

Revision Rotator Cuff Repair: Can a Sugaya 3 Tendon Considered to Be Healed or Not?

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INTRODUCTION:

Sugaya et al. described a classification system to assess postoperative rotator cuff tendon healing. While Sugaya 1 and 2 tendons can be considered as healed and Sugaya type 4 and 5 can be considered as return, the exact status of Sugaya 3 tendons remains unclear. The objective of this study was to evaluate the influence of Sugaya 3 tendons on postoperative functional scores in a population of revision rotator cuff repairs.

METHODS:

We retrospectively studied the records of all patients who underwent revision rotator cuff in one of 12 different institutions between July 2001 and December 2020. A total of 203 shoulders were included (59% males, mean age: 51 ± 8 years old, mean follow up 11.5 years (range; 2-28.8)). A total of 54 patients (61% males, mean age 52 ± 6 years old, mean follow up 14.1 years (range; 10.4-28.8)) had a follow up ≥ 10 years (mean -up 14.1 years (range; 10.4-28.8)) and were included in a long-term follow-up subgroup analysis. Structural integrity of the repaired tendon was evaluated on MRI. Functional scores, acromio-humeral index (AHI), progression of fatty infiltration and of osteoarthritis were compared according to Sugaya type.

RESULTS:

Mean Constant score and mean strength were significantly higher in Sugaya 1-2 tendons than in Sugaya 3 ($p=0.021$ and $p=0.003$) and Sugaya 4-5 tendons ($p=0.07$ and $p=0.038$) but did not differ between Sugaya 3 and Sugaya 4-5 tendons. Mean SSV, pain, AHI were significantly higher and fatty infiltration and progression in the Hamada classification were significantly lower in Sugaya 1-2 tendons and in Sugaya 3 than in Sugaya 4-5 tendons ($p<0.05$) but did not differ between Sugaya 1-2 and Sugaya 3 tendons. Similar characteristics could also be observed in the long-term follow-up subgroup.

DISCUSSION AND CONCLUSION:

Sugaya 3 tendons after revision rotator cuff repair do not allow restoration of strength thereby impacting the Constant score. However, they seem to have a protective effect with regard to pain, progression of upwards migration, osteoarthritis, and fatty infiltration which seems to last at long-term follow up.