Clinical Cases

Case 1
A.H., a 37 yo triathlete came to our clinic, suffering from chronic left Achilles tendon insufficiency with an MRI proven partial tear of 18 months duration. Patient was refractory to conventional conservative care including - megahertz ultrasound, LASER, NSAIDs and 1 year of rest. A pre-treatment MRI revealed a 2.5cm partial tear of the tendon (fig 1 a, b). On initial evaluation, he was unable to walk, without discomfort. He started on a daily treatment regimen of the PainShield device; yielding a significant improvement within the first weeks. Interim MRI [after 5 months] shows near complete resolution of the partial tendon tear and significant reduction in local edema (fig 1c). He became pain and disability free, after 9 months of treatment.

Case 2
S.B, a 69 YO tour guide with an ultrasound confirmed painful 2cm extensor tendon [ECR] at the Elbow(fig 2), due to lifting heavy luggage, 29 months prior to his first visit to our service. He came to us, to avoid surgery, after failing to respond to maximal conservative treatment, which included multiple injections and traditional megahertz ultrasound.

The patient applied the PainShield to the tendon for about 3 hours of daily use for 6 months, followed by 1.5 hrs[ 3 x 0.5 hrs] daily for the 7th month.

Comparison of pre- and post treatment BPI measures showed a significant improvement in his condition, and indicated an 80% reduction in his overall pain, starting within the first weeks of PainShield treatment. Post-treatment diagnostic ultrasound study (fig 2) revealed near complete healing of the injured ECR tendon.

Case 3
O.S, a 32-year-old professional basketball player, described sudden onset pain in his left Achilles tendon, that occurred in the course of a game, 6 months prior to initial consultation with our treatment team, which failed to respond to maximal usual conservative care, including LASER and MHZ ultrasound. MRI performed 4 months after the injury, showed evidence of a partial tear of the left Achilles tendon. The patient remained symptomatic, with diminished power and endurance, which greatly affected his athletic performance, and resulted in his being completely sidelined from basketball, for 3 months after his injury.

We treated the patient with the PainShield device, for 8 hours daily overnight. Four days after starting this regimen, the patient had noted significant improvement. Three weeks after the nightly treatment , he reported to be completely free of any pain or disability related to Achilles tendon injury.

Conclusion

The presented therapeutic results of these case reports, and the significant body of basic science literature, showing many possible mechanisms of beneficial effects of ultrasound on painful tendinopathy, are important indications, that this novel, safe, practical, and economical FDA cleared technology definitely merits further study.