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Neglected Anterior Shoulder Joint Dislocation Treated with Open Reduction and Latarjet Procedure: A Case Report

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ABSTRACT

INTRODUCTION: The joint dislocation is most commonly occurring in shoulder joint. There are two types of dislocation which is anterior and posterior joint dislocation. Most of the case that brings patients to the clinic was the anterior subtypes dislocation and it needs an immediate treatment. Chronic anterior shoulder joint dislocation is a rare case of anterior joint dislocation in orthopaedics where the dislocation of the joint has remained dislocated for three weeks.

CASE PRESENTATION: A 49-year-old with left shoulder deformity he came to outpatient department of Orthopaedics with chief complaint pain when moving the left shoulder region for 6 months ago. He went for traditional massage treatment, but pain on shoulder still persisted and still deformed. Patient diagnosed with neglected anterior shoulder dislocation for 6 months, open reduction and Latarjet surgery was done to manage the case. Follow up the patient for 3 months as outpatient and there is no pain or recurrent dislocation.

DISCUSSION: Chronic anterior shoulder joint dislocation is an unusual case for Orthopaedic surgeons to encounter. Latarjet would bring stability by 'triple effect' and it is more familiar for the surgeon than remplissage procedure

CONCLUSION: Neglected anterior shoulder joint dislocation was one of rare case in Orthopaedics where there is no specific treatment for the dislocation but with open reduction and Latarjet surgery, there was a higher effectiveness for stability and lower recurrence rate

Keywords: *Neglected anterior shoulder dislocation, Latarjet procedure, open reduction*

INTRODUCTION

Joint dislocation was the most common among problems occurs in shoulder joint.[1] There are two types of dislocation which is anterior and posterior joint dislocation. Most of the case that brings patients to the clinic was the anterior subtypes dislocation and it needs an immediate treatment.[1] Chronic anterior shoulder joint dislocation was one of rare cases in anterior joint dislocation where the dislocated joint remains dislocated up to three weeks.[2]

Injuries came along with shoulder dislocation are Bankart lesion, Hill-Sachs lesion, bone loss of glenoid, acromion bone fracture, and humeral bone fracture proximally. Neurovascular injury in chronic dislocation still under researched.[2] Latarjet procedure, established in 1954, was considered effective technique to manage neglected dislocated shoulder anteriorly if the glenoid bone loss surpasses 25%. Latarjet technique include coracoid osteotomy and is administered along with the attached combined tendons into anteroinferior aspect of the glenoid. Blocking on coracoid bone with combined

tendons act as support to prevents shoulder joint re-dislocation.[2]

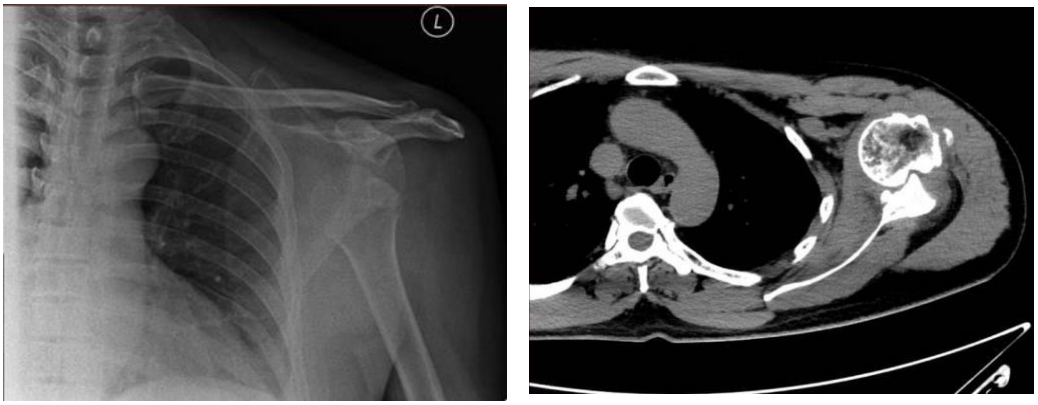
We presented a rare case where the dislocation of anterior shoulder joint was neglected for 6 months. The patient was already seeking an alternative medicine but no improvement on his shoulder movement. Neglected shoulder dislocation was one of rare case and could associated with pathological diverse in bone and soft tissues thus need specific procedures to obtain good functional outcome.[3]

In this case, we treated the dislocation with open reduction and Latarjet procedure with hopes that the range of movement for the shoulder joint will be better. The Latarjet procedure have higher effectiveness in managing neglected shoulder joint dislocation and will be discuss further on this case report.[4]

CASE PRESENTATION

A 49-years-old male patient came as outpatient of Orthopaedics department present pain when moving the left shoulder region. The pain was felt for 6 months after the patient fell down in motorcycle accident with left arm had first impact during supporting patient's body. Patient went for traditional massage treatment afterward, but pain still persisted and shoulder still deformed. Immobilization with armsling was applied to support his left shoulder for six months. In coming observation, patient can do daily activities with limited movement of left shoulder.

