Original Article

Recurrent dislocation of shoulder with glenoid boneloss- comparative study between open latarjet *versus* arthoscopic repair with iliac crest bone grafting

Anant Kumar Garg[1], Sanjay Kumar[2], Sunit Hazra[3], Arindam Basu[4], Sourav Ghosh[4]

Recurrent dislocation of shoulder is one of the very common clinical scenario .More than 200 surgical procedure has been described in literature with variable outcome. Treatment modalitiesare divided into anatomical and non anatomicalprocedure. Recurrent dislocation shoulder with glenoid loss is a debatable topic with treatment modalities starting from latarjet[1] and iliac crest bone grafting to fill the defect. Our study compares comparative study of both modalities

[*J Indian Med Assoc* 2018; **116:** 27 & 29]

Key words **: Recurrent dislocation shoulder, latarjet procedure, arthroscopic Iliac crest bone grafting.**

Shoulder instability may be caused from congenital de formity recurrent, over activity and traumatic dislocation. Surgical stabilization of the glenohumeral joint is indicated after conservative treatment fails and recurrent instability/subluxation continues.

Surgical reconstruction targeting the gleno-humeral joint's soft tissue for shoulder instability, typically involves labral repairs, the most common being the Bankart repair. Bankart lesion typically involves from an anterior-inferior dislocation of humerus, tearing the labrum from its attachment to the glenoid, thereby detaching the inferior gleno-humeral ligament (IGHL)[1,2].

In case where significant bony deficiency is present (more than 20% of glenoid's surface area is missing) addressing only the soft tissue issue during the surgical procedure may lead to eventual recurrence of instability. Reconstruction of this deficit using autograft bone yields best surgical result. Reconstruction of the can be done by open approach or by arthoscopic approach. In our study we have performed traditional open laterjet procedure and performed arthroscopic repair of bony bankart with reconstruction of the deficit by autograft taken from iliac crest.

Material and Method

We have treated total of 10 patients of glenoid lesion more than 20% of glenoid width. Fourpatient treated with arthoscopic repair and bony reconstruction. Bone graft was taken from iliac crest and bony deficit was reconstructed by arthoscopy guidance. And other 6 patients were treated with traditional open laterjet procedure[3].

Inclusion criteria : More than 20% of glenoid's surface width is missing.

Exclusion criteria : Patientwithseizuredisorder, hyperlaxity syndrome and any other medical conditions that have riskof frequent fall were excluded. For evaluation purpose we used Western Ontario Shoulder Instability Index (WOSI).

Results

After operation every patient was followed up for 6 months. There was no recurrence of shoulder dislocation in this period. At the end of 6 months patients was clinically evaluated. It was found that external rotation and abduction of shoulder were restricted 10-20 degree which is more in arthroscopic approach group and with all other range of motion were within normal range.According to WOSI score arthroscopy group had a better outcome with mean improvement of WOSI 327 score with pre-operative average score of WOSI976 in comparison with open Laterjet group which had mean improvement of WOSI 270 score with pre-operative average score of WOSI 970.

Discussion

Recurrent dislocation of shoulder with glenoid bone loss is some time challenging for orthopaedic surgeon in making decision. Laterjetprocedure works[4] on principle of bone block, sling and increasing glenoid track. Open laarjethas been standard treatment for glenoid bone loss with recurrent dislocation of shoulder.Risk of infection and stiffness has been reported in literature.

Arthroscopic iliac crest bone graft[5] is based on principle for providing bone block and increasing glenoid track for glenoid bone loss and recurrent dislocation of shoulder.Graft lysis has been reported in both procedure on regular follow up. Recurrence rate after latarjet and iliac crest bone grafting are almost similar.

(Continued on page 29)

Department of Orthopaedics, NRS Medical College, Kolkata 700014
[1]MS (Ortho), Assistant Professor
[2]MS (Ortho), Associate Professor & Corresponding author
[3]MS (Ortho), Associate Professor, R G Kar Medical College, Kolkata 700004
[4]Junior Resident, Department of Orthopaedics, NRS Medical College, Kolkata 700014

(Continued from page 27)

Arthoscopic iliac crest bone graft has advantage of being minimal invasive procedure.

Conclusion

Though arthroscopicrepair and reconstruction of bony Bankart is a technically demanding procedure, have an excellent result in comparison to the open method. Arthroscopic iliac crest bone grafting[5] is viable option in recurrent dislocation shoulder with glenoid bone loss.

Open Latarjet4has his own limitation and our study has shown that arthroscopic iliac crest bone grafting has better outcome in term of rehabilitation and functional outcome

References

1 Bankart AS — The pathology and treatment of recurrent dislocation of the shoulder joint. *Br J Surg* 1938; **26:** 23-9.
2 Rowe CR, Patel D, Southmayd WW — The Bankart procedure: a long-term end- result study. *J Bone Joint Surg Am* 1978; **60:** 1-16.
3 Emami MJ, Solooki S, Meshksari Z, Vosoughi AR — The effect of open Bristow-Latarjet procedure for anterior shoulder instability: a 10 -year study. *Musculoskelet Surg* 2011; **95**(3).
4 Allain J, Goutallier D, Glorion C — Long-term results of the Latarjet procedure for the treatment of anterior instability of the shoulder. *J Bone Joint Surg Am* 1998; **80:** 841-52.
5 Warner JJ, Gill TJ, O'Hollerhan JD, Pathare N, Millett PJ — Anatomical glenoid reconstruction for recurrent anterior glenohumeral instability with glenoid deficiency using an autogenous tricortical iliac crest bone graft. *Am J Sports Med* 2006; **34:** 205-12.