[Orthopaedic Surgery]

Medial Knee Pain in a Runner: A Case Report

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A 41-year-old female runner presented to the sports medicine clinic for evaluation of bilateral medial knee pain, left greater than right. Physical examination demonstrated tenderness to palpation over the central aspect of the medial collateral ligament. Anteroposterior and lateral standing knee films were unremarkable. The patient received a corticosteroid injection over the tibial collateral ligament bursa with resolution of symptoms within 2 weeks. There have been few documented case reports of this type of injury in patients with knee pain. Prompt diagnosis and appropriate definitive treatment are important to establish to provide maximum recovery and minimize long-term disability, which may include chronic refractory pain during aggravating activities.

Keywords: tibial collateral ligament bursa; bursitis; knee pain

The bursa found deep to the tibial collateral ligament was first described by Brantigan and Voshell in 1943.² Five principal locations were described (Figure 1): between the ligament and capsule, superior and unrelated to the medial meniscus, often extending toward the medial epicondyle; between the ligament and the superior portion of the medial meniscus; directly over the meniscus; inferior to the meniscus; and between the ligament and tibia. It has also been described in the literature to simulate a meniscus tear. Jackson and Waugh⁴ stated that when the bursa underneath the tibial collateral ligament becomes inflamed, it may present as a meniscus tear.

Medial joint line pain is a common entity seen in a sports medicine practice. The differential diagnosis for anyone presenting with it should include medial collateral ligament sprain, medial compartment degenerative joint disease, medial meniscal tear, proximal pes anserine tendonitis, medial plica syndrome, and tibial collateral ligament bursitis. An extensive workup may be required to make the diagnosis, including a thorough history and physical examination, as well as other diagnostic testing.

CASE REPORT

A 41-year-old female recreational runner presented to the sports medicine clinic for evaluation of bilateral knee pain. She had been seen for patellofemoral pain and had responded to appropriate therapy. Over the past 2 to 3 months, however,

Figure 1. The principal locations of the tibial collateral ligament bursa are between the ligament and the superior portion of the medial meniscus, directly over or inferior to the meniscus, and between the tibial collateral ligament and tibia.

as she attempted to return to running, she experienced a return of symptoms. She reported that pain was greater in the left knee. Her primary care physician had referred her to physical therapy. After 2 months of physical therapy, she was still unable to return to her desired running activity. Pain was

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localized to the medial aspect of the left knee. The patient denied trauma, swelling, limitation in range of motion, and mechanical symptoms. Her medical history was significant for patellofemoral pain. She did not have any surgical history. Her medications included ibuprofen, as needed for pain. There was a family history significant for hypertension. She was married and denied any tobacco, alcohol, or illicit drug use. Her review of systems yielded negative findings, other than her knee pain, left greater than right.

Physical examination revealed a well-developed woman in no acute distress. The left knee was without effusion. Results for the Lachman test, apprehension, and the posterior drawer test were negative. There was lateral patellar facet tenderness. Forced flexion produced no increased pain. McMurray testing yielded negative results. Hamstring flexibility was noted to be adequate. The hips had a full pain-free range of motion. There was a marked weakness of internal and external rotation as well as abduction on the left. Ligamentous testing at 0° and 30° with varus and valgus stress was pain-free and stable. Resistance to abduction, knee flexion, and internal and external rotation of the hip produced no increased pain. There was tenderness to palpation over the central aspect of the medial collateral ligament as it crossed over the joint line. Findings from the distal neurovascular exam were normal. There were no signs of injury, and the remainder of her physical examination yielded normal findings as well.

Plain radiographs of the left knee were obtained in the clinic. Standing anteroposterior and lateral views (Figure 2) demonstrated no joint effusion or other osseous injuries.

Because the patient had localized tenderness over the tibial collateral ligament bursa, the thought of a corticosteroid injection was entertained. The risks and benefits of this procedure were explained, and she agreed to have the injection. The medial aspect of the left knee was prepped and draped under sterile conditions. A mixture of 1 mL of betamethasone and 2 mL of 1% lidocaine was injected into the bursa. The patient tolerated the procedure well, with no complications noted (Figure 3).

She was to continue with physical therapy for quadriceps and hip progressive resistance exercises and hamstring flexibility with progression to full running. She was seen in the sports medicine clinic 2 weeks later, at which time her left medial knee pain resolved. Approximately 6 weeks later, during her follow-up visit, she was back to running with resolution of her patellofemoral pain and hip weakness.

DISCUSSION

Tibial collateral ligament bursitis should be a diagnosis considered in any patient with medial joint pain. It was initially described in 1943 by Brantigan and Voshell² and more recently by Kerlan and Glousman.⁵ Their diagnosis was based on tenderness over the tibial collateral ligament at the joint

Figure 2. Plain radiographs of the left knee. Standing anteroposterior (A) and lateral (B) views revealed no joint effusion or other osseous injuries.

line without a history of mechanical symptoms: 62% of their patients improved with a cortisone injection into the tibial collateral ligament bursa and required no further treatment; 23% of the patients had persistent symptoms and therefore underwent arthroscopic partial medial meniscectomy with resolution of symptoms.³

Tibial collateral ligament bursitis should be considered a diagnosis of exclusion with anyone presenting with medial knee pain. It can occur in isolation or may be associated with

Figure 3. Corticosteroid injection over the tibial collateral ligament bursa.

other more common conditions of the knee (ie, patellofemoral pain syndrome). The point of confusion for this entity is the anatomical proximity to the medial meniscus.^{1,2} Inflammation

of other bursae about the knee, such as the prepatellar and pes anserinus, are well known and thus often treated.⁵

Many patients may be undergoing arthroscopic surgery only to reveal a normal meniscus, a meniscus with stable degeneration, or early chondromalacia.³ These patients may benefit from a onetime injection of a corticosteroid into the tibial collateral ligament bursa. Understanding the anatomy and procedure technique is prudent in making and treating this diagnosis. The injection can be both a diagnostic and a therapeutic modality with resolution of symptoms and return to preinjury activity levels.

REFERENCES

1. Brantigan OC, Voshell AF. The mechanics of the ligaments and menisci of the knee joint. *J Bone Joint Surg Am.* 1941;23:44-66.
2. Brantigan OC, Voshell AF. The tibial collateral ligament: its function, its bursae, and its relation to the medial meniscus. *J Bone Joint Surg Am.* 1943;25:121-131.
3. Insall J. *Surgery of the Knee.* New York, NY: Churchill Livingstone; 1984.
4. Jackson JP, Waugh W. *Surgery of the Knee Joint.* Philadelphia, PA: JB Lippincott Co; 1982.
5. Kerlan RK, Glousman RE. Tibial collateral ligament bursitis. *Am J Sports Med.* 1988;16:344-346.

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