CASE REPORT

An Unexpectedly Progressed Lumbar Herniated Disk
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The authors describe a case of a 26-year-old female military veteran who presented with low back pain that she attributed to a recent foot injury. The patient reported a history of lumbar pain while in the military that had been treated successfully with high-velocity, low-amplitude osteopathic manipulative treatment. The patient's current pain was improved with osteopathic manipulative treatment and gait correction. Several weeks after her initial presentation, the patient reported that she had had a herniated disk diagnosed 2 years earlier by means of magnetic resonance imaging. Updated magnetic resonance imaging was performed, the results of which revealed a large herniated disk that had caused severe stenosis. The patient was immediately referred to a neurosurgeon for consultation and subsequently underwent surgical treatment.

The American Osteopathic Association has established guidelines regarding the use of osteopathic manipulative treatment (OMT) for low back pain after other potential organic causes (eg, vertebral joint rupture, inflammation of intervertebral disks, masses in low back structures) have been ruled out or considered unlikely. The use of OMT has been shown to be of value in patients with subacute low back pain. For some patients, however, radiologic imaging may be indicated. Physicians must recognize “red flag” indicators for low back pain to determine whether imaging studies are warranted.

We present the case of a patient with an unexpectedly large and severe herniated disk that was initially masked by a relatively unremarkable history and physical examination.

Report of Case
In February 2012, a 26-year-old athletic female military veteran was referred to our medical center’s physical medicine and rehabilitation service for treatment of recurrent low back pain with radiation to the left foot.

Initial Visit
At her initial visit, the patient reported no numbness, tingling, or burning sensations accompanying her pain. She also reported no loss of bowel or bladder control. The patient recalled having low back pain for years during active military duty (2005-2011) and having a recurrence of pain just before her discharge in 2011. At that time,
her pain had been successfully managed with high-
velocity, low-amplitude OMT. The patient noted that she
had been treated for a fracture of the left fifth metatarsal
bone 6 months before presentation. She had worn an
orthopedic boot and walked with crutches for 8 weeks after
the injury to her left foot. She believed that the recur-
rence of her lumbar pain was a direct result of the diffi-
culty she had ambulating while wearing the orthopedic
boot. The patient reported pain when lying on her back,
jogging, and performing yoga poses. She believed her
low back pain was stable despite a recurrence of aching
symptoms while training for a marathon competition. In
recent visits to her civilian primary care physician, she
had found no relief with nonsteroidal medications,
muscle relaxants, heat, or rest.

The initial physical examination revealed lower ex-
tremity muscle strength of 5 on a 5-point scale bilater-
ally, intact peripheral sensation bilaterally, tendon
reflexes of 2 on a 4-point scale, and a negative straight
leg raise test bilaterally. The patient had no lateralizing
neurologic signs. Somatic dysfunction was present
within the cervical, thoracic, and lumbar areas of the
spine; a prominent gait dysfunction due to leg length in-
equality and an un-level sacral base were also found.
Specifically, the patient was found to have a posteriorly
rotated left anterior superior iliac spine, a right-on-right
forward sacral torsion, and a physiologic short left leg as
determined with palpation.

A plain radiograph (Figure 1) of the lumbosacral
spine revealed a mild left convex scoliosis. All lumbar
disk spaces were found to be normal, and no degenera-
tive changes were present. No acute findings were noted.
A radiograph of the patient’s hips did not reveal any
abnormalities.

Fascial release and craniosacral OMT techniques
were initiated at the first appointment and reduced the
patient’s self-reported pain from 7 to 0 on a 10-point
scale. High-velocity, low-amplitude was not used in this
case. A 6-mm shoe lift was also provided to address the
patient’s un-level sacral base.

Follow-up and Treatment

The patient was followed up weekly by a physician in the
physical medicine and rehabilitation department (J.A.L.)
for the next 45 days. During this time, she continued
using her 6-mm shoe lift. The same soft tissue OMT
techniques were used to relieve her ongoing pain; each
OMT session reduced the patient’s self-reported pain
score from 7 to 0 on a 10-point scale.

In late February 2012, the patient reported that she
was now aware that she had had a disk herniation at L4-5
2 years earlier that was diagnosed by means of magnetic
resonance (MR) imaging. The findings of her previous
MR image yielded no indications for surgical treatment,
and the patient stated that her pain had been alleviated.
was successfully referred for surgical treatment despite her apparently unremarkable presentation. To help physicians identify patients who should be evaluated further, the American College of Radiology has put forth a list of “red flag” indications for patients with low back pain (Figure 3). Soft tissue imaging is specifically indicated in patients who exhibit radiculopathy or spinal stenosis that may need surgical correction.

Responsibility is on the physician to reevaluate patients with continued symptoms when initial conservative therapies are ineffective or when symptoms are persistent or progressive. Magnetic resonance imaging can be indicated for patients exhibiting lumbosacral radiculopathy, infection, metastases, or cauda equina syndrome. This imaging modality has been shown to have high specificity and accuracy (approximately 90%) in the evaluation of benign and malignant masses. Hegarty et al found that findings of MR imaging offer important information regarding the location and size of herniated disks.

Comment
In the present case, follow-up MR imaging revealed an unexpectedly large lumbar herniated disk, and the patient was successfully referred for surgical treatment despite her apparently unremarkable presentation.

Figure 2.
Lumbosacral magnetic resonance images (A and B) exhibiting intervertebral disk herniation at L4-5 (arrows).
though the patient’s pain improved with OMT and gait correction, an updated MR image revealed an unexpectedly severe herniated disk for which surgical treatment was indicated.

**Conclusion**

The present case illustrates that severe disk herniation may be present in a patient with a seemingly unremarkable presentation. Physicians should weigh patient history and examination findings carefully in accordance with existing guidelines when considering the need for an updated MR image.

**References**


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