



Boston
Massachusetts
June 18–June 21

Does the use of a single anchor with double mattress technique suffice for remplissage in patients with Bankart and Hill Sach lesions? Analysis of clinical and radiological outcomes

Authors:

Dr. Silvampatti Ramasamy Sundararajan

Dr Shivam Shah

Dr. Ramakanth Rajagopalakrishnan

Dr. Terence Derryl L Dsouza

Dr. Shanmuganathan Rajasekaran



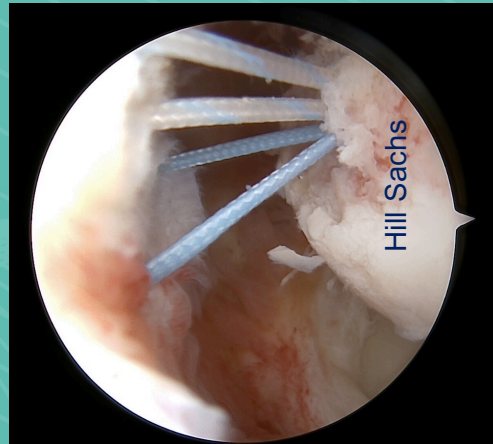


DISCLOSURES

- The authors have no relevant financial or non-financial interests to disclose.
- The authors have no conflicts of interest to declare



Single/Multiple anchors for Remplissage?



One anchor

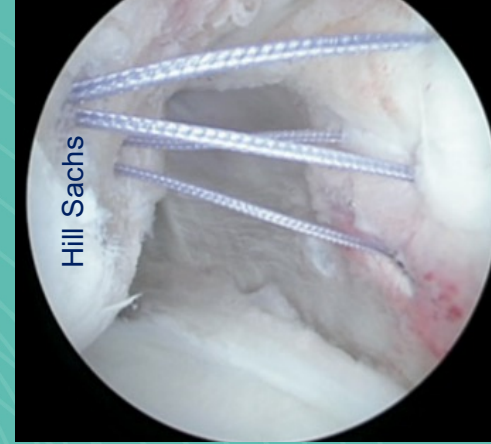
Advantages

Less restriction of external rotation

Cost effective

Disadvantage

Inadequate radiological filling



Two/ three anchors with double pulley / tripod pulley technique

Advantage

Good radiological filling

Disadvantage

Limitation of external rotation

Aim of the study

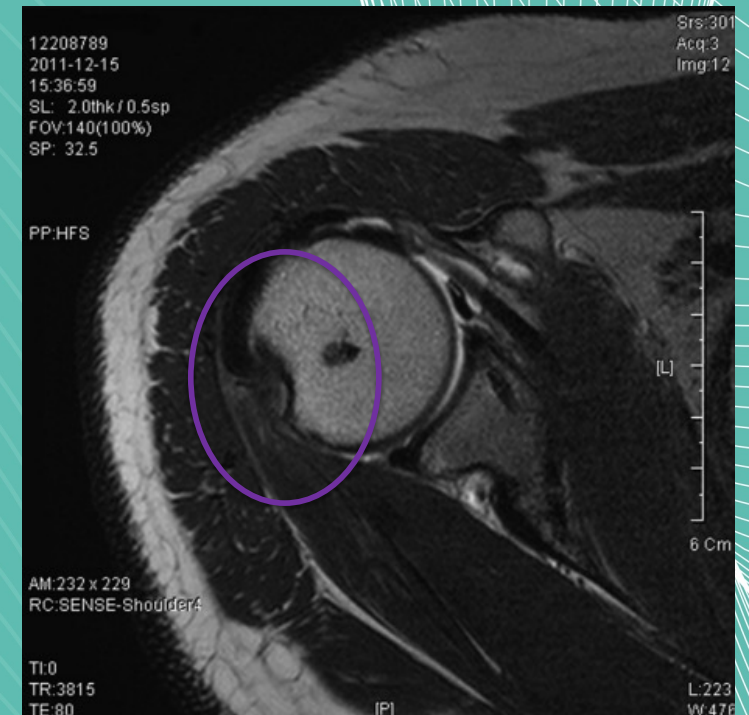
Is to determine

1. Functional outcome scores
2. Rates of Re-dislocation
3. Filling index of Remplissage (FISOR) and
4. Evaluation of Range of motion (degree of external rotation loss)

Using a **Single anchor** for Remplissage procedure with Bankart repair

How to assess Remplissage radiologically?

