

# **Rotator cuff tear in anterior shoulder dislocation in patient under 40**

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## **ABSTRACT:**

**Background:** Rotator cuff tears (RCTs) are more commonly occur with traumatic anterior dislocations, particularly in patient aged above 40 years. Restoring the normal function of the rotator cuff musculature plays a pivotal role in the anterior shoulder dislocations' rehabilitation. **Case presentation:** We describe a 32-year-old male, a case of rotator cuff tear in anterior shoulder dislocation. The patient was presented to the clinic four weeks after his injury and he was complaint of shoulder pain and weakness. MRI showed supraspinatus tendon full thickness partial width tear and shoulder arthroscopy show Bankart lesion. Repair was done for both lesions, after 3-month post-surgery, the pain decreased, and the patient regain almost full range of motion and strength. **Conclusion:** The outcomes of the operative treatment achieved satisfactory results, but more studies with a higher number of cases are required to establish that result.

**KEYWORDS:** Bankart and Hill-Sachs lesions, Dislocations, Rotator cuff tears, Shoulder,

## **I. INTRODUCTION**

The shoulder is considered as the most frequently dislocated joint in the human body hence shoulder dislocation is more common in men, especially the younger population accounting for 7% of this population [1, 2]. Most of shoulder dislocation (94% to 98%) are anterior [1], in which Bankart and Hill-Sachs lesions are frequently seen [2]. The incidence of anterior shoulder dislocations has two modes of distribution with peaks which occur in the 2<sup>nd</sup> and 6<sup>th</sup> decade [3]. Rotator cuff tears are often observed in shoulder dislocations in patients aged above 35 years [4]. We present a case of an old male who had rotator cuff tear in anterior shoulder dislocation.

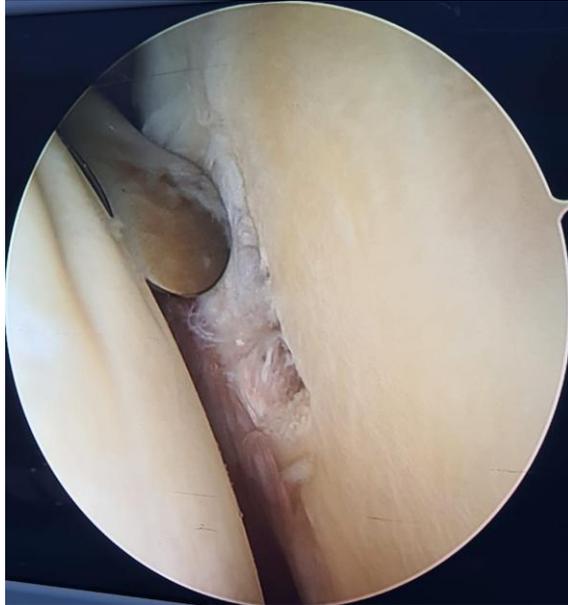
## **II. CASE PRESENTATION**

A 32-year-old man patient was sustained and anterior shoulder dislocation of the after awkward fall while he was playing football on his fill a popup on the field, and which was reduced by his colleagues in the field, but he not known to have any a medical or surgical. The patient also had another episode anterior shoulder dislocation 5 from five days from the first injury which was with reduced in local hospital

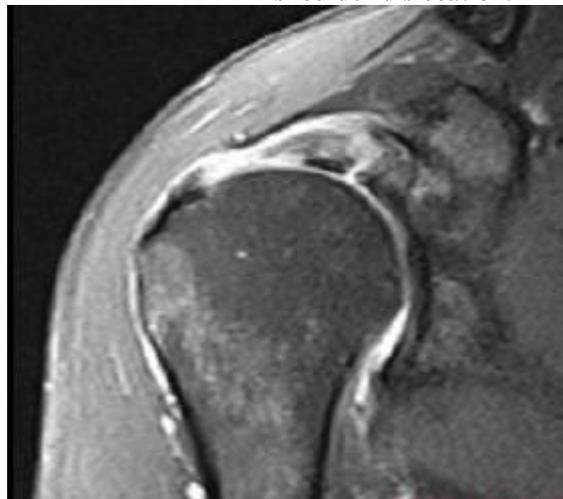
The patient was presented to our clinic four weeks after his injury and he was unable to recall the specific detail of his injury and he was complaint of shoulder pain and weakness. The examination showed full range of motion except painful flexion from 120 degree to 180 and Jobe and drop arm test (suggested supraspinatus tear) with positive sign for anterior glenohumeral instability, no sign of generalized ligamentous laxity or neurovascular injury.

