

Synovial cyst causing severe spinal stenosis in a patient with alpha-1 antitrypsin deficiency

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INTRODUCTION

- Synovial cysts of the lumbar spine can be an underrecognized cause of back or hip pain. They are benign growths that may arise from facet joint degeneration and lead to significant nerve root compression, neuroforaminal or central canal stenosis.
- Patients with alpha-1 antitrypsin (A1AT) deficiency are more prone to systemic inflammation and are limited in certain treatment options due to contraindications to certain medications.
- We present a case of a patient with A1AT deficiency and worsening hip pain found to have a large left-sided lumbar synovial cyst causing spinal canal stenosis.

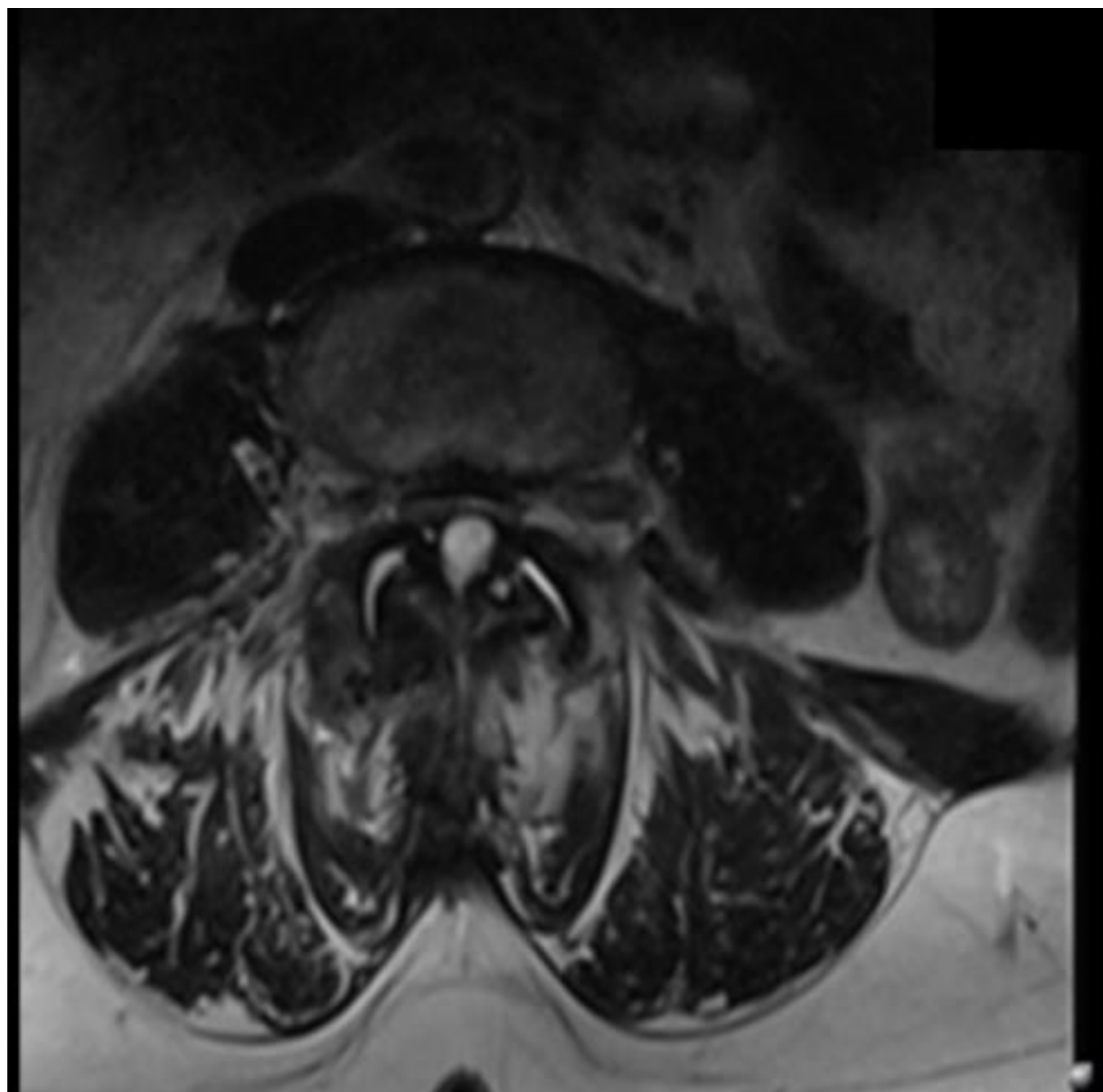
CASE DESCRIPTION

- 72-year-old female with a past medical history of alpha-1 antitrypsin deficiency and osteoporosis presented to a sports medicine clinic with six months of worsening left gluteal and lateral thigh pain.
- The pain rarely radiated below the knee and was exacerbated by twisting motions and hip flexion. She denied any numbness, tingling, or lower extremity weakness. Over-the-counter analgesics had provided minimal relief as she had to limit the use of NSAIDs due to her A1AT deficiency. She was physically active before the pain started and had to stop her physical activity due to the pain.
- Physical exam revealed tenderness in the left gluteal region and pain with resisted hip flexion. Otherwise, the physical exam was normal.
- Differential diagnosis included piriformis syndrome, lumbar radiculopathy, spinal stenosis, ischiogluteal bursitis, and stress fracture of the hip or pelvis.
- *The patient provided informed consent for the procedure and for case publication.*

Image 1 - Sagittal



Image 2 - Axial



DIAGNOSIS & MANAGEMENT

- MRI of the lumbar spine (Images 1 and 2) revealed a large synovial cyst within the left subarticular recess at L4-L5 resulting in severe spinal canal stenosis.
- The patient was referred to pain management and underwent an L4-L5 facet joint injection with aspiration of the synovial cyst.
- She reported complete pain relief for five days, with recurrence of symptoms over the subsequent 10 days. Given symptom recurrence and comorbid limitations, the patient continued conservative management, including physical therapy and home exercises.

DISCUSSION

- This case highlights the diagnostic challenge of differentiating musculoskeletal from neurologic sources of hip and gluteal pain.
- Synovial cysts can be found incidentally or cause neurological symptoms when large enough. Management includes conservative therapy, image-guided aspiration, or surgical excision.
- In this case, aspiration provided short-term relief but was not curative. The presence of A1AT deficiency further complicated pharmacologic options, requiring a more comprehensive and individualized treatment plan to manage this patient's pain.

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