

## A 96-year-old woman presented with a 4-week history of atraumatic right leg pain.

### Case

A 96-year-old woman with a medical history of sciatica, vertigo, osteoporosis, and dementia presented with atraumatic right leg pain. She stated that the pain, which began 4 weeks prior to presentation, started in her right groin. The patient's primary care physician diagnosed her with tendonitis, and prescribed acetaminophen/codeine and naproxen sodium for the pain. However, the patient's pain progressively worsened to the point where she was no longer able to ambulate or bear weight on her right hip, prompting this visit to the ED.

On physical examination, the patient's right hip was tender to palpation without any signs of physical deformity of the lower extremity. Upon hip flexion, she grimaced and communicated her pain.

Radiographs and computed tomography images taken of the right hip, femur, and pelvis demonstrated low-bone mineral density without fracture. Based on these findings, a magnetic resonance imaging (MRI) was ordered; representative images are shown (Figures 1a-1c).

### What is the diagnosis?

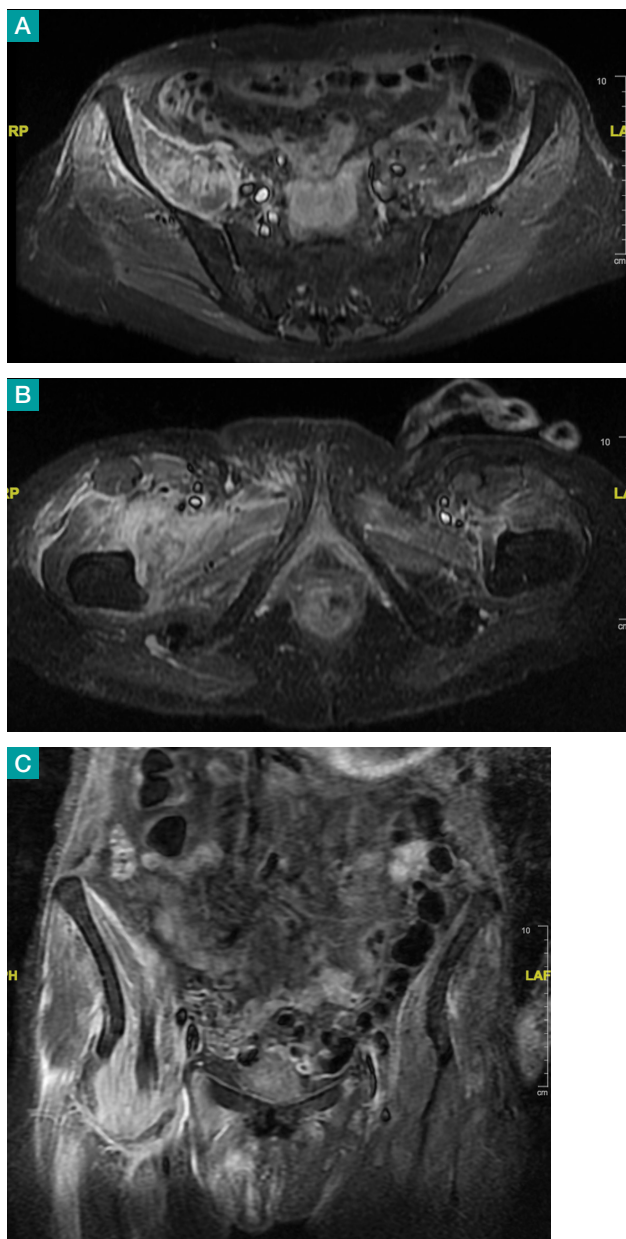


Figure 1

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■ Answer

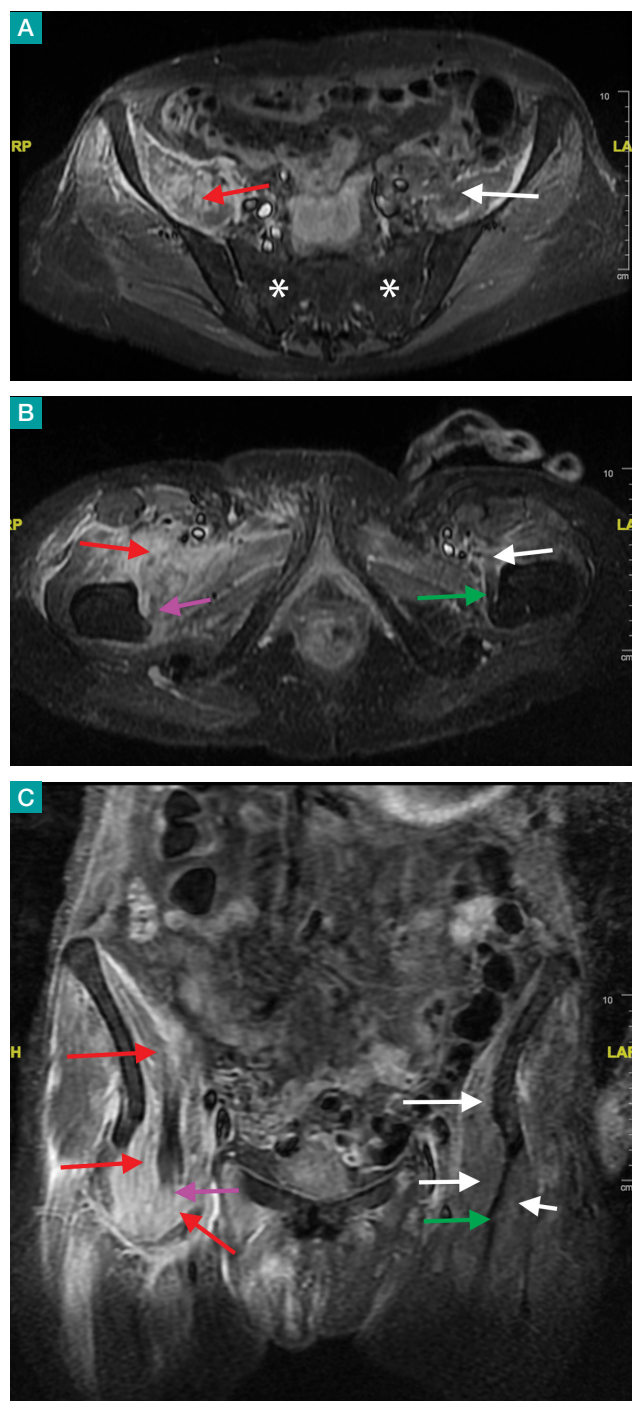


Figure 2

Axial and coronal edema-sensitive images of the pelvis demonstrated edema (increased signal) within the right psoas, iliacus, and iliopsoas muscles (**red arrows, Figures 2a-2c**), which were in contrast to the normal pelvic muscles on the left side (**white arrows, Figures 2a-2c**). The MRI studies also demonstrated a torn right iliopsoas tendon (**magenta arrow, Figures 2b and 2c**) in contrast to the normal left tendon (**green arrow, Figures 2b and 2c**). The sacrum was noted to be normal in signal (**white asterisks, Figure 2a**).