We proceed for imaging due to weakness of rotator cuff and anterior glenohumeral instability. Magnetic resonance imaging (MRI) showed supraspinatus tendon full thickness partial width tear (figure1) no definite Bankart lesion or Hill-sachs deformity. Diagnostic Shoulder arthroscopy was performed and showed Bankart lesion extending from 3 o'clock to 5 o'clock (figure 2) and supraspinatus tear (figure 3). Repair was done for both lesions.

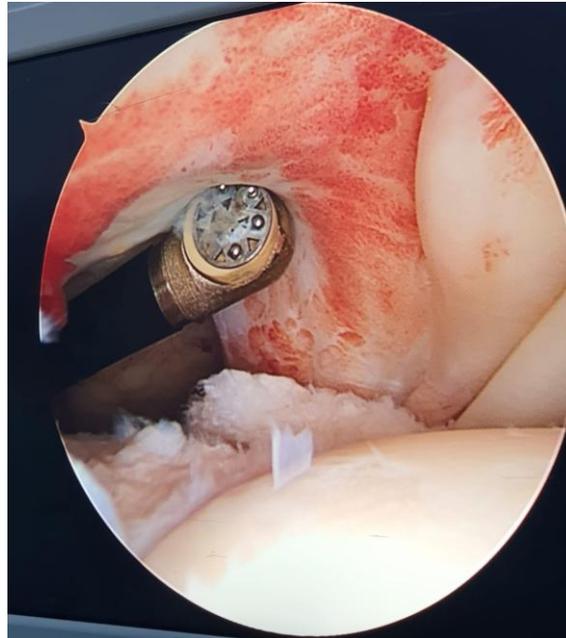
The patient was immobilized for 4 weeks then started passive range of motion for 6 weeks followed by 6 weeks of progressive range of motion and muscle strengthening exercises. After 3-month post-surgery, the pain decreased, and the patient regain almost full range of motion and strength.



**Figure1: MRI demonstrating a full-thickness supraspinatus. This MRI was obtained 4 weeks after the patient's shoulder dislocation.**



**Figure 2: shoulder arthroscopy showed anterior Bankart lesion extending from 3 o'clock to 5 o'clock**



**Figure 3: shoulder arthroscopy showed supraspinatus full thickness tear**

### III. DISCUSSION

Shoulder dislocation is considered as the major dislocated joint encountered in the emergency departments and almost 85% of traumatic glenohumeral dislocations are anterior shoulder dislocation (ASD) [5]. Although shoulder dislocations did not associate with rotator cuff tears in the younger persons, rotator cuff tears are often seen in patients aged above 35 years and suffer from shoulder dislocations [4]. Our case presented at the age of 32 years old who was presented for weeks after his injury complaint of shoulder pain and weakness. The patient had another episode anterior shoulder dislocation 5 from five days from the first injury which was with reduced in local hospital. MRI showed supraspinatus tendon full thickness partial width tear and shoulder arthroscopy show Bankart lesion.. Repair was done for both lesions, he was immobilized for 4 weeks then started passive range of motion for 6 weeks followed by 6 weeks of progressive range of motion and muscle strengthening exercises, after 3-month post-surgery, the pain decreased, and the patient regain almost full range of motion and strength. ASD occur due to shoulder joint instability in the young male population which may resulted in structural damage to the bone and joint capsule, such as Bankart lesions and the Hills-Sachs lesion and these injuries could arise during playing sports (football, wrest, tennis, or swimming) [5, 6], this is similar to what happened with our case (awkward fall during playing football). These observations agreed with [7] who presented a case athlete in the age of 30 years old with traumatic anterior shoulder dislocation with no previous shoulder injuries and presented after one day of the injury. Successful management occurred using immobilization of the shoulder in external rotation combined with a progressive rehabilitation program which aimed to restoring range of motion, proprioception of the shoulder, and strength the dynamic stabilizers, after 8 weeks of dislocations the patient regained full range of motion and strength and negative results for instability from apprehension and relocation tests were obtained. Another case study [8] presented a similar case for young football player (18 years) who presented with a rotator cuff tear that occurred concurrent with a shoulder dislocation and Bankart lesion (he presented to the clinic 5 days following an initial left anterior shoulder dislocation). The labral tear was repaired arthroscopically followed by mini-open rotator cuff repair, after 12 weeks of operation, the patient progressed to active exercises, after seven months of operation, the patient was back to full strength with a full range of motion, but with weakness in his supraspinatus without pain and a mild decrease in external rotation. After one year, the patient resumed football practice with a shoulder brace. Another study reported that the management with mini-open technique achieved 80% satisfactory



