

Outcomes of prolotherapy for intra-tendinous Achilles tears: A case series

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Introduction

- The intra-tendinous tear is a new pathology that is defined as a discontinuity of fibres situated entirely within the tendon.¹
- Prolotherapy involves injecting an irritant, such as hyperosmolar dextrose, to stimulate a tissue healing response and ultimately reduce pain.²



Figure 1: Ultrasound-guided dextrose injection procedure

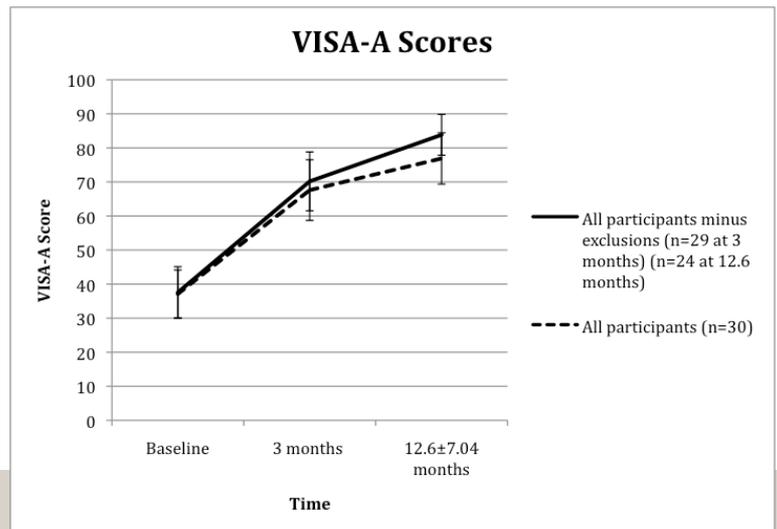


Figure 2: Mean VISA-A improvement (95% CI) following prolotherapy treatment

Methods

- 43 patients diagnosed with an intra-tendinous tear at London Independent Hospital were included.
- Patients were injected with 0.4ml-1.5ml of 50% dextrose and 0.5% marcaine mixed in a 1:1 ratio.
- A 4-6 week period of boot immobilisation was followed by progressive rehabilitation (6-8 weeks).
- VISA-A questionnaire completed at baseline, 3 months and a mean 12.6 months post-treatment.
- Ultrasound scans were conducted before treatment and 5.2 weeks later to assess sonographic changes.

Results

- VISA-A scores increased by 31 points after 3 months.
- This improved to 40 points after 12.6 months
- After 5.2 weeks, 27% of tears were no longer detectable on USS.
- No significant differences were observed in remaining tears with respect to tear size, tendon thickness or neovascularisation.

	Before Treatment	After immobilization	Mean change
Tears with defined borders	30/30	19/26	
Tear length (mm)	17.61±13.89	12.75±12.36	-28% (p>0.05)
Tear width (mm)	5.42±3.25	4.46±4.51	-18% (p>0.05)
Tendon thickness (mm)	7.94±1.91	7.95±2.02	+0.13% (p>0.05)
Neovascularisation grade (0-5)	2.43±1.48	2.31±1.54	-4.9% (p>0.05)
Echogenicity grade	2.07±0.58	0.93±0.69	-55% (p<0.05)
Relative Grayscale value	0.61±0.09	0.80±0.17	+31% (p<0.05)

Figure 3: Sonographic Variables

Conclusion

- Treatment resulted in clinically significant improvement.
- Randomised controlled trials are warranted to confirm these results and improve future management.

References

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2. Ryan M, Wong A, Taunton J. Favorable outcomes after sonographically guided intratendinous injection of hyperosmolar dextrose for chronic insertional and midportion achilles tendinosis. AJR Am J Roentgenol. 2010;194:1047-1053.