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Arthroscopic Repair of Irreparabale Large to Massive Rotator Cuff Tears With Low Grade Fatty Degeneration of the Infraspinatus: Patch Autograft Procedure Versus Partial Repair Procedure

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Summary:
The arthroscopic patch graft procedure was found to be superior to the arthroscopic partial repair procedure in terms of postoperative repair integrity. We recommend arthroscopic patch graft procedure is valuable options for irreparabale large to massive rotator cuff tears with low grade fatty degeneration of the infraspinatus because of achieving better functional and structural outcomes.

Abstract:
Purpose:
The purpose of this study was to compare arthroscopic patch graft procedure and arthroscopic partial repair for irreparable large or massive rotator cuff tears (RCTs) in shoulders with low-grade fatty degeneration of the infraspinatus (Goutallier stage 1 to 2) in terms of the functional and structural outcomes and rates of postoperative large cuff defects.

Methods:
This study involved 24 patients who underwent arthroscopic patch graft procedure (Group A) and 24 patients who underwent arthroscopic partial repair (Group B) for irreparable large or massive RCTs. Clinical outcomes were evaluated at an average of 35.5 months in Group A and of 35.7 months in Group B. Postoperative repair integrity was determined using Sugaya's classification of magnetic resonance imaging (MRI) at 24 months after surgery, and the incidence of large cuff defects (Type V of Sugaya's classification) was investigated.

Results:
The average clinical outcomes were significantly improved at final follow-up in both groups ($P < .001$). Postoperative MRI revealed a significant difference in the incidence of Type V defects between the two groups: 2 (8.3%) in Group A and 10 (41.7%) in Group B ($P = .015$). Shoulders with Type V defects demonstrated significantly inferior clinical outcomes compared with those without such the defect ($P < .001$).

Conclusions:
Arthroscopic patch graft procedure was markedly found to be much superior to arthroscopic partial repair in treating irreparable RCTs with low-grade fatty degeneration of the infraspinatus in term of avoiding a postoperative large cuff defect. We propose arthroscopic autograft augmentation as a valuable option for selected patients undergoing partial repair because the postoperative functional outcomes in patients with large cuff defects are inferior to those without large cuff defects.