.

In our case patient reported good pain relief after activity modification along with local steroid injection hence there was no need of any surgical intervention however if our patient didn't show improvement excision of anomalous CCJ would have been necessary.

CONCLUSION:

Clinical awareness in orthopaedic community is little and majority of orthopaedic surgeons including dedicated shoulder surgeons are not aware of its presence. Authors would advise doctors including orthopaedic surgeons to be aware of this anomalous joint and should routinely look for it while looking at a shoulder radiograph

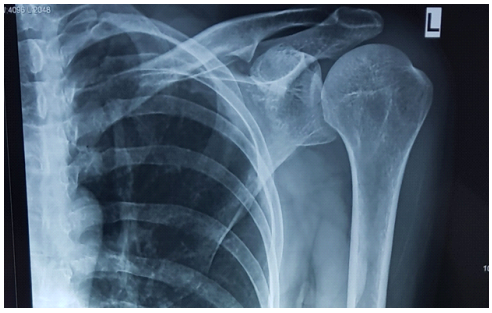

Figure1: X-ray left shoulder showing well formed Coracoclavicular joint with reduced joint space of Acromioclavicular joint

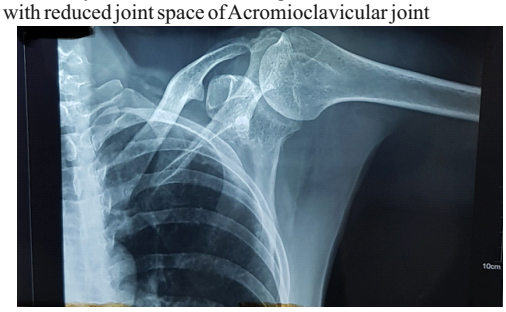

Figure2: X-ray left shoulder in abduction showing further reduction of joint space of Acromioclavicular joint

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