He felt pain on mobilization and present with limited range of movement. From physical examination we found left shoulder deformity, noticed squaring of shoulder, and muscle atrophy. Still with normal neurovascular examined.



(A) (B)

Figure 1(A). Plain X-ray on the Left shoulder shown a humeral head dislocation from the glenoid bone. (B) Hill- Sachs lesion shown and no glenoid bone loss noticed.

Range of movement (ROM) of extension-flexion left shoulder was 20°–80°, abduction- adduction 20°–50°, internal-external rotation 30°–20°. X-ray of shoulder antero-posteriorly described left glenohumeral joint dislocation anteriorly and CT-scan official reading showed humeral head's Hill-Sachs lesion. Patient diagnosed with neglected anterior shoulder dislocation with a Hill-Sachs lesion and open reduction and Latarjet technique was done to manage the case.

Open reduction surgery was done using a deltopectoral approach. When the long head biceps tendon was found in a tight condition with robust fibrotic tissue near the joint. Fibrotic tissue was removed so that the joint can be reduced to normal position. A tenotomy was performed. Anterior capsule was released and tenotomy of the subscapularis tendon were performed. Dislocated left humeral head anteriorly (subcoracoid) was found. After dislocated shoulder was reduced, two Kirschner wire was inserted to stabilize and maintain shoulder reduction, then Latarjet procedure was proceed. An osteotomy done by cutting coracoid process and transferred it with

combined tendons into part of antero-posterior of glenoid then followed with two screws fixation.

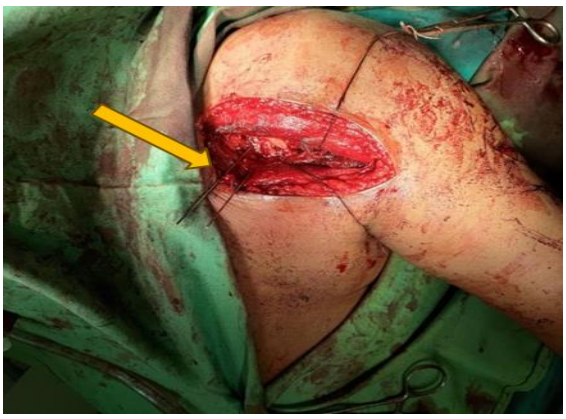


Figure 2. (Yellow arrow) K-wires insertion to fixate the humeral head after the reduction

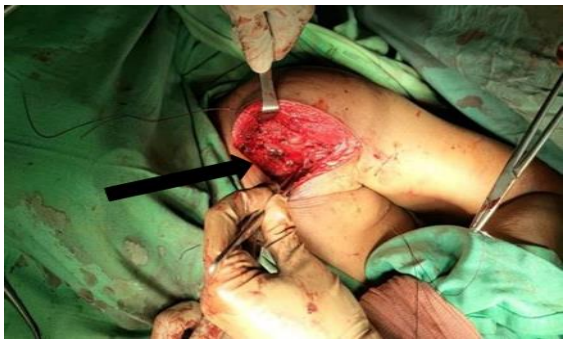


Figure 3. (Black arrow) Coracoid process fixation to the anterior inferior glenoid using 2 screws.

Post surgery showed glenohumeral joint had reduced by fixation with wires and there are two screws that holding the coracoid process. X-ray post operative was taken and showed that the shoulder joint is reduced correctly. There is no sign of neurovascular injury after the surgery. 3 days after surgery patient was discharged. And Kirschner wire removal 3 weeks after surgery, then the patient begins medical rehabilitation session to improve ROM of the shoulder joint. Observation for 3 months in outpatient department and there is no pain or recurrent dislocation but still limited ROM for the shoulder joint.

