Information for Re-entry Providers

ACUTE BACK PAIN

Case: A healthy 45-year old man presents to the clinic with a chief complaint of lower back pain. He has no significant past medical history. He reports that over the weekend he was moving furniture when he began feeling a sharp pain in his lower back. The pain has persisted and is not improved by Tylenol. He rates the pain a 7/10; and it radiates down the back of both of his legs, stopping midway down his posterior thighs. He denies bowl or bladder incontinence and leg weakness. He also denies fever, weight loss, and fatigue.

On physical exam, he has tenderness on palpation of the paraspinal muscles surrounding his lumbar spine. He also has limited lumbar extension and flexion due to pain. Strength, sensation, and deep tendon reflexes of the lower limbs are all normal.

Acute Back Pain Symptoms
Less than 4 weeks

Subacute Back Pain Symptoms
4 – 12 weeks

Chronic Back Pain Symptoms
Greater than 12 weeks

COMMON SYMPTOMS

- Red flags symptoms – bowl incontinence, bladder incontinence, lower extremity weakness, night pain, fevers, or progressive neurological deficits.
- Paraspinal lumbar back pain.
- Radiation of pain down the posterior thighs – (this is commonly referred pain from muscle spasms) and will not go past the distal knee.
- Sharp pain with bending or twisting.

HISTORY

Ask about history of recent strenuous activity or lifting, IV drug use, or malignancy.

PHYSICAL EXAM

- Tenderness on palpation of the affected paraspinal muscles
- Limited range of motion
- Perform the straight leg raise test on both lower extremities – positive test suggests nerve root compression (**for a positive test, the pain must radiate below the knee**)
- Test deep tendon reflex of the lower extremities – decreased bilateral ankle reflex are a concerning sign

LABS AND IMAGING

- Imaging is generally not recommend for acute back pain.
  - Consider lumbar spine MRI if the following are present: progressive neurologic deficits; osteoporosis or prolonged steroid use; constitutional symptoms; history of malignancy, recent trauma, or IV drug use.
- Consider lumbar spine x-ray if patient has osteoporosis and compression fracture is high on the differential. Step-off may be present on physical examination of lumbar spine.
- MRI can be ordered if symptoms persist despite 3 months of therapy.
- CBC, CRP, and ESR can all be order if there is concern for infection, especially in IV drug users.

* Without red flag symptoms, intractable pain, or foot drop, the approach is conservative for at least 6 weeks even with a ruptured disc and a positive straight leg raise (in the absence of neuro deficits)

DIFFERENTIAL DIAGNOSIS

- Musculoligamentous strain/ lumbosacral strain – most common cause of acute back pain
- Degenerative disc disease
- Spondylolisthesis
- Lumbar disc herniation
- Spinal stenosis
- Vertebral compression fracture

Cauda equina syndrome (cannot miss diagnosis) – if bowl/bladder incontinence or leg weakness present, order emergent spinal MRI.

- Neoplasm
- Infection (discitis or osteomyelitis)

TREATMENT

- Most patients with acute low back pain have complete resolution of symptoms within 3 to 6 weeks. Bed rest is not recommended, and patients should be encouraged to stay active and increase activity as tolerated.
- NSAID therapy (ibuprofen 400 – 600 mg QID or naproxen 250 – 500 mg BID) for two weeks is the recommended first line therapy.
- Acetaminophen has not been shown to provide any benefit.
- Muscle relaxant therapy in combination with NSAIDs can be considered in patients with more severe or unrelenting symptoms.
  - Tizanidine, cyclobenzaprine, and baclofen are preferred.
    * These medications are sedating and should be taken before bed.
  - Avoid benzodiazepines.

CONCLUSION

This patient has symptoms of acute back pain; and, based on his history and physical exam, he most likely has a musculoligamentous strain. No imaging is necessary, and he can be treated conservatively with medication. His level of pain would make combination therapy with NSAID and muscle relaxant appropriate. Home remedies such as using a heating pad, can also be helpful. He should be encouraged to continue to move, as complete bed rest has been shown in multiple studies to not improve acute back pain. If his symptoms do not improve after 3 – 6 weeks, a referral to physical therapy would be the next appropriate step. Remember to offer return precautions, such as loss of bowl or bladder continence or progressive leg weakness.

Always evaluate patients for red flags symptoms and complete a neurological exam to test bilateral leg strength and reflexes to rule out concerning problems such as cauda equina. If any of the prior symptoms are present, send the patient to the Emergency Department for an emergent MRI.

References

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