American Journal of Medical Case Reports, 2017, Vol. 5, No. 4, 86-88
Available online at http://pubs.sciepub.com/ajmcr/5/4/3

DOI:10.12691/ajmcr-5-4-3

Progressive Cervical Spondylotic Myelopathy: A Case Report Describing Evaluation and Management for a Patient in an Acute Care Inpatient Setting

Kristi Greene Kelch[1], Michael Ross[2,*], Ryan Elliott[3], Michael Tall[4]

[1]Agile Physical Therapy, Palo Alto, CA
[2]Department of Physical Therapy, Daemen College, Amherst, NY
[3]Departments of Medicine and Physical Therapy, Kaiser Permanente Medical Center, Vallejo, CA
[4]San Antonio Uniformed Health Educational Consortium, San Antonio, TX
*Corresponding author: romoross@msn.com

Abstract The patient was an 80 year old woman admitted to the hospital in an inpatient setting for pain control and further evaluation after a fall at home which resulted in severe low back pain and difficulty walking. Physical therapy was consulted to assess gait and transfer capabilities. At the time of initial physical therapy examination, the patient demonstrated poor bed mobility and transfer capabilities. She also demonstrated poor to fair upper or lower extremity strength with more pronounced weakness on the right. General hyperreflexia was noted (hyperactive bilateral deep tendon reflexes, positive bilateral Hoffman reflex, bilateral Babinski sign). A computed tomography scan of the head and magnetic resonance imaging of the cervical spine were ordered to assess for a cerebrovascular accident and cervical myelopathy, respectively. The cervical magnetic resonance imaging confirmed the diagnosis of cervical spondylotic myelopathy (Figure 1). The patient subsequently underwent successful surgical decompression laminoplasty from C3 to C6.

Keywords: *cervical spine, myelopathy, acute care*

Cite This Article: Kristi Greene Kelch, Michael Ross, Ryan Elliott, and Michael Tall, "Progressive Cervical Spondylotic Myelopathy: A Case Report Describing Evaluation and Management for a Patient in an Acute Care Inpatient Setting." *American Journal of Medical Case Reports*, vol. 5, no. 4 (2017): 86-88. doi: 10.12691/ajmcr-5-4-3.

1. Introduction

Cervical spondylotic myelopathy (CSM) is a condition that most commonly occurs in older adults secondary to spondylotic changes causing spinal cord compression and is the most common types of spinal cord dysfunction in older individuals. [1] The overall incidence of CSM is unknown. However, Moore and Blumhardt [2] determined that 24% of 585 consecutive patients with non-traumatic tetra or paraparesis admitted to a long-term neurological care facility were diagnosed with CSM.

Signs and symptoms of CSM can include pain in the cervical, subscapular or shoulder regions, numbness and tingling in the upper or lower extremities, weakness in the upper or lower extremities, gait ataxia, and upper motor neuron findings (ie, spasticity, hyperreflexia, clonus, positive Hoffman reflex and Babinski sign, and bowel and bladder dysfunction). Because the early signs of CSM are often subtle and overshadowed by radicular symptoms or other medical conditions, the diagnosis may be missed. These diagnostic challenges can lead to a failure in accurately identifying patients with CSM, which can result in progression of symptoms that may no longer be effectively managed with conservative or surgical measures. [3]

The purpose of this case report is to describe the clinical history of a patient diagnosed with cervical myelopathy after admission to a hospital inpatient setting for treatment of a seemingly unrelated musculoskeletal condition.

2. Case Report

The patient was an 80 year old woman admitted to the hospital in an inpatient setting for pain control and further evaluation after a fall at home which resulted in severe low back pain and difficulty walking. Physical therapy was consulted to assess gait and transfer capabilities.

At the time of initial physical therapy examination, the patient demonstrated poor bed mobility and transfer capabilities. She also demonstrated poor to fair upper or lower extremity strength with more pronounced weakness on the right. General hyperreflexia was noted (hyperactive bilateral deep tendon reflexes, positive bilateral Hoffman reflex, bilateral Babinski sign). The patient also reported bilateral hand numbness and tingling and difficulty with ambulation prior to admission.

After the physical therapy evaluation, the examination findings were discussed with the patient's physician. A computed tomography scan of the head and magnetic resonance imaging of the cervical spine were ordered to

assess for a cerebrovascular accident and cervical myelopathy, respectively. The cervical magnetic resonance imaging confirmed the diagnosis of CSM (Figure 1). The patient was subsequently referred to neurosurgery for evaluation of CSM and it was determined that the patient was a surgical candidate.

