#1169 - Clinical Study / Free Papers

Platelet Rich Plasma For Acute Achilles Tendon Rupture: Results Of The PATH-2 Study, A Double-Blind, Multicentre, Randomised, Placebo-Controlled Trial

Trauma / Foot & Ankle Trauma / Conservative Treatment & Rehabilitation

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Keywords: Platelet, Plasma, Achilles, Rupture, RCT

Background
Disability and slow return to sport and work after tendon rupture are major challenges. Platelet Rich Plasma (PRP) is an autologous supraphysiological concentration of platelets from whole blood that has demonstrated positive cellular and physiological effects on healing in laboratory conditions but evidence from adequately powered robust clinical trials is lacking.

Objectives
We aimed to determine the clinical efficacy of PRP for treatment of acute Achilles tendon rupture.

Study Design & Methods
In a placebo-controlled, participant- and assessor-blinded, trial at 19 NHS hospitals we randomly assigned 230 adults starting acute Achilles rupture non-surgical management to PRP injection or dry-needle insertion (placebo) to the rupture gap under local anaesthetic. Patients with confounding or contraindicated concurrent medical conditions were excluded. The primary outcome was muscle-tendon function, assessed by the limb symmetry index (LSI, uninjured limb/injured limb x 100, higher scores better) of the work (Joules) performed during the heel-rise endurance test at 24 weeks. Secondary outcomes were: Achilles Tendon Rupture Score (ATRS, 0-100, higher scores better), quality of life (SF-12), pain, and goal attainment. Trial registration: ISRCTN54992179

Results
Participants were aged mean 46 years and 57 (25%) were female. 103/114 (90%) of the PRP group and all (n=116) in the placebo group received allocated treatment. At 24 weeks, mean LSI was 34.4 for the PRP group and 38.8 for placebo (adjusted mean difference -4.4 95% CI -11.2 to 2.5, n=201) and ATRS was mean 65.2 PRP vs 65.8 (adjusted mean difference -0.6, 95% CI -4.9 to 3.7, n=224). There were no differences between groups in the other secondary outcomes.

Conclusions
We found no evidence of PRP efficacy for improving muscle-tendon function or patient-reported recovery after acute Achilles tendon rupture. Our findings challenge the increasing global use of PRP for acute tendon injury and indicate that robust evaluations are required in other applications.