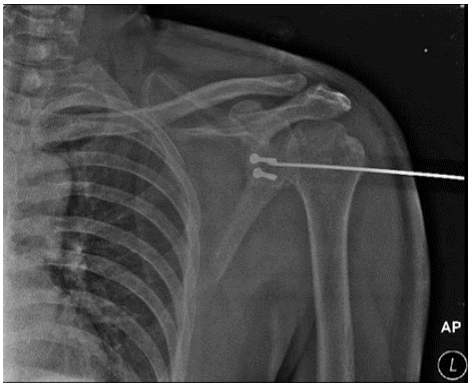


Figure 4. Plain X-ray post surgery showed repaired glenohumeral joint

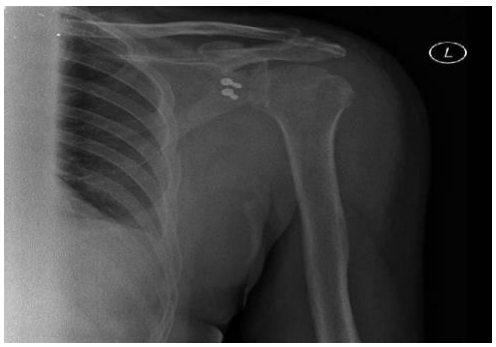


Figure 5. Plain X-ray 3 weeks post surgery and after remove K-Wire

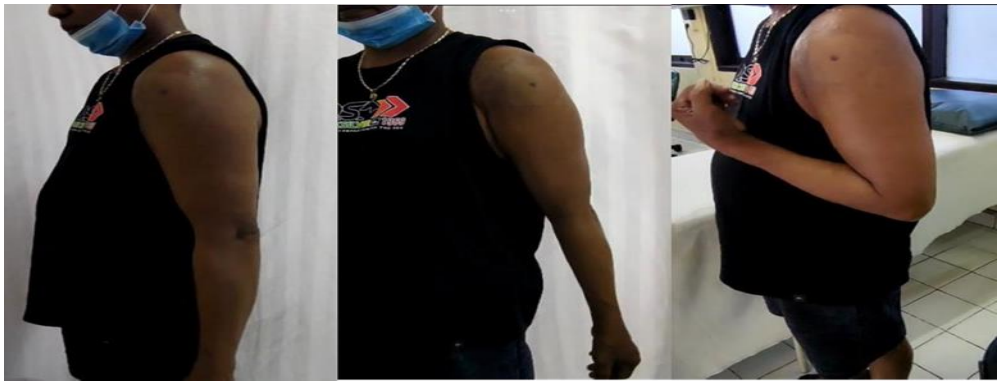


Figure 6. Clinical photos at 6 weeks after surgery

DISCUSSION

Chronic anterior shoulder joint dislocation is an unusual case for Orthopaedic surgeons to encounter. Chronic dislocations are defined as dislocations that occur 3 to 4 weeks after the trauma, but if unrecognized for more

than 4 weeks is considered as neglected shoulder dislocation.[3,5] In fact, 95% of shoulder dislocations are anterior dislocations. Mechanism of injury for anterior dislocation is abduction and extension of arm which trigger greater tuberosity adjoin opposed to acromion, cause elevated force which leads humeral head to pop out of glenoid cavities.[3] Delayed management in chronic shoulder dislocation anteriorly could cause seizures, decrease pain sensation, and fail to care.[4] In this case, the patient came for treatment after 6 months feeling pain and difficulty moving the shoulder. The patient had massaged the shoulder area and felt that the pain was reduced, so he did not come for further treatment.

Shoulder dislocation neglection management based on factors such as amount of bone loss on glenoid and humeral and activity level.[4] There are several treatment options that are most often used which is open reduction with Latarjet procedure, Bankart repair, capsulolabral repair and arthroplasty.[5] Procedure outcomes, such as Bankart repair, remplissage, coracoid transfer, bone-grafting and arthroplasty, in maintained shoulder stability were varied with high failure rates. Management options includes observation, manipulation, open reduction with or without allograft reconstruction, Bankart repair, capsulolabral repair and arthroplasty. Surgery procedure for the case usually recommended in seek of greater result functionally, even with possibilities of abysmal and imperfect result. Open Reduction mostly suggested if dislocated shoulder neglected for more than four weeks post impact, for the purpose to decrease fracture or cartilage injury risk. Few surgeries management confirmed a gleno-humeral transfixation by using smooth pins into head of glenoid to support the reduction. The acromio-humeral transfixing pins can prevent motion of joint for three to four weeks.[10] In this case, open reduction was performed with a Latarjet procedure as the main therapy.

Neglected shoulder dislocation has significant bony defects due to constant friction of dislocated humeral head against the anterior border of glenoid, which was also found the case presentation. In defects more than 25% but less than 40%, the anatomic procedures, such as allograft reconstruction of the head, humeral head disimpaction/humeroplasty and non-anatomic procedures, such as osseous or soft tissue transfer of the infraspinatus and Latarjet procedure, was suggested.[10] Latarjet would bring stabilization by 'triple effect' and it is common surgeon preference than remplissage technique. In this case the X-ray and CT-scan shown that there is no glenoid osseus defect but it shows large Hill-Sachs lesion so the treatment of choice is Latarjet procedure. Werthel et al, showed that the Latarjet procedure has a high level of effectiveness with a relatively low recurrence rate compared to Bankart repair.[6] Shaha et al, reported that postoperative risk after arthroscopic Bankart repair significantly elevated for patients with more than 3 preoperative dislocations.[7] Latarjet provides stability and it is common surgeon preference. Latarjet procedure proved as an effective management to manage neglected anterior shoulder dislocation accompanied by defect on large glenoid osseous.[8] Latarjet technique manage the depth and width of glenoid which particularly effective with abduction and external rotation of arm.[3]

