Safety and Efficacy of Arthroscopic Repair for Distal Triceps Tendon Rupture

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INTRODUCTION:
The present study reports the outcomes of 16 patients who underwent arthroscopic distal triceps tendon repair using a double row anatomic footprint repair technique.
METHODS:
A retrospective review was performed on 16 patients age 37 to 80 who underwent arthroscopic triceps tendon repair between 2012 and 2022 by a single surgeon. Inclusion criteria included full thickness tear of the distal triceps tendon confirmed by MRI, repaired arthroscopically. Exclusion criteria included patients with documented follow-up of less than 24 months or lacking postoperative outcome measures, and tear size of less than 50% of the width of the tendon. Primary outcome measures were re-tear rates and reoperation rates. Secondary outcomes included changes in pain scores (VAS) and postoperative functional scores (MEPS), single assessment numeric evaluation (SANE) scores, manual muscle testing, and rate of perioperative wound complications.
RESULTS:
All 16 patients had an intact triceps tendon on ultrasound at a mean follow-up of 79.3 months, range 24.6-149.1 months. Of those patients, 5 underwent removal of loose bodies or enthesophytes at the time of surgery. Additionally, open cubital tunnel release was performed for 2 of the patients, and 1 patient underwent flexor pronator repair at the time of the arthroscopic triceps repair. There were no open triceps tendon repairs performed during the time period of the study and no patient needed to be converted to an open triceps repair for failure of the arthroscopic procedure.The mean preoperative VAS pain score decreased from 4 to 0, ranging from 0-6 preoperatively (P = 0.00002). Postoperative MEPS scores averaged 100, indicating no functional limitations. The mean SANE scores were 98, ranging from 90-100. There were no major perioperative wound complications, re-tears, or reoperations reported. Muscle strength was graded as equal to the opposite side on manual strength testing.
DISCUSSION AND CONCLUSION:
This case series demonstrates that arthroscopic triceps tendon repair is a safe, effective, and reliable technique, providing excellent functional outcomes and minimal complications. In 5 patients, additional pathology was addressed during their arthroscopic triceps repair, reducing the need for future surgery. Due to decreased concern for wound healing, patients with arthroscopic repair can begin advancing elbow flexion as tolerated within 1 week post operatively compared to the open technique which often requires longer periods of immobilization. Patients experienced significant improvements in both pain and function, with the majority achieving complete recovery and no major postoperative complications.

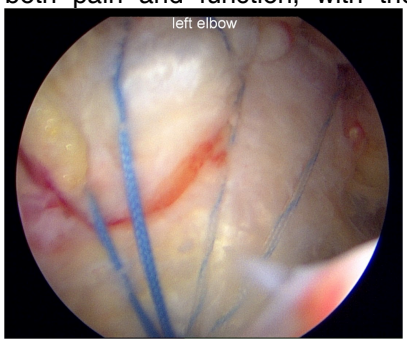

Table 2: Outcomes of Triceps Tendon Repairs Performed Arthroscopically

Patient	Tendon tear size	Retraction (cm)	Atrophy (% fatty infiltration)	Additional procedures	VAS pre	VAS post	MEPS post	SANE post
1	100%	4.5	0		5	0	100	95
2	100%	1	0	Loose body removal	4	0	100	95
3	100%	1	0	Enthesophyte removal, loose body removal	4	0	100	95
4	100%	3	0		5	0	100	95
5	100%	5	0	Medial epicondylectomy with flexor pronator repair, cubital tunnel with transposition	3	0	100	90
6	100%	4	0		6	0	100	95
7	100%	5	0		3	0	100	100
8	90%	0	20%	Loose body removal	3	0	100	100
9	100%	2	30%		0	0	100	100
10	75%	0	0	Enthesophyte removal	4	0	100	95
11	100%	1	0	Enthesophyte removal, loose body removal	4	0	100	100
12	100%	5	0		4	0	100	100
13	100%	3	0		6	0	100	100
14	100%	3	0		1	0	100	100
15	100%	1	0		2	0	100	100
16	100%	3	0		5	0	100	100