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Proximal Iliotibial Band Syndrome, A Rare Diagnosis of Lateral Thigh Pain in A Nonathlete: A Case Report

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Background: Iliotibial band syndrome (ITBS) is typically associated with and commonly presents as distal knee pain, particularly in athletes. Proximal ITBS is a rare and underrecognized condition, especially in nonobese, nonathletic individuals.

Case Report: We report the case of a 42-year-old woman with complaints of 6 months of progressive lateral hip and thigh pain. Clinical signs included tenderness over the iliac tubercle, and positive flexion, abduction, and external rotation and Ober's tests. Musculoskeletal ultrasound and magnetic resonance imaging confirmed proximal ITB inflammation and associated greater trochanteric bursitis. Conservative measures offered partial relief; however, the patient was treated with an ultrasound-guided steroid injection and provided complete resolution.

Conclusions: Proximal ITBS, though rare, should be considered in cases of lateral hip/thigh pain, even in nonathletes. Early imaging and interventional management can significantly improve outcomes and prevent chronicity.

Key words: Proximal ITBS, lateral thigh pain, steroid injection

BACKGROUND

Overuse or frictional injuries have been frequently found in sportspersons (1). Iliotibial band syndrome (ITBS) is a condition widely diagnosed as a cause of lateral knee pain, particularly amongst runners, giving it its eponym—runner's knee (2). However, proximal ITBS is an interesting and uncommon diagnosis of lateral hip or thigh pain and is rarely considered in nonathletes.

The ITB is a long fibrous sheath that traverses the lateral thigh and is an important structure when it comes to the motion and stability of the lower extremity. The fascia lata has an insertion on the lower border of the iliac crest with a thickening at the iliac tubercle—the proximal attachment of ITB. There are significant discrepancies found in the description of the proximal origin of ITB in the literature—contributions from the tensor fascia lata, gluteus muscles have been theorized and found in cadaveric studies (3). The ITB inserts on Gerdy's tubercle at the proximal tibia, and it is here that it manifests as lateral knee pain commonly seen in athletes (4).

While distal ITBS is a well-documented condition, its proximal counterpart remains underrecognized and often misdiagnosed, leading to delayed and inappropriate management. Our case report highlights an uncommon presentation of proximal ITBS in a nonathlete, emphasizing the importance of thorough clinical assessment, and the role of ultrasonography (USG) in arriving at a definitive diagnosis of musculoskeletal conditions. What the mind does not know, the eyes do not see. The diagnostic approach to proximal ITBS in nonathletes often starts with a comprehensive clinical evaluation,

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involving a detailed history of the patient's symptoms, activity levels, and any potential inciting factors. Physical examination typically incorporates a multifaceted assessment, starting with precise palpation along the ITB's course as it inserts onto the iliac crest, probing for localized tenderness, crepitus, or palpable thickening, which can indicate inflammation or irritation. The clinician may also assess the patient's gait pattern, observing for any compensatory mechanisms or abnormalities that could contribute to ITB dysfunction.

Through this case, we aim to contribute to the growing body of literature and encourage clinicians to consider proximal ITBS as a potential differential diagnosis of unexplained lateral hip or thigh pain, even in patients who are not sportspersons.

CASE PRESENTATION

A 42-year-old woman presented to the Physical Medicine & Rehabilitation Outpatient Department of our institute with complaints of pain in the lateral aspect of the right hip and thigh for the past 6 months. The pain exacerbated over the last 5 days as she engaged in some physically strenuous activity at home. The pain increased on sitting cross-legged, squatting, and was associated with stiffness and vague heaviness in the right leg. There was no history of paresthesia, nocturnal exacerbation, nor perceived motor or sensory weakness in any of her lower limbs. The patient was a hospital assistant by profession and was not involved in any professional or recreational sports. On clinical examination, there was tenderness (Grade 3) over the iliac tubercle, greater trochanter, and lateral aspect of the proximal thigh. Right hip flexion (active and passive) was painful beyond 45° in the sitting and supine positions. Right active straight leg raise, flexion, abduction, and external rotation, and Ober's tests were positive. Resisted flexion of the right hip was painful; however, there was no motor or sensory deficit bilaterally. Deep tendon reflexes were comparable on both sides. Examination of the lower back, knee, and ankle was within normal limits.

Routine blood investigations and x-rays of the pelvis with both hips were ordered, which were not suggestive of any abnormality (Fig. 1). A musculoskeletal USG (MSK USG) screening was done for the painful region, which revealed greater trochanteric bursitis, altered echotexture of the proximal insertion of ITB, thickened ITB at upper thigh, and a noncompressible, 1 cm x 1 cm cystic formation with hypoechogenicity in the proximal ITB with some evidence of neovascularization. A magnetic resonance imaging (MRI) of the right hip with screening of the lateral thigh confirmed the USG findings and demonstrated mild thickening with focal short tau inversion recovery (STIR) hyperintensity noted at proximal ITB along the lateral aspect of the greater trochanter of the right femur with edema in the trochanteric bursa. Focal STIR hyperintensity noted at the posteromedial aspect of proximal right vastus lateralis at its osseous insertion. MRI report yielded an impression of proximal ITB friction syndrome secondary to greater trochanteric bursitis, focal cystic lesion in proximal ITB 5 cm distal to greater trochanter—early ganglion cyst, with right vastus lateralis muscle strain along its posterolateral aspect (Fig. 2).