Neural injury post procedure was common side effect which could triggers during coracoid process procedure or during exploration of dislocation reduction. Musculocutaneous nerve and axillary become the most common neural defect, it also could trigger in any branches of brachial plexus but could spontaneously improve. In case presentation, neuropraxia in ulnar nerve triggered during exploration to reduce dislocated shoulder.[10]

Imbalance of soft-tissue also became risk factor for repeated dislocation redislocation or subluxation postoperatively. In this case, long-term dislocation might trigger lengthening and thinning of

musculotendinous unit or biomechanical balance changing of glenohumeral joint. Glenohumeral osteoarthritis was one of neglected dislocation risk. Osteoarthritis on postoperative management become one of side effect which could happen due to avascular necrosis on head of humerus.[8] Lot of factors which could contributes avascular necrosis which trigger shoulder osteoarthritis such as time range of first dislocation, prolonged time of surgery, and pre-surgery arthritis; however, no particular set of time when the avascular necrosis started. Osteoarthritis of shoulder could happen as preexisting chondral injury result, triggers degeneration, or as a procedure result.[10] Despite long term risk of avascular necrosis on humeral head, recommended Latarjet technique done for this case had reduced shoulder joint dislocation successfully. Still, the case report had limitation due to 3 months post procedure follow up only to observe shoulder stabilization.[10]

CONCLUSION

Neglected anterior shoulder joint dislocation one of rare case in Orthopaedics where there is no specific treatment for the dislocation but with open reduction and Latarjet technique, there is a higher effectiveness for stability and lower recurrence rate.[9] Despite osteoarthritis risk of the shoulder joint, the open reduction combined with Latarjet technique done in this case was showed high success rate in prevents further dislocated of shoulder joint.[10]

Declaration by Authors

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REFERENCES

1. Zari S, Sammouni O, Abdeljaouad N, Yacoubi H. Neglected Anterior Shoulder Dislocation Treated with Open Reduction and Latarjet Procedure: A Case Report. Cureus. 2023;15(2).
2. Rai AK, Bandebuche AR, Bansal D, Gupta D, Naidu A. Chronic Unreduced Anterior Shoulder Dislocation Managed by Latarjet Procedure: A Prospective Study. Cureus. 2022;14(June 2015):1–14.
3. Kumar DGR. Neglected anterior shoulder dislocation managed by open reduction combined with Latarjet procedure. Int J Orthop Sci. 2020;6(3):909–11.
4. Datt R, Jain G, Nag HL. Management of Neglected Locked Anterior Dislocation of Shoulder: A Report of Two Cases. Cureus. 2021;13(3):1–6.
5. Ali J, Altintas B, Pulatkan A, Boykin RE, Aksoy DO, Bilsel K. Open Versus Arthroscopic Latarjet Procedure for the Treatment of Chronic Anterior Glenohumeral Instability with Glenoid Bone Loss. Arthrosc - J Arthrosc Relat Surg [Internet]. 2020;36(4):940–9. Available from: https://doi.org/10.1016/j.arthro.2019.09.042
6. Werthel JD, Sabatier V, Schoch B, Amsallem L, Nourissat G, Valenti P, et al. Outcomes of the Latarjet Procedure for the Treatment of Chronic Anterior Shoulder Instability: Patients With Prior Arthroscopic Bankart Repair Versus Primary Cases. Am J Sports Med. 2020;48(1):27–32.
7. Shaha JS, Cook JB, Song DJ, Rowles DJ, Bottoni CR, Shaha SH, et al. Redefining "critical" bone loss in shoulder instability. Am J Sports Med. 2015;43(7):1719–25.
8. Li Y, Jiang C. The effectiveness of the latarjet procedure in patients with chronic locked anterior shoulder dislocation a retrospective study. J Bone Jt Surg - Am Vol. 2016;98(10):813–23.
9. Sahu D, Rathod V, Phadnis A, Shyam A. Results and complications of head-preserving techniques in chronic neglected shoulder dislocation: a systematic review. J Shoulder Elb Surg [Internet]. 2021;30(3):685–94. Available from: https://doi.org/10.1016/j.jse.2020.10.010
10. Lubis A, Primaputra M, Dilogo I. A case report of ten-month-neglected anterior shoulder dislocation managed by open reduction combined with Latarjet procedure. International Journal of Surgery Case Reports. 2019;93-96.

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