- FISOR – FILLING INDEX OF REMPLISSAGE - Index for radiological filling of Hill sach defect on MRI
- Asses how much of hill sach defect is filled by infraspinatus
- Good filling is associated with good functional outcomes



METHODOLOGY

- STUDY DESIGN – Retrospective study
- IRB approved
- Study period – June 2016- 2019
- Place of study : Department of orthopedics , Ganga Hospital , Coimbatore

Methodology

Study design Retrospective study

Study period June 2016- 2019

Place of study Department of orthopedics , Ganga Hospital , Coimbatore

Inclusion criteria:

Patients with recurrent anterior shoulder dislocations with :

- 1)Engaging hill sach lesions
- 2)Bankart lesion and bone loss of <15%
- 3)Age 15 - 50 years

Exclusion criteria:

- 1) SLAP tears
- 2) posterior labral tears
- 3) Rotator cuff tears
- 4) Multidirectional instability

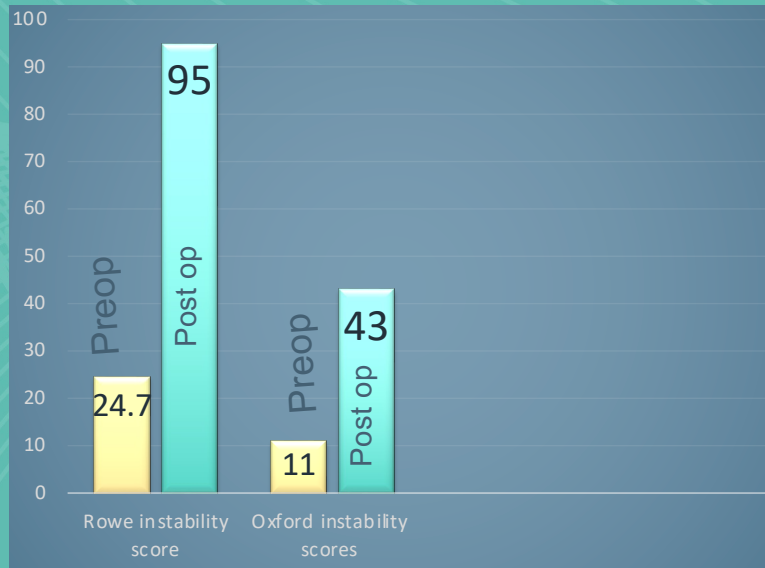
Results

Demographic details

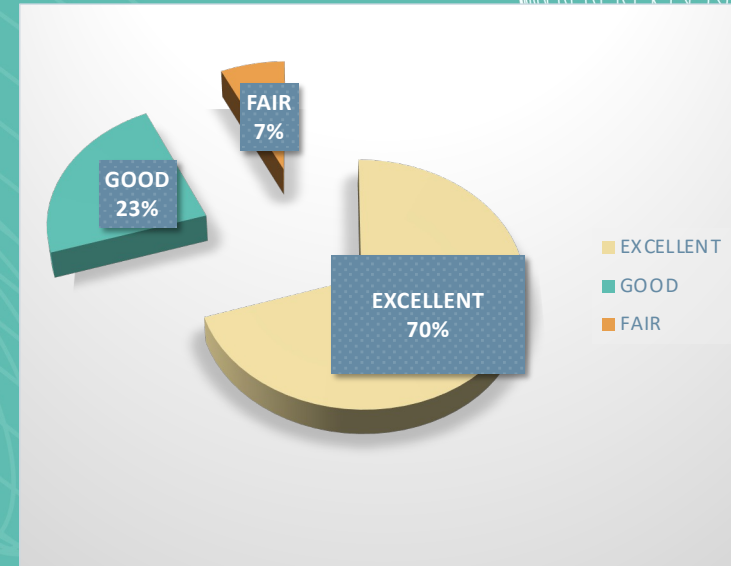
Average follow up period	25.4 months
Age	27 ± 4 (26; 18-42)
Dominance- dominant/nondominant	24/6
No of dislocations	3.6 ± 1.3 (2; 2-10)
Sports participation n(%)	10(33%)
Average anterior glenoid bone loss	9.8 ± 2.1 (9; 5-12)
Hill sach percentage of humeral head size	10.3±4.7(7;5-20)

