

CHIEF COMPLAINT

5 Weeks of Atraumatic Lower Back Pain

CASE PRESENTATION

History of Present Illness:

This is a 33yo male with no PMH presents to the ED with 5 weeks of lower back pain. The patient states that his pain started gradually after a series of mountain bike rides. The patient has been trying to manage his pain with tylenol, ibuprofen, lidocaine patches, muscle relaxants, and recently completed a SoluMedrol dose pack without significant improvement in his symptoms. The patient describes his pain as 10/10. It is worse with standing, relieved by laying flat, lumbar in location and states the pain radiates down the back of both legs to his ankles. The patient states that last night, his pain acutely worsened and had muscle spasms, woke him from sleep. He noted an episode of foot drop one day prior to presentation. This morning he woke up with saddle anesthesia and priapism which resolved over 45 seconds when he sat up leaned forward. The patient states that his pain is currently 10/10 in severity. Patient denies any current bladder or bowel incontinence, saddle anesthesia, priapism, fevers, falls or ataxia. Patient denies any history of trauma, recent weight loss, cancer, epidural abscess, immunocompromised status, intravenous drug abuse, or bacteremia. Denies any chronic medications or allergies.

Physical Exam:

BP 125/82 | Pulse 91 | Temp 98.4 °F | Resp 15 | SpO2 99%

Constitutional: A&Ox4, appears uncomfortable secondary to pain but does not appear ill or in distress.

Skin: Warm and well perfused. No Rashes

Neck: Soft, supple, no cervical midline tenderness.

Cardiovascular: Intact distal pulses. No S3/S4, no distant heart sounds, friction rub, or murmurs.

Pulmonary/Chest: No respiratory distress, tachypnea, accessory muscle usage, stridor, abnormally decreased breath sounds, wheezes, rhonchi, or rales.

Chest Wall: Nontender to palpation.

Abdominal: Soft. Non-tender, no distention or masses.

Musculoskeletal: No edema of the b/l lower extremities. No rashes. 2+ DP/PT pulses. 5/5 Motor strength of the b/l lower extremities. No sensory deficits. +2 patellar and achilles reflexes

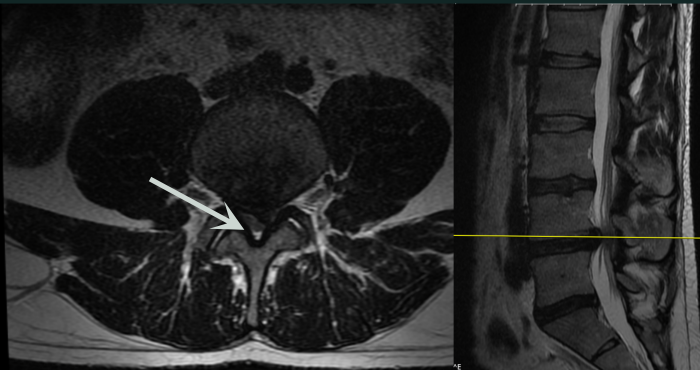
Back: Reduced lumbar lordosis. Mild midline lumbar tenderness over L4/ L5. Positive straight leg test bilaterally.

Neuro: Intact. Moving all four extremities symmetrically, spontaneously and following commands.

Significant Diagnostic Results:

WBC 10.2 | H/H 13.9/38.7 | Electrolytes all WNL | PT/INR/PTT: 13.4/1.04/24.8

IMAGING



Impression:

At L4-L5, a large symmetric disc bulge with a superimposed left paracentral protrusion results in severe central canal and left lateral recess stenosis with complete CSF effacement and mass effect on traversing cauda equina nerve roots.

There is associated ill-defined segmental enhancement of the compressed cauda equina nerve roots at this level, which could reflect associated subacute ischemia or venous congestion.

Diagnosis: Spinal stenosis, lumbar region with neurogenic claudication

CASE DISCUSSION

This 33-year-old male with no past medical history presented to the ED with 5 weeks of lower back pain.

The patient is otherwise a healthy and active individual which may lead a clinician to minimize the patient's complaints as well as the patient's normal physical exam with the exception of some mild midline tenderness. However, the bilateral nature of the patient's complaints, radiation below the knee, positive straight leg raise, and transient saddle anesthesia and foot drop were of concern. Furthermore, the patient has not responded as expected to conservative therapy with oral medications. An emergent MRI was obtained that revealed severe lumbar stenosis with a herniated disc causing compression of the cauda equina. The MRI also revealed subacute ischemia / venous congestion of the nerve roots consistent with the patient's symptoms of claudication. The patient was brought emergently to the OR. Fortunately, all of the patient's symptoms resolved after definitive treatment of the central disc herniation with decompressive surgery. The author returned to work as an emergency medicine resident six weeks post-operatively.

QUESTIONS

1. What concerning symptoms or "red flags" of atraumatic lower back pain does this patient have, if any? How do you explain the transient nature of the patient's most concerning symptoms?
2. Do you think this patient warrants advanced imaging? What additional pharmacologic treatments would you give this patient while in the ED? What is the ultimate disposition of this patient?

ANSWERS

1. While the patient is not of the age nor does he have any of the classic social history features of concerning back pain, an astute physician should recognize that the presence of bilateral symptoms and pain radiating below the knee as concerning. The patient also reported transient saddle anesthesia, priapism and single episode of foot drop that should also be concerning to the ED provider although the patient is not currently experiencing these symptoms. The transient nature of the patient's symptoms can be explained by neurogenic claudication of the nerve roots while the patient was laying in extension.
2. The patient should receive an immediate dose of Decadron as well as parenteral pain control during evaluation for acute spinal cord compression. An MRI of the lumbar spine should be ordered and Neurosurgery should be consulted emergently. If compression due to a herniated disc is present, the patient should be brought to the OR for emergent decompression.

PEARLS

Herniated discs of the lumbar spine are common and rarely result in cauda equina syndrome. Most present acutely, however up to 30% can present with a more gradual onset. Furthermore, their primary symptoms can be limited to back pain and leg pain rather than the classic symptoms of numbness and incontinence. History taking should include a history of fecal retention, altered urethral sensation, poor stream, and straining to void as these symptoms are as common as urinary incontinence. It should be emphasized that this syndrome represents a surgical emergency as it can rapidly progress to paraplegia with rectal and urinary incontinence.

Lumbar spinal stenosis most frequently occurs in patients over the age of 60 and is a part of the normal aging process. However, neurologic symptoms develop once there is ischemia or mechanical compression of the nerve roots. This compression can be due to degenerative disc disease or disc herniation. Neurogenic claudication is characterized by progressive lower extremity pain, parasthesias or numbness while the spine is in extension that often progresses to objective motor weakness. Symptoms of autonomic dysfunction such as priapism are extremely rare and thought to be due to mechanical compression of the thecal sac resulting in increased parasympathetic reflex activity. Patients often attempt to relieve the pain with flexion of the spine which increases the central canal