#### Iliopsoas Musculotendinous Unit

The iliopsoas musculotendinous unit consists of the psoas major, the psoas minor, and the iliacus, with the psoas minor absent in 40% to 50% of cases.<sup>1,2</sup> The iliacus muscle arises from the iliac wing and inserts with the psoas tendon onto the lesser trochanter of the femur. These muscles function as primary flexors of the thigh and trunk, as well as lateral flexors of the lower vertebral column.<sup>2</sup>

#### Signs and Symptoms

In non-sports-related injuries, iliopsoas tendon tears typically occur in elderly female patients—even in the absence of any trauma or known predisposing factors. Patients with iliopsoas tears typically present with hip or groin pain, and weakness with hip flexion, which clinically may mimic hip or sacral fracture. An anterior thigh mass or ecchymosis may also be present. Complete tear of the iliopsoas tendon usually occurs at or near the distal insertion at the lesser trochanter, and is often associated with proximal retraction of the tendon to the level of the femoral head.<sup>1</sup>

#### Imaging Studies

Iliopsoas tendon injury is best evaluated with MRI, particularly with fluid-sensitive sequences. Patients with iliopsoas tendon tears have abnormal signal in the muscle belly, likely related to edema and hemorrhage, and hematoma or fluid around the torn tendon and at the site of retraction. In pediatric patients, iliopsoas injury is typically an avulsion of the lesser trochanter prior to fusion of the apophysis.<sup>3,4</sup> In adult patients with avulsion of the lesser trochanter, this injury is regarded as a sign of metastatic disease until proven otherwise.<sup>5</sup>

### Treatment

Patients with iliopsoas tendon rupture are treated conservatively with rest, ice, and physical therapy (PT). Preservation of the distal muscular insertion of the lateral portion of the iliacus muscle is thought to play a role in positive clinical outcomes.<sup>3</sup>

The patient in this case was admitted to the hospital and treated for pain with standing acetaminophen, tramadol as needed, and a lidocaine patch. After attending multiple inpatient PT sessions, she was discharged to a subacute rehabilitation facility.

### References

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