



Case Report

Case Report (Precis): Patient with MR-Documented Large Lateral Cervical Disc Misdiagnosed as Neurodegenerative Disease

Nancy E. Epstein, M.D.

Clinical Professor of Neurological Surgery, School of Medicine, State University of NY at Stony Brook, New York, United States.

E-mail: *Nancy E. Epstein - nancy.epsteinmd@gmail.com



*Corresponding author:

Nancy E. Epstein, M.D.
Clinical Professor of
Neurosurgery, School of
Medicine, State University
of New York at Stony Brook,
United States and 600 Old
Country Rd Suite 226, Garden
City, NY 11530, USA.

nancy.epsteinmd@gmail.com

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ABSTRACT

Background: Patients who present to neurologists with cervical radiculopathy typically undergo initial MR scans. If reports show “abnormal” findings they, and other physicians, should review the studies with the interpreting radiologists/neuroradiologists. When patients’ neurological deficits progress, neurologists should review their electromyographic (EMG) findings (i.e. especially if documenting neurodegenerative disease), the initial “abnormal” MR scans/reports (i.e. review with radiologists/neuroradiologists), and obtain spinal surgical consultations to rule out “surgical” disease.

Case Description: A middle aged patient presented several months previously to a neurologist with the chief complaint of unilateral neck/arm pain, accompanied by focal weakness, and numbness in a specific distal cervical nerve root distribution. The patient’s initial MR showed a large lateral disc herniation in the lower cervical spine on the symptomatic side. However, as the neurologist interpreted the EMG as consistent with a neurodegenerative syndrome, the patient was not referred to a spine specialist. Frustrated by progressive worsening, the patient ultimately referred himself for a spinal surgical consultation. By this time, he had developed severe unilateral upper extremity motor weakness (3/5), pin loss, atrophy, and fasciculations in the nerve root distribution that correlated with the location of the distal cervical disc seen on the original MR. When the repeat MR confirmed the same large distal lateral disc herniation, the patient successfully underwent an anterior cervical discectomy/fusion (ACDF).

Conclusion: This Case Report (Precis) highlights two “teachable moments”. First, physicians, including neurologists and spinal surgeons, who order MR studies that show “abnormal” findings should review these studies with the interpreting radiologists/neuroradiologists. This is particularly true if patients continue to demonstrate progressive neurological deterioration. Second, before patients are told that they have neurodegenerative syndromes, repeated review of the MR reports and/or repeating these studies, and obtaining spinal surgical consultations are warranted to rule out “surgical” disease.

Key words: Neurodegenerative Disease, Cervical Lateral Disc, Muscle Atrophy, Surgery; