A clinical case study on a D1 football player with reoccurring shoulder subluxations and a Bankart anterior to posterior labral tear

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Abstract

The following is a case study on a 20-year-old division one football player with re-occurring episodes of instability. The first incidence of instability was reported in Fall of 2016. Said player completed one year of football at the United States Military Academy Prepatory School. Initial pre-participation examination noted Joint instability and laxity but allowed the player to play unless said player was apprehensive. Injury at United States Military Academy at West Point was noted first day of practice 8/8/19. Thereafter, the player was put in limited practice with a shoulder brace. On 8/17/19 the player stated he dislocated his shoulder several times each day over the course of 5 days of practice. An MRI arthrogram was conducted 8/19/2019. Surgery was performed on 8/27/19. What makes this case unique is the delayed surgery from initial injury date along with a year of no surgical intervention playing football within the year prior at the United States Military Prepatory School. The incidence of several subluxations at the start of the first practices is also peculiar. Incidence of re-instability after long periods of delayed surgery is not specifically mentioned in the literature. The longer one waits after an initial instability episode with re-occurring instability episodes, the greater the chance of instability post surgery longer term. Should imaging and surgical intervention be the standard of care after an initial injury was noted in and then the symptom upon which they come with i.e. pain or instability (Clavert, 2015). The labrum has three sides with the lateral side adhering to the joint capsule providing vascularity(Clavert, 2015). The labrum is composed of fibrocartilage and it increases the contact area between the humeral head and the scapula by 2 mm anteroposteriorly and 4.5 mm supra-inferiorly noting some contribution to stability within the shoulder (Clavert,2015). With that being said it provides insertions for capsular structures and ligaments beneficial to stability within the shoulder. Out of the six sections of the glenoid, locus in the inferior posterior aspect are noted with instability (Clavert, 2015). A tear is simply the rip or detachment of this fibrocartilage. Common mechanisms of injury are dislocations, subluxations and impingments(Clavert,2015). Its importance and incidence of instability will be discussed in more detail later.

Case Report

Patient: 20-year-old slotback/T-back subluxated shoulder posteriorly and tore the labrum anteriorly senior year of high school two years ago; roughly 2 years ago. Athlete recalls multiple subluxations before subluxation at practice. With more posterior dislocations reported than anterior subluxations.

Mechanism of Injury:

Falling on elbow initially in 2016 and falling once more again on elbow during practice in pre-season

Clinical Examination:

Said player completed one year of football at the United States Military Academy Prepatory School. Initial pre-participation examination noted Joint instability and laxity but allowed the player to play unless said player was apprehensive. Injury at United States Military Academy at West Point was noted first day of practice 8/8/19. Thereafter, the player was put in limited practice with a shoulder brace. On 8/17/19 the player stated he dislocated his shoulder several times each day over the course of 5 days of practice.

Radiographic Findings:

Both MR imaging and MR arthrography as imaging tools are used to diagnose labral tears. MR arthrography in the body of literature is only marginally superior to MR imaging for detection of glenohumeral labral lesions (Coninck et al.,2016). MR arthrography can be performed directly with intra-articular contrast material injection or indirectly via intravenous means; direct MR arthrography allows for joint distension allowing the capsule to be distinguished from labral tissue and passage of contrast material into the unstable tears (Coninck et al.,2016). Direct MR arthrography is superior to MR imaging. MR intravenous imaging was used in this particular case (Coninck et al.,2016). Clinical Examination:

Athlete started conservative rehabilitation until assigned surgery date. After initial subluxation athlete was given ice and monitored daily, ice was given after each rehabilitation session. Rehabilitation sessions included scapular strengthening, assisted active Range of motion, Prox motion strengthening involving abduction, retraction projection exercises. Each session was emphasized to include PI free range of motion, initial diagnostic tests (+) Crank test, (+) Anterior Release/Surprise Test, (+) Clunk test. PI in all ROM of shoulder.

Rehabilitation and Results

Phase One: Weeks 1-4

The focus of this goal is protecting surgical repair and avoiding a “stiff” shoulder. The sling is worn for six weeks even while sleeping and only before engaging in RM exercises. The patient is placed in minimal structural integrity of the upper extremity while providing appropriate praise. Posterior or anterior medial laxity (20 degree elevation) exercises are permissible; strengthening is only recommended at the point of pain. Subsequent rehabilitation protocols prior to this point may stress the anterior capsule disproportionately and proportionately the subscapularis. Active motion ROM up to 90 degrees to 120 degrees in the first 6 weeks. Weeks 4-6, are minimal to 180 degrees and with internal rotation to 30 degrees. The focus should be on pain free glenohumeral and scapulothoracic movement. Shoulder scapula re-education starts week 3, to 4, once the athlete’s body has started running. Posterior subluxation stuff starting can be performed, according to the feeling process 21 days is when fabulous rehab begins. Nearest to full rehabilitation criteria. Posterior subluxation can be performed to full rehabilitation criteria with a gradual progression to full rehabilitation criteria with a gradual increase in stress on the stage is appropriate along with soft tissue massage. Recovery rehabilitation and ethical guidelines are noted at this point.

Phase Two: Weeks 4-6

Said player completed one year of football at the United States Military Academy Prepatory School. Initial pre-participation examination noted Joint instability and laxity but allowed the player to play unless said player was apprehensive. Injury at United States Military Academy at West Point was noted first day of practice 8/8/19. Thereafter, the player was put in limited practice with a shoulder brace. On 8/17/19 the player stated he dislocated his shoulder several times each day over the course of 5 days of practice.

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Discussion and Results

Conclusions:

The rehabilitative procedures for a Bankart repair are wide and varied. There is no universally accepted protocol; furthermore, return to play is always patient dependent. In this case, the athlete is involved in a collision sport with minimal overhead requirement. Return to play is not necessarily established for a football player or for the general athlete. Clinical judgment and experience are used to make a return to play for the football player. General guidelines from ASSET were used in this patient’s clinical rehabilitative process. Further considerations are likely incidence of recurrence of instability with a very delayed long surgical intervention.

References


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