Comparing Clinical Outcomes Between Transosseous Patellar Suture Fixation Versus Suture Anchor Repair in the Treatment of Quadriceps Tendon Rupture

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Introduction

The objective of this study is to compare clinical and functional outcomes, in the largest series to date, of quadriceps tendon ruptures surgically treated with transosseous patellar suture or suture anchor repair.

Methods

- Retrospective review was performed for patients undergoing surgical repair of quadriceps tendon injuries between 2007-2018.
- Patients treated with transosseous patellar suture (TS) repair and suture anchor repair (SA) were identified.
- Surgical technique included 1, 2, or 3 suture anchors or 2 or 3 transosseous suture patellar tunnels.
- Analyzed clinical and functional outcomes based on objective measurement of range of motion, graded strength testing, and follow-up duration. Infection, re-rupture, deep vein thrombosis, and patella fracture were investigated as complications.
- Chi-squared, Fisher’s exact, and independent samples t-tests were used to compare the SA and TS groups, significance defined as p < 0.05.

Results

Patient characteristics:

- Age (years): 60 versus 54.2, p = 0.02
- Gender (% male): 87.6 versus 94.7, p = 0.35
- BMI: 32.1 versus 31.3, p = 0.6
- Follow-up months: 7.9 versus 8, p = 0.92
- % Acute: 89.6 versus 79.1, p = 0.08

Acute < 6 weeks to surgery, chronic > 6 weeks:

- At final follow-up, mean extension (3.28° vs 1.71°, p = 0.17) and flexion (121° vs 116°, p = 0.29) were not statistically different between the SA and TS groups.
- Graded strength testing at final follow-up between SA and TS groups (4.35 vs. 4.61, p = 0.03) was functionally comparable.
- There were no significant differences in the rates of complications, including re-rupture.

ROM range of motion, DVT deep vein thrombosis

Conclusion

- Suture anchor repair of acute or chronic quadriceps tendon ruptures may provide similar clinical results compared to the gold standard transosseous patellar suture repair technique.
- Range of motion and strength in this short-term follow-up study were comparable among both groups, with no significant difference in complication rates.

Reference