A diagnosis of greater trochanteric bursitis with secondary proximal ITBS was made. The patient was started on ultrasonic therapy over the right proximal ITB for 5 days, gentle hip range-of-motion exercises (as tolerated), seated hip flexors and abductors stretching exercises, and hot water fomentation/moist heat therapy at home. She was also given a proteolytic enzyme formulation for 5 days and an analgesic on an as-needed basis. The patient followed up with symptomatic relief up to 30%. She was planned for right trochanteric bursa steroid injection and peritendinous steroid infiltration over the proximal insertion of ITB. The area was aseptically prepared, and a local anesthetic was administered prior to injection. A drug admixture containing 1 mL 40 mg triamcinolone with 2 mL 2% lignocaine was injected in the greater trochanter bursa and over the proximal insertion of ITB under USG guidance (Fig. 3). The patient withstood the procedure well with no postprocedural adverse events. There was complete pain relief after the procedure and a 3-month follow-up. The patient resumed prescribed exercises after 2 days of procedure, which progressed to strengthening exercises gradually (Table 1). A written informed consent for publication of this case report and relevant images was obtained from the patient.

CONCLUSIONS

Proximal ITBS can manifest even in nonathletes, but its prevalence and characteristics in this group are not explored enough, as most studies focusing on ITBS include athletic cohorts. Its occurrence in moderately active or sedentary individuals remains undefined. Clinical features of proximal ITBS in both populations are pain and tenderness over lateral aspects of the hip and thigh, which might radiate down the mid-thigh at

times. Pain is exacerbated by repetitive hip movements or prolonged sitting (5). Proximal ITBS may mimic other conditions, such as greater trochanteric bursitis or lumbar radiculopathy, thus posing diagnostic challenges (6). Increased ITB thickness at its proximal attachment/origin can be described as a cause of snapping hip and greater trochanteric pain syndrome (GTPS). Increased ITB thickness and GTPS (often secondary to bursitis) frequently form a vicious cycle with one exacerbating the other (7,8).

Our case is unique as our patient was neither overweight/obese nor an athlete and yet presented with this condition. Proximal ITBS poses a diagnostic challenge and can be confused with a presumed hip-related pathology or lumbar radicular pathology. We have highlighted the role of MSK USG in promptly diagnosing this condition, leading to a decreased time gap between diagnosis and management. Proximal ITBS, though uncommon and often misdiagnosed, should be considered as a potential differential diagnosis in cases of lateral hip or thigh pain with unclear etiology. Early recognition and targeted management can significantly improve patient outcomes and prevent chronicity.

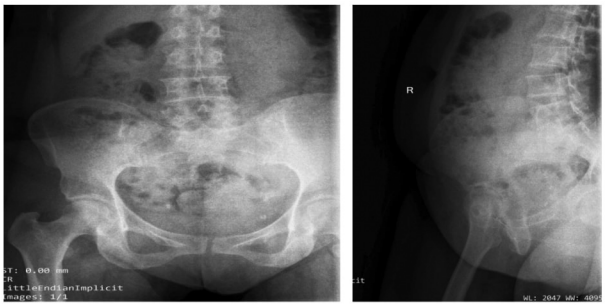

Fig. 1. X-ray images of the right hip with pelvis showing no bony abnormality.

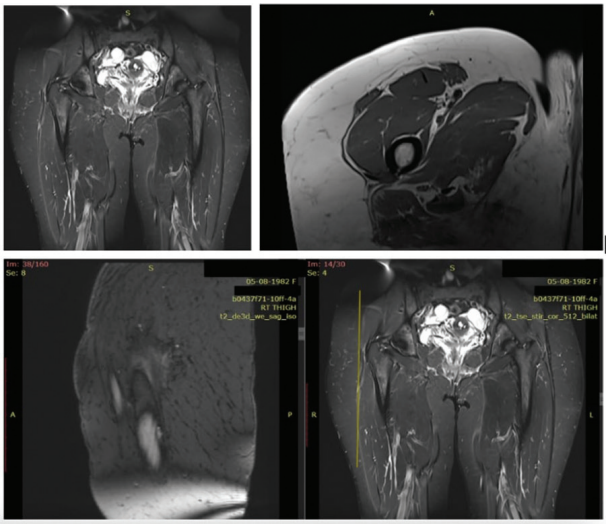

Fig. 2. MRI images of the patient suggestive of right ITB thickening and greater trochanteric bursitis with tiny cyst formation suggestive of likely ganglion cyst formation. ITB, iliotibial band; MRI, magnetic resonance imaging.

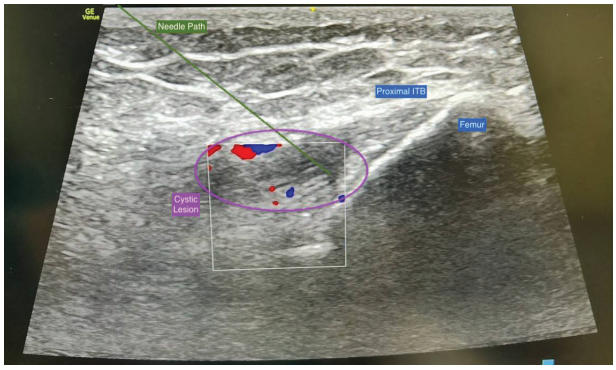

Fig. 3. USG image of the procedure performed. USG, ultrasonographic; ITB, iliotibial band.

Table 1. Timeline for case diagnosis and management.

Day / Date	Event / Action
Day 0	Onset of lateral hip and thigh pain after physical exertion
Day 150	First outpatient visit—conservative treatment with therapeutic exercises prescribed and imaging ordered
Day 155	MSK USG and MRI confirm proximal ITBS
Day 160	Ultrasound-guided corticosteroid injection performed
Day 162	Prescribed exercises were resumed
Day 250	Complete pain relief at follow-up; rehab continued

Abbreviations: MSK USG, musculoskeletal ultrasonography; MRI, magnetic resonance imaging; ITBS, iliotibial band syndrome.

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