CLINICAL CASE REPORT

Treatment of a Thirty-one-year-old Male Soccer Player with Patella Tendinosis

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Patient History

A 31-year-old, high-level recreational soccer player presented with a history of anterior knee pain, and no comorbid conditions. He began developing intermittent pain 4 years ago but was able to play through the discomfort. Six months ago, pain progressed to a point where it not only inhibited participation, but made it difficult to perform simple tasks such as playing with his young children and carrying objects up the stairs. Daily average pain was 3-4/10, and up to 7/10 with activity.

Prior treatments had consisted of three separate rounds of physical therapy, the last involving an aggressive eccentric protocol. The patient had taken multiple anti-inflammatory drugs and two rounds of oral corticosteroids, which, initially, alleviated his symptoms enough to allow exercise but recently stopped providing any benefit.

Physical Examination

The gross examination of the knee revealed no abnormalities. There was no joint effusion, ligaments were stable, and there was no joint line tenderness.

The patient's gait was not demonstrably antalgic. On seated examination, the right knee showed a degree of fullness in the infrapatellar region compared to the left. There was tenderness of the patella tendon upon palpation, but no significant soft tissue crepitus. There was no erythema or warmth. Quadriceps strength was adequate although the tone and bulk was noted to be less on the affected side than on the unaffected side.

Ultrasound Evaluation

Musculoskeletal ultrasound evaluation using a high frequency linear probe was obtained (Figure 1). Longitudinal view revealed considerable diffuse thickening of the proximal tendon, with scattered areas of hypoechoic change and loss of normal fibular continuity. An irregular, central contiguous area of anechoic signal was observed, suggesting intrasubstance tear. In the transverse plane (Figure 2), extensive intra-substance changes, tendon thickening, and a central anechoic lesion were



Figure 1. Pre-procedure ultrasound in longitudinal view of the patella tendon. Note diffuse hypoechoic proximal thickening with intrasubstance tearing.



Figure 2. Pre-procedure ultrasound in transverse view. Note central anechoic lesion.

observed. There were no significant calcifications noted, and the bony acoustic signal from the inferior pole of the patella was unremarkable. There were no demonstrable changes in the Hoffa's fat pad.

Ultrasound-guided Tenotomy

The rationale, relative risks and benefits, and realistic expectations of ultrasound-guided tenotomy were described, and the patient consented to undergo the procedure. In the procedure room, after sterile preparation and application of sterile gel, a 3 mm stab incision was made 2 cm below the inferior pole of the patella. The TenJet[™] handpiece was inserted, and the tip was observed under direct visualization until it contacted the inferior pole of the patella. Sweeps were made from cranial-to-caudal as well as medial-to-lateral while gently rotating the probe to thoroughly explore the lesion. Short axis views were utilized to ensure adequate medial to lateral debridement.

At the end of the treatment and before the probe was extracted, the TenJet needle was repositioned inferior to the tendon in the transverse view to perform brisement of the Hoffa's fat pad away from the tendon. Short pedal activations were used to position the needle tangentially, and placement was checked in both short and long axis views. The needle was used to easily separate the tendon from the fat pad without a need for extensive activation of the device.

Post-procedure Instructions

Due to the size of this lesion, the patient was placed in a double hinge brace locked out at 30 degrees while awake for the first 2 weeks. Toe touch weight bearing with crutches was allowed for the first three days, then progressed as tolerated until the recheck visit. A small supply of tramadol was provided, which the patient stated he took twice on the 1st post treatment day, then OTC analgesics were sufficient.

Follow-up and Activity Progression

At the two-week follow up visit, there was the expected amount of local tenderness at the treatment sight, and the wound healed well with no local swelling. The patient was not using crutches and was tolerating full weight bearing with little discomfort. He had discontinued OTC analgesics. Pain was rated at 2-3/10. Progressive range of motion and strengthening plan was prescribed to follow over 4 weeks.

At the 8-week follow up visit, the patient was tolerating load-bearing exercise but had not yet started impact activity. Activity-related pain was reported to be 1-2/10. A progressive return-to-sport plan was initiated, with light jogging allowed.

At 12 weeks the patient began a gradual return to recreational soccer.



Figure 3.

Twelve-week ultrasound in longitudinal view demonstrates improved morphology with a more normal linear fibrillar pattern..



Figure 4.

Twelve-week ultrasound in transverse view illustrates an increased signal density and a decrease in the overall size of the intrasubstance tear.

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