Herniation Through the Quadriceps Tendon: A Case Report

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Abstract

Background: The patient is a 20 year-old women’s basketball player. She initially presented with pain of insidious onset on the superior border of her right patella. At this time there was a small, soft lump present on her distal quadriceps at the vastus lateralis tendon attachment. Upon initial evaluation by the athletic trainer, she had full range of motion, full strength and there were no remarkable findings. Neither the lump nor the pain resolved with conservative treatment. An MRI showed no remarkable findings. After surgical intervention, she has made a full recovery.

Differential Diagnosis: Ganglion cyst, suprapatellar bursa inflammation, quadriceps tendon inflammation, partial quadriceps tendon tear, meniscus injury, tumor.

Treatment: After the initial evaluation, the patient was treated conservatively with ice, NSAIDs and E-Stim. Pain relief was minimal following one month of treatment; therefore a physician administered corticosteroid was injected into the prepatellar bursa. The injection helped to relieve the pain for about three weeks before the pain returned. On physician exam, the lump was still present but not as tender. There were still no remarkable findings. Under physician instruction, she continued conservative treatment with the addition of ASTYM, iontophoresis, and prone stretching under the supervision of an athletic trainer. Following the season, the patient continued to present with symptoms and underwent an MRI, which showed some increased signal in the medial meniscus posterior horn extending into the body but it did not meet the criteria for a tear. Cruciate ligaments, collateral ligaments and extensor tendons were intact. Six months after the initial evaluation by the athletic trainer, exploratory surgery was recommended by the physician for a definitive diagnosis. The preoperative diagnosis was right anterior knee pain with a small mass on the distal quadriceps. Postoperative diagnosis was herniation of tissue through the fibers of the distal quadriceps tendon. The mass was identified as a non-specific dense fibrous tissue with surrounding fibroadipose tissue and nerve. The defect was very small (0.7 cm) and the mass was removed. Following surgery, the patient was to do activities as symptoms allowed, focusing on weight-bearing, range of motion and quadriceps control and strengthening. She was to incorporate closed kinetic chain and functional activities as tolerated. There were no complications and the patient was able to return to activities eight weeks following surgical intervention.

Differential Diagnosis

• Ganglion cyst, suprapatellar bursa inflammation, quadriceps tendon inflammation, partial quadriceps tendon tear, meniscus injury, tumor.

Treatment

• Initial treatment was conservative and consisted of ice, NSAIDs and E-Stim.
• Following physician evaluation, a corticosteroid was injected into the prepatellar bursa after one month of ineffective pain relief.
• Physical therapy visits included ASTYM, iontophoresis, and prone stretching.
• An MRI showed some increased signal in the medial meniscus posterior horn, with no tear; cruciate ligaments, collateral ligaments and extensor tendons were intact.
• Exploratory surgery was recommended.
• Preoperative diagnosis: right anterior knee pain with a small mass on the distal quadriceps.
• Postoperative diagnosis: herniation of tissue through the fibers of the distal quadriceps tendon.
• Identified as a small (0.7 cm) non-specific dense fibrous tissue with surrounding fibroadipose tissue and nerve.
• Following surgery, activities were done as symptoms allowed.
• There were no complications; return to full activity eight weeks following surgery.

Uniqueness

• There is one case report regarding herniation of the patellar fat pad through the patellar tendon after autologous bone-patellar tendon-bone ACL reconstruction.

Conclusions

• This is a very rare case and there is very limited research on this topic. Athletic trainers need to always be aware of different injuries and conditions that can be present in athletes.
• This case may not change clinical practice but it informs athletic trainers of a very rare condition and effective treatment.

References


Clinical Significance

• Seeing as the patient had no set backs, the correct steps were taken to provide her with the best possible outcomes. An MRI was not done earlier because the patient was able to do the activities required to participate on the basketball team.