Dynamic Chiropractic

PRACTICAL RESEARCH

Treating Achilles Tendinopathy: Separating the Wheat From the Chaff

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As a clinical research director for numerous chiropractic clinics, I am asked to consult in some very interesting cases. A recent patient was a runner – and not just any runner; she was a former Olympic runner. After a thorough case history and examination, our working diagnosis was chronic mid-portion Achilles tendinopathy. The patient wanted our opinion on platelet-rich plasma injections for her condition.

In the past 30 years, the occurrence of Achilles tendinopathy has increased as a result of greater participation in recreational and competitive sporting activities. Achilles tendinopathy is a common condition, particularly in those who run. It is a chronic, activity-limiting syndrome defined by the presence of pain and thickening in the Achilles tendon. The lifetime prevalence of Achilles tendinopathy is 52 percent in former runners, and the annual incidence is 7-9 percent in current runners.[1]

Although Achilles tendinopathy may seem like relatively benign soft-tissue pathology, recovery often follows a prolonged time course, even with ideal treatment. At eight-year follow-up, 80 percent of patients are back to full physical activities; whereas 20 percent report that their physical activity is still impaired as a result of the Achilles tendinopathy. All patients can walk normally, but 6 percent cannot run normally.[2]

Platelet-Rich Plasma Injections: Research Tells a Cautionary Tale

Surgical management has a poor rate of success; thus, it is essential to ensure that the best conservative management is delivered in order to avoid surgery. Over the past decade, platelet-rich plasma has gained popularity in sports medicine and orthopaedics, but its efi¬?cacy in Achilles tendinopathy is unclear.

Platelet-rich plasma injections are thought to promote tendon repair by introducing a high concentration of growth factors (produced from whole blood) directly at the site of degeneration. Theoretically, this enhances regeneration and improves tendon healing by promoting revascularization of the surrounding tissues.

Previous evidence regarding the benefit of platelet-rich plasma has been limited because researchers have used poor research methods that produced clouded findings. Recently, two quality randomized clinical trials have carefully investigated the effects of platelet-rich plasma injections in patients with Achilles issues.

Kearney, et al., conducted a multi-center randomized clinical trial to assess the effects of a platelet-rich plasma injection, compared with sham injection, in patients with chronic mid-portion Achilles tendinopathy.[3] This trial included 240 people assigned to either a platelet-rich plasma injection or a sham injection (insertion of a subcutaneous dry needle). The research team used a validated measure that included pain and function scores (range: 0 [worst symptoms] to 100 [no symptoms]).

At six-month follow-up, pain and function values in the platelet-rich plasma group vs. the sham injection group were 54.4 vs. 53.4 (mean difference: -1.0). All secondary outcomes demonstrated no differences between groups. The results of this study were published in *JAMA* and demonstrated that platelet-rich plasma injection failed to do better than sham injection.

A research team also investigated the effects of platelet-rich plasma in patients with acute Achilles tendon rupture. Keene, et al., performed a randomized, sham-controlled, participant- and assessor-masked trial involving 230 adults to determine whether an injection of platelet-rich plasma improves outcomes after acute Achilles tendon rupture.[4]

No difference was detected between participants receiving platelet-rich plasma injections and those receiving sham injections for muscle tendon function (34.7 percent vs. 38.5 percent; adjusted mean difference -3.9%) or patient self-reported pain or function. The findings of this study were published in *BMJ* and found that injections of platelet-rich plasma failed to improve muscle tendon function, patient-reported function or quality of life after acute Achilles tendon rupture compared with sham injection.

A More Plausible Treatment Course

We could not endorse platelet-rich plasma injection for our patient with chronic mid-portion Achilles tendinopathy. Instead, we began a conservative package of care using three main strategies: Alfredson exercise protocols, low-level laser and shockwave. We found reasonable evidence supporting the benefit and safety of these interventions.

Alfredson exercise protocols have been endorsed in two systematic reviews for patients with Achilles tendinopathy.[6-7] A randomized clinical trial demonstrated benefit for low-level laser (class 3 B).[5] Another randomized clinical trial showed that Alfredson exercise protocols plus shockwave is more effective than Alfredson exercise protocols alone.[8]

Following the conservative course of treatment, our patient recovered and is once again running, but without Achilles pain. As health professionals, it is our obligation to champion those interventions that provide both benefit and safety. To do that, we must be able to critically assess popular therapies and separate the wheat from the chaff.

References

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