Anterior Glenoid Reconstruction with Free Graft vs Latarjet for Recurrent Shoulder Instability with Glenoid Bone Loss in an Active-Duty Military Population

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INTRODUCTION:

The active-duty military population is at significantly higher risk of anterior shoulder instability, with rates as high as 3% per year among high-risk groups, with recurrence rates of up to 90%. The Latarjet is a well-established procedure that has been shown to improve overall shoulder stability, but complications do exist. Anterior glenoid reconstruction (AGR) with allograft has been shown to have low rates of recurrent instability and complications, while allowing for anatomic repair of the glenoid. The purpose of this study is to evaluate post-operative outcomes in military patients who underwent either an open AGR or Latarjet to treat recurrent anterior shoulder instability with anterior glenoid bone loss.

METHODS: Active-duty military patients who received anterior glenohumeral instability procedures by a

single surgeon between 2017 and 2020 were identified from a retrospectively collected database. Inclusion criteria included symptomatic anterior shoulder instability, significant glenoid bone loss (>13.5%), surgical treatment with an open AGR with a free graft or Latarjet, and minimum follow-up of 2 years. Primary outcomes included post operative dislocation and subluxation rates. Secondary outcomes included patient reported outcome measures such as the Single Assessment Numeric Evaluation score (SANE), American Shoulder and Elbow Surgeons (ASES) score, Western Ontario Shoulder Instability Index (WOSI) score, and the Likert Scale (LS) to assess patient satisfaction, along with average length military limitations (profile, limited duty) before return to duty, and ability to pass the physical fitness test following surgery.

RESULTS: Thirty-six patients met inclusion criteria (15 AGR, 21 Latarjet). The average length of follow-up

was 39.7 months for AGR and 36.3 months for Latarjet. There were 8 patients who experienced recurrent instability in the Latarjet group, (2 dislocations and 6 subluxations). In comparison, there were no episodes of post-operative dislocations (p=0.12) or subluxations (p=0.019) in the AGR group.

Comparing AGR to Latarjet, there were no significant differences in post operative SANE (p=0.21),

ASES (p=0.48), WOSI scores (p=0.19), or military profile duration(p=0.39).

DISCUSSION AND CONCLUSION:

In patients with significant anterior glenoid bone-loss treated with an open bony procedure,

there appears to be no difference between patient reported outcome measures between patients treated with an open Anterior Glenoid Reconstruction with free bone graft and an open Latarjet, but there appears to be a lower incidence of post-operative recurrent instability in the AGR group.

	Anterior Glenoid	Latarjet	p-value	
Average Age (years)	30.2	28.1	0.21	
n	15	21		
Average follow-up (months)	39.7	36.3	0.16	
# male	13	20	/	
Total Surgeries on operative shoulder	1.6	1.5	0.32	
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	Anterior Glenoid	Latarjet	p-value	
Re-dislocations	0	2	0.12	
Subluxations	0	6	0.019	
Profile Length (months)	7.1	7.9	0.39	
Able to pass PT test (%)	100%	100%		
Likert Scale	10 extremely satisfied	5 extremely satisfied		
	4 satisfied	6 satisfied		
	1 neutral	10 no response		
Post-SANE	85.3	86.9	0.21	
Post-ASES	86.9	86.7	0.48	
Post-WOSI	483.1	592.8	0.19	

Table 2. Primary and Secondary Outcome Measures