



A Case Report on Supraspinatus Tear Repair with Lower Trapezius Transfer Augmented with Autologous Peroneus Longus Graft

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INTRODUCTION

Massive irreparable supraspinatus tendon tears pose a significant treatment challenge due to tendon retraction, muscle atrophy, and fatty degeneration, often making primary repair impossible. Tendon transfer procedures aim to restore shoulder biomechanics by re-establishing balanced force couples. The Lower Trapezius Transfer is biomechanically favorable for posterosuperior rotator cuff defects because of its synergistic line of pull and ability to restore external rotation and abduction. Graft augmentation is required to bridge the gap between the transferred tendon and the greater tuberosity. The autologous Peroneus Longus tendon graft provides adequate length and strength with minimal donor-site morbidity. This technique offers a reliable biological option for functional restoration in irreparable supraspinatus tears.

CASE REPORT

69-year-old male patient, Mr. Venkataramaih, presented with chronic pain and weakness of the dominant shoulder, associated with difficulty in overhead activities and external rotation. He had a prior history of surgical repair for a supraspinatus tear using suture anchors, which subsequently failed. Clinical examination revealed reduced active abduction and external rotation with positive rotator cuff tests. MRI showed a massive irreparable supraspinatus tear with tendon retraction and muscle degeneration. Considering the failed previous repair and functional demands, a decision was made to perform a lower trapezius tendon transfer augmented with an autologous peroneus longus graft.

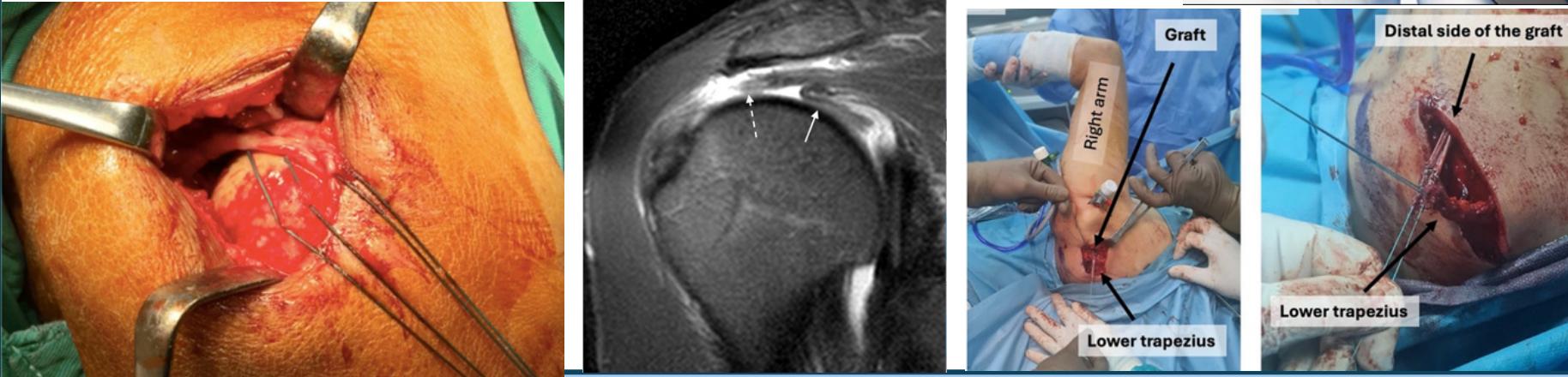
OPERATIVE FINDINGS

Intraoperatively, the supraspinatus tendon was found to be severely retracted and of poor quality, confirming irreparability. The previously placed suture anchor were noted with failed tendon healing. The lower trapezius tendon was harvested and mobilized. An autologous peroneus longus tendon graft was harvested and used to augment the transfer, bridging the gap between the lower trapezius and the greater tuberosity. The graft was securely fixed to the humeral head, ensuring appropriate tension and restoration of the posterosuperior force couple.



DISCUSSION

Failed rotator cuff repairs are common in elderly patients due to poor tendon quality and biological healing potential. Lower trapezius transfer provides a more anatomical and biomechanically favorable solution compared to other tendon transfers for posterosuperior cuff tears. Augmentation with an autologous peroneus longus graft offers adequate length, strength, and biological compatibility with minimal donor-site morbidity. This technique helps restore shoulder stability, external rotation, and abduction while reducing pain. In revision cases with failed suture anchor repair, this method serves as an effective salvage procedure.



CONCLUSION

Lower trapezius transfer augmented with an autologous peroneus longus tendon graft is a reliable and effective surgical option for irreparable supraspinatus tears with failed prior repair. It restores shoulder biomechanics, improves functional outcomes, and provides a durable biological reconstruction, even in elderly patients. This technique should be considered a valuable salvage procedure in complex rotator cuff pathology.

