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Effectiveness of Platelet-rich Plasma Injection for Rotator Cuff Tendinopathy: A Prospective Open-label Study.

PRP injection, especially in partial rotator cuff tears (RCT), may help patients avoid surgery, with good results up to a year. - Kelly Cunningham, MD

Abstract

OBJECTIVE: Assess platelet rich plasma (**PRP**) injection for **rotator cuff** tendinopathy (RCT). DESIGN: Prospective open label study with 1-year follow-up.

METHODS: Participants recruited from an outpatient sports medicine clinic had clinically and magnetic resonance image (MRI)-demonstrated RCT refractory to physical therapy and corticosteroid injection. They received one ultrasound-guided injection of 3.0 mL of 1% xylocaine followed by 3.5 mL of **PRP** at the lesion and surrounding tendon. Prima:ry outcome: 0-10 visual analog scale (VAS; baseline, 8, 12, and 52 weeks). Secondary outcomes: functional shoulder tests assessing **rotator cuff** strength and endurance (at baseline and 8 and 12 weeks), MRI severity (1-5 points [at baseline and 4 and 8 weeks]), and patient satisfaction (52 weeks).

RESULTS: Eighteen participants with 19 assessed shoulders reported VAS pain score improvement from 7.5 ? 0.3 points to 0.5 ? 0.3 points by week 12 and 0.4 ? 0.2 (P = .0001) points at week 52. Functional outcomes significantly improved; the largest effect was seen in the external rotation test: 33.5 ? 5.7 seconds to 62.6 ? 7.2 seconds at week 12 (P = .0001). MRI appearance improved by 1 to 3 points in 16 of 18 assessed shoulders. Seventeen participants were "completely satisfied" (12) or "satisfied" (5). One participant was "unsatisfied."

CONCLUSIONS: A single ultrasound-guided, intralesional injection of **PRP** resulted in safe, significant, sustained improvement of pain, function, and MRI outcomes in participants with refractory RCT. Randomized multidisciplinary effectiveness trials that add ultrasound and validated clinical outcome measures are needed to further assess **PRP** for RCT.

Authors: Scarpone M, Rabago D, Snell E, Demeo P, Ruppert K, Pritchard P, Arbogast G, Wilson JJ, Balzano JF.

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