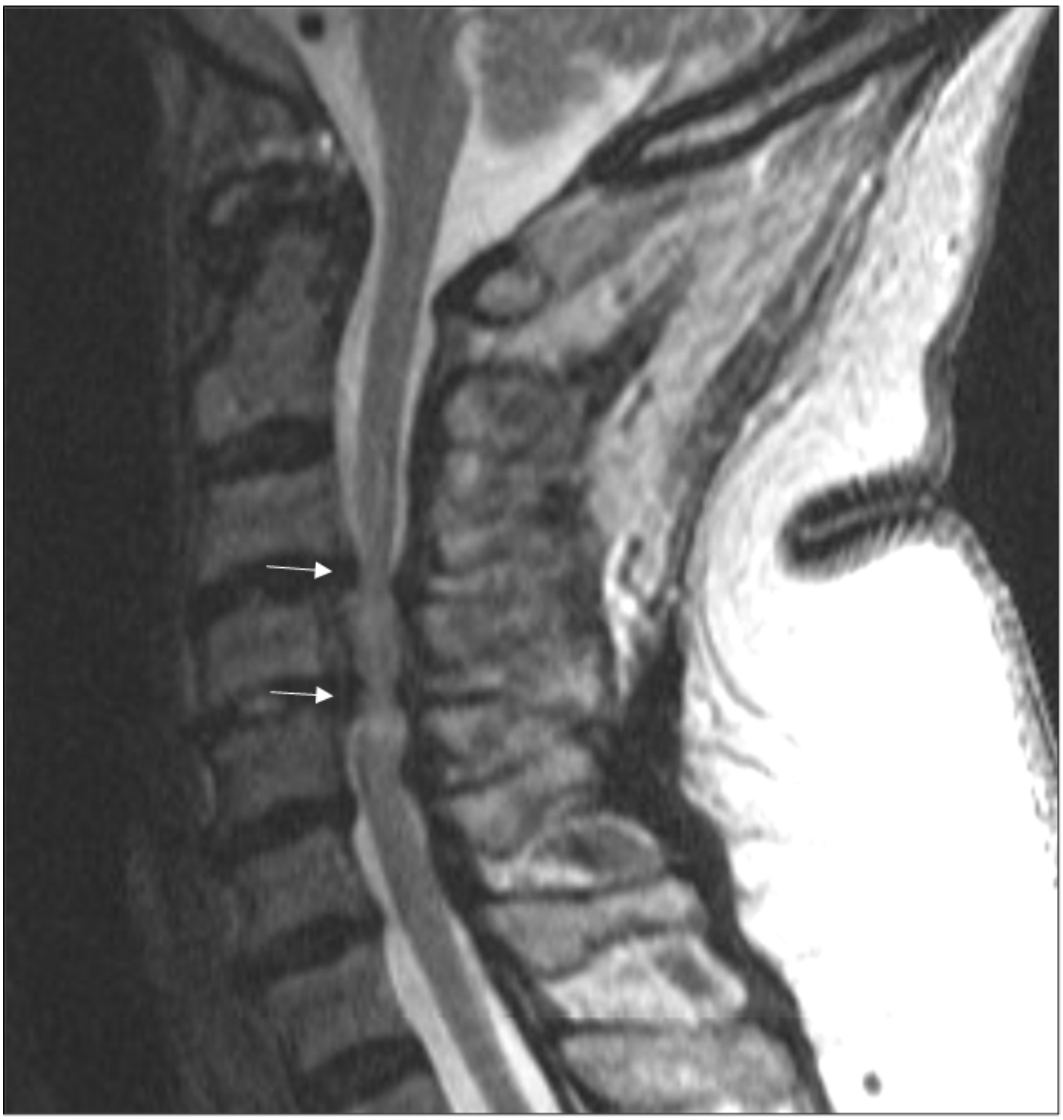

Figure 1. T2-weighted sagittal magnetic resonance image reveals marked narrowing of the spinal canal at C3/C4 to C4/5 (arrows) secondary to posterior disc protrusions and degenerative osteophyte formation. A small area of myelomalacia is also present within cord is present at the C5 level

The patient underwent successful surgical decompression laminoplasty from C3 to C6. At two months following surgery, the patient ambulated with an age-appropriate gait pattern and demonstrated a 5/5 lower extremity and 4+/5 upper extremity strength with manual muscle testing.

3. Discussion

In cases of progressive CSM, improved outcomes are reported if surgical treatment is initiated earlier in the course of the disorder; therefore, early diagnosis is critical for optimal condition management and patient outcomes. In patients with progressive neurological impairments, CSM should be considered in the differential diagnosis. The process of differential diagnosis includes integrating and evaluating the data obtained during the patient examination. The following orthopedic and neurological conditions could mimic some of the signs and symptoms of CSM on clinical presentation: cervical and lumbosacral radiculopathies, multiple sclerosis, amyotrophic lateral sclerosis, spinal cord tumors, syringomyelia, cerebrovascular disease, and peripheral neuropathies.

Because the early signs of CSM are often subtle and overshadowed by other medical conditions, the diagnosis can be missed. Therefore, we recommend that clinicians routinely ask screening questions regarding CSM during the patient history (numbness or tingling in hands or legs and balance problems with walking) and perform a comprehensive neurologic examination. This is of particular importance if mobilization or manipulation of the cervical spine is part of the treatment plan.

4. Conclusion

This patient case underscores the importance of recognizing signs and symptoms of progressive CSM, and appropriately referring for diagnostic imaging and surgical evaluation when indicated.

References

[1] Young WF. Cervical spondylotic myelopathy: a common cause of spinal cord dysfunction in older persons. Am Fam Physician. 2000; 62(5): 1064-1073.

[2] Moore AP, Blumhardt LD. A prospective survey of the causes of nontraumatic spastic parapesis and a tetraparapesis in 585 patients. Spinal Cord. 1997; 35(6): 361-367.

[3] Yoshimatsu H, Nagata K, Goto H, et al. Conservative treatment for cervical spondylotic myelopathy: prediction of treatment effects by multivariate analysis. Spine J. 2001; 1(4): 269-273.