Clinical Outcomes of Pectoralis Major Tendon Repair with and without Platelet-Rich Plasma

INTRODUCTION

Rupture of the pectoralis major tendon (PMT) that occurs with a rapid eccentric load on a maximally tensioned muscle with the shoulder in an abducted and externally rotated position.\textsuperscript{1,2}
• Acute repairs are recommended in the young, active population and have better outcomes compared to non-operative management.\textsuperscript{3,4}
• Leukocyte-Poor Platelet rich plasma (LP-PRP), containing high concentration of platelets, growth factors, and cytokines may improve tendon healing and reduce re-rupture rates.\textsuperscript{5,6}

OBJECTIVES

The purposes of this study were to assess clinical outcomes following PMT repairs and to compare outcomes of PMT repairs augmented with and without LP-PRP.
• We hypothesized that patients would experience significant improvement in clinical outcomes following PMT surgical repair and that there would be superior outcomes in patients who had LP-PRP augmented repairs when compared with those without augmentation.

METHODS

• IRB approval was obtained and patients who underwent a pectoralis major repair between 05/2007 and 06/2019 with min 2 year follow-up were included.
• Exclusion criteria: Revision PMT repair, PMT reconstruction, concomitant repair of additional structure
• Data was collected prospectively and retrospectively reviewed
• Patients' history, including age, sex, arm dominance, mechanism of injury, tear location, time to surgery, and prior surgeries were collected
• Pre- and post-operative patient reported outcomes were compared
  • ASES, SANE, QuickDASH, SF-12 PCS scores were utilized
  • Satisfaction with outcomes: (scale 1-10, 10 = best score)
• Return to sport, complications, and revision surgeries were recorded

RESULTS

23 eligible for inclusion in the study
• N=16/23 (70%) have minimum 2-year follow up

PRO Score Improvement

Post-op PROs with vs. without PRP

Additional Results
• 100% return to sport
• 71% return to prior level of participation
• 79% with no strength deficit, 21% with “mild” deficit
• PROs not significantly different based on MOI, tear location, or chronicity of injury

CONCLUSIONS

At mean follow-up of 5.1 years:
• Pectoralis major tendon repair produces improved PROs at final follow-up compared to preoperative values
• Augmentation of repairs with leukocyte-poor PRP may further improve repair outcomes
• Excellent patient satisfaction & return to sport with the majority returning to their prior level of participation
• Low failure rates (4.2%)