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outcomes among patients with small and medium-sized full-thickness rotator cuff tears [9]. Schoenfeld and Lippitt [10] presented a case of 22-year-old male with a rotator cuff tear associated with a closed traumatic posterior dislocation of the shoulder due to a motorcycle accident. Diagnostic arthroscopy was performed 3 months following the injury and confirmed a full-thickness rotator cuff tear involving the posterior portion of the supraspinatus extending into the infraspinatus. The rotator cuff tear was repaired to a bony trough with 5 #2 nonabsorbable transosseous sutures, after one day postoperative, he was discharged in a sling. After four months of operation means 7 months of injury, the patient was released to regular duty as an automobile technician and after one year post operation he was satisfied with the outcomes. A typical case of a massive RCT was presented for a 34-year-old man who landed on his outstretched hand after falling off a bicycle. The initial closed reduction of the posteriorly dislocated left shoulder failed, so a tear including the supraspinatus and subscapularis was visualized during operation, along with long head of biceps (LHB) tendon rupture [11].

## IV. CONCLUSION

Special clinical manifestation/assessment is utilized to look for rotator cuff tear that associated with anterior dislocation based on the severity of injury and extent of rotator cuff involvement. Early MRI investigation should be considered to avoid delay in the treatment. Although the outcomes of the operative therapy achieved satisfactory results, more studies with a higher number of cases are required to establish that results.

## REFERENCES

1. Wen DY. Current concepts in the treatment of anterior shoulder dislocations. *Am J Emerg Med.* 1999;17:401–407.
2. Cleeman, E., Flatow, E.L.: “Shoulder Dislocation in the Young Patient.” *Orthopaedic Clinics of North America*, 31(2): April 2000.
3. Walton J, et al. The unstable shoulder in the adolescent athlete. *Am J Sports Med.* 2002;30(5):758–767.
4. Stayner, L.R., Cummings, J., Andersen, J., Jobe, C.M.: “Shoulder Dislocations in Patients Older than 40 Years of Age,” *Orthopaedic Clinics of North America*, 31(2): April 2000.
5. Shah A, Judge A, Delmestri A. et al., “Incidence of shoulder dislocations in the UK, 1995–2015: a population-based cohort study,” *BMJ Open*, vol. 7, no. 11, article e016112, 2017.
6. Shah R, Chhaniyara P, Wallace WA, Hodgson L. “Pitch-side management of acute shoulder dislocations: a conceptual review,” *BMJ Open Sport & Exercise Medicine*, vol. 2, no. 1, article e000116, 2016.
7. Sims K, Spina A. Traumatic anterior shoulder dislocation: a case study of nonoperative management in a mixed martial arts athlete. *J Can Chiropr Assoc.* 2009 Dec;53(4):261-71.
8. Throckmorton T, Albright J. Case report: Concurrent anterior shoulder dislocation and rotator cuff tear in a young athlete. *Iowa Orthop J.* 2001;21:76-79.
9. Levy, H.J., et al.: “Arthroscopic Assisted Rotator Cuff Repair: Preliminary Results,” *Arthroscopy*, 6:1990.
10. Schoenfeld AJ, Lippitt SB. Rotator cuff tear associated with a posterior dislocation of the shoulder in a young adult: a case report and literature review. *J Orthop Trauma.* 2007 Feb;21(2):150-2. doi: 10.1097/BOT.0b013e318032c4a9.
11. Soon EL, Bin Abd Razak HR, Tan AHC. A Rare Case of Massive Rotator Cuff Tear and Biceps Tendon Rupture with Posterior Shoulder Dislocation in a Young Adult - Surgical Decisionmaking and Outcome. *Journal of Orthopaedic Case Reports* 2017 Mar-apr;7(2):82-86.