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Neuromusculoskeletal Ultrasonography

Treatment of Proximal Hamstring Tendinopathy in a Runner Using Ultrasound-Guided Needle Tenotomy: A Case Report

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Background

To date, there has not been a case report utilizing ultrasound-guided needle tenotomy (NT) for proximal hamstring tendinopathy (PHT). This case report's purpose was to describe the effects of ultrasound-guided NT with eccentric training and PRP injections for the treatment of PHT of a runner.

Case Presentation

The patient was a 58-year-old female presenting with a partial tear of the right proximal hamstring tendon diagnosed by diagnostic ultrasound. After limited improvement from initial PRP injections with an orthopedic surgeon in November of 2013, the patient was then re-evaluated and recommended ultrasound-guided NT plus PRP injections to the left proximal hamstring tendon in conjunction with specific stabilization exercises targeting the hip and lumbopelvic regions in April 2017.

Outcomes

The patient noted improvements in pain levels, patient specific functional scale (PSFS), and lower extremity functional scale (LEFS). The patient also improved in jogging and running performance, and improvement in strength after the introduction of ultrasound-guided NT to her plan of care.

Discussion

Proximal hamstring tendinopathy can be challenging to treat. In this patient's case, the use of ultrasound-guided NT in conjunction with PRP injections and eccentric loading provided pain reduction and improvement of functional independence. Further research is needed to determine the effectiveness of ultrasound-guided NT in combination with other interventions to determine their effectiveness for PHT.

BACKGROUND

According to recent research, tendon injuries have been estimated to be as high as 30% to 50% of all sports injuries and 50% of injuries to elite endurance runners. About 6% of sedentary people will experience a tendon injury, and proximal hamstring tendinopathy (PHT) is common in long-distance runners.[1,2] Current research demonstrates evidence that overuse, poor lumbopelvic stability, and relatively weak hamstring musculature contribute to PHT development.[3] Commonly noted symptoms include pain with prolonged sitting on hard surfaces, pain with forward trunk flexion, and pain with running, often noted during the swing phase.[4]

Ultrasound-guided needle tenotomy (NT) has been recently used as a successful treatment intervention for patients with tendinopathy.[5] Ultrasound-guided NT works by repeatedly inserting a needle into the damage tissue with the goal of transforming tissue that is in the chronic disease state, to an acute inflammatory process in order to bring blood flow to the area and promote healing of the previously damaged tissue.[5] Current literature points to safe, successful treatment in patients suffering with gluteal tendinopathy, achilles tendinopathy, and lateral

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