

## BACKGROUND

The etiology of pain emanating from the lateral hip region can often be difficult to isolate to a specific structure. Greater trochanteric pain syndrome (GTPS), formally known as trochanteric bursitis, is the preferred term to describe pain that appears to be localized more to the gluteus medius and minimus muscles and tendons and less likely to the bursa.<sup>1</sup> GTPS affects 1.8 per 1000 individuals being more prevalent in woman in the 40-60's age range.<sup>1-2</sup> The etiology of GTPS is unknown and many intrinsic and extrinsic causes have been proposed. Many clinicians fail to recognize the cause of lateral hip pain being due to tendinopathy rather than trochanteric bursitis.<sup>1,2</sup>

## CASE DESCRIPTION

A 68-year-old male physical therapist experienced an insidious onset of moderate right lateral hip and intermittent groin pain for 3 months. The pain was exacerbated with climbing stairs, rising from a low chair, laying on the right side, and crossing the right over left leg. There were no radiating symptoms below the knee or sensory changes in the extremity. The initial differential diagnoses included trochanteric bursitis, hip arthrosis, gluteal tendinopathy and less likely an occult osseous lesion.

## PHYSICAL THERAPY EXAM

The physical therapy examination cleared the lumbosacral spine as a cause of the symptoms. The right hip demonstrated normal motion and minimal discomfort when palpating the posterolateral hip region. Hip scouring and the flexion, abduction, external-rotation tests were negative. Ober's test was positive. The 30 second single leg stance test thought to support the presence of GTPS was negative. The resisted external de-rotation test that has been postulated to be more sensitive and specific for greater trochanteric pain syndrome (GTPS) reproduced the symptoms.<sup>3</sup> Being an active test that limits the compressive effects of the ITB over the greater trochanter and bursa, led to the assessment of GTPS.

## IMAGING



FIGURE 1. Anteroposterior radiograph demonstrating peri-trochanteric soft tissue calcifications (long arrows) and hamstring calcifications about the right ischial tuberosity (broken arrow)



FIGURE 2. Frog-leg lateral radiograph showing a chronic insertional enthesopathy versus calcific tendinopathy along the ischial ramus at hamstring muscle attachments (broken arrow).

## MANAGEMENT and OUTCOME

Three months of self-directed therapy consisting of pain-free stretching and resistive exercises targeting the posterolateral hip musculature produced minimal improvement and led him to request imaging through his primary care physician. The imaging revealed soft tissue calcifications present about bilateral greater trochanters, larger on the right (FIGURE 1). Also noted were calcifications adjacent to the ischial tuberosities (FIGURES 1 & 2), however here were no symptoms of hamstring or adductor tendinopathy. The radiologist's interpretation was calcific tendinopathy either secondary to an injury or from hydroxyapatite deposition disease (HADD). Orthopedic referral was offered, but the patient opted for continued conservative care with modified symptom guided stretching and positioning to limit pressure and tensile forces on the posterolateral structures. Open and closed chain hip strengthening exercises were performed within tolerance with a progressive walking program and graded return to previous aggravating activities. Symptoms resolved in 4 months.

## DISCUSSION

Calcific tendinopathy due to periarticular hydroxyapatite crystal deposition is a common finding in GTPS.<sup>4</sup> The pathogenesis of HADD is poorly understood but believed to migrate through pre-calcific, calcific, and post-calcific phases. This process is typically self-limiting and improves with conservative care with eventual resorption of the calcium deposits, tissue repair and remodeling. When refractory to conservative care, steroid injection, surgical removal, ultrasonic ablation, and needle barbotage to calcific deposits are treatment options.<sup>4,5</sup>

## CONCLUSION

GTPS is a common hip disorder that is often misdiagnosed as trochanteric bursitis. As in this case, the primary cause of GTPS is gluteal tendinopathy and while the trochanteric bursa may also be involved, it is typically not the primary culprit causing the lateral hip pain. Conservative care with patient education and physical therapy interventions addressing the impairments typically leads to resolution of symptoms.

## REFERENCES

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