Results

Rowe/Oxford instability score



FISOR



NO REDISCLOCATION

ER LAG

4.6 +/- 1.2 in neutral abduction

4.2 +/- 1.8 in 90 degree abduction

MOST IMPORTANT FINDINGS OF OUR STUDY

BY USING A SINGLE ANCHOR WITH DOUBLE MATTRESS TECHNIQUE FOR **ALL SIZES** OF HILL SACH LESION

- EXCELLENT RADIOLOGICAL FILLING OF LESIONS IN 70 % CASES
- NO REDISCLOCATIONS IN SHORT TERM FOLLOW UP
- NO RESTRICTION OF EXTERNAL ROTATION

Limitations

- Retrospective nature
- Small number of patients
- Short term follow up
- Absence of a comparative technique group



Conclusion

- Single anchor(double loaded) using mattress technique provided excellent filling of Hillsach`s defect (FISOR) in 70 % of our patients and no re-dislocation after surgery.
- Remplissage procedure with Single anchor yields Good to excellent clinical outcome and with less restriction of external rotation

References:

- Hill HA, Sachs MD. The grooved defect of the humeral head. *Radiology*. 1940;35:690-700
- Provencher MT, Frank RM, Leclere LE, et al. The Hill-Sachs lesion: diagnosis, classification, and management. *J Am Acad Orthop Surg*. 2012;20:242-252.
- Spatschil A, Landsiedl F, Anderl W, et al. Posttraumatic anteriorinferior instability of the shoulder: arthroscopic findings and clinical correlations. *Arch Orthop Trauma Surg*. 2006;126:217-222.
- Purchase RJ, Wolf EM, Hobgood ER, Pollock ME, Smalley CC. HillSachs “remplissage”: an arthroscopic solution for the engaging Hill Sachs lesion. *Arthroscopy*. 2008;24:723-726.
- Koo SS, Burkhart SS, Ochoa E. Arthroscopic double-pulley remplissage technique for engaging Hill-Sachs lesions in anterior shoulder instability repairs. *Arthroscopy*. 2009;25:1343-1348.
- Bhatia DN. Double-barrel remplissage: an arthroscopic all-intraarticular technique using the double-barrel knot for anterior shoulder instability. *Arthrosc Tech*. 2015;4:65-70.
- Consigliere P, Morrissey N, Imam M, Narvani AA. The tripod-pulley technique for arthroscopic remplissage in engaging Hill-Sachs lesions. *Arthrosc Tech*. 2017;6:e1675-e1684.
- Franc, a FO, Godinho AC, Carneiro Leal DPC, Mantovani MM, Fraza~ o RR, Mariz RF. Clinical and image outcomes of the Hill-Sachs injury approach by the remplissage technique on the anterior shoulder instability. *Rev Bras Ortop (Sao Paulo)*. 2019;54:13-19.
- Burkhart SS, De Beer JF. Traumatic glenohumeral bone defects and their relationship to failure of arthroscopic Bankart repairs: significance of the inverted-pear glenoid and the humeral engaging HillSachs lesion. *Arthroscopy*. 2000;16:677-694.
- Yamamoto N, Itoi E, Abe H, et al. Contact between the glenoid and the humeral head in abduction, external rotation, and horizontal extension: a new concept of glenoid track. *J Shoulder Elbow Surg*. 2007;16:649-656
- Itoi E. “On-track” and “off-track” shoulder lesions. *EFORT Open Rev*. 2017;2:343-351.
- Boileau P, O’Shea K, Vargas P, Pinedo M, Old J, Zumstein M. Anatomical and functional results after arthroscopic Hill-Sachs remplissage. *J Bone Joint Surg Am*. 2012;94:618-626.

