

Arthroscopic Bone Graft Procedure Combined With Arthroscopic Subscapularis Augmentation for Recurrent Anterior Instability With Glenoid Bone Defect



Raffaele Russo, M.D., Marco Maiotti, M.D., Ettore Taverna, M.D., and Cecilia Rao, M.D.

Abstract: Glenoid bone loss and capsular deficiency represent critical points of arthroscopic Bankart repair failures. The purpose of this Technical Note is to present an all-arthroscopic bone block procedure associated with arthroscopic subscapularis augmentation for treating glenohumeral instability with glenoid bone loss and anterior capsulolabral deficiency. Two glenoid tunnels are set up from the posterior to the anterior side using a dedicated bone block guide, and 4 buttons are used to fix the graft to the glenoid. The subscapularis tenodesis is performed using a suture tape anchor. This combined arthroscopic technique (bone block associated with arthroscopic subscapularis augmentation) could be a valid and safe alternative to the arthroscopic or open Latarjet procedures.

The cause of anterior shoulder instability is not completely known,¹⁻⁷ and its surgical management remains controversial. Few studies have been carried out on post-traumatic capsular elongation and hyperlaxity or on the healing process of the soft tissue on the glenoid edges after the first dislocation and after capsulolabral repair.^{8,9} Lately, the correlations among glenoid bone loss (GBL), humeral head defects, and instability have been studied.¹⁰ Recent papers show the biomechanical aspects of restoring the glenoid width using bone augmentation and the role of the

anterior capsule in recentering the humeral head on the glenoid fossa.^{2,11,12} Furthermore, severe bone lesions of the glenoid rim and the Hill-Sachs defect on the humeral head are associated with poor-quality capsular tissues.^{2,3,7,13}

Arthroscopic Bankart repair is the most popular surgical treatment of traumatic and atraumatic recurrent shoulder instability, and its failure rate is reported to be from 15% to 64%, especially in unselected patients with severe GBL.^{3,5,14} The association of GBL and capsular inconsistency represents the real limit of a standard arthroscopic anterior capsulorrhaphy or an isolated bone graft procedure.¹⁵⁻¹⁹ The remplissage technique has been proposed as a support for engaging Hill-Sachs lesions, but the results are controversial when the anterior capsule is insufficient, and failures are reported to be from 4% to 15%.²⁰ Currently, the open or arthroscopic Latarjet procedures are considered to be the most effective techniques for treatment in cases of severe bone defects and poor-quality anterior soft tissue due to the coracoid transfer and conjoint tendon action, with a recurrence between 0% and 5%.^{14,18,20-32} Also, the conjoint tendon transfer allows stability restoration with no significant range-of-motion loss and a low recurrence rate.³³

Open and arthroscopic J-bone graft, considered to be much more anatomical approaches,³⁴ can provide glenoid bone restoration, but certain technical aspects of the graft preparation and glenoid implant have led to

From the Orthopedics and Traumatology Unit, Pellegrini Hospital (R.R.), Naples; Sports Medicine Unit and Orthopedic Center, San Giovanni Addolorata Hospital (M.M.), Rome; Orthopedics and Traumatology Unit, Galeazzi Hospital (E.T.), Milan; and Orthopedics and Traumatology Unit, University of Tor Vergata (C.R.), Rome, Italy.

The authors report the following potential conflicts of interest or sources of funding: E.T. receives grants, personal fees, and nonfinancial support from Smith & Nephew, during the conduct of the study; and grants, personal fees, and nonfinancial support from Smith & Nephew, outside the submitted work. Full ICMJE author disclosure forms are available for this article online, as supplementary material.

Received November 16, 2017; accepted February 17, 2018.

Address correspondence to Marco Maiotti, M.D., Sports Medicine Center, Via Archimede 153, 00184 Rome, Italy. E-mail: maiotti.marco@gmail.com

© 2018 by the Arthroscopy Association of North America. Published by Elsevier. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

2212-6287/171402

<https://doi.org/10.1016/j.eats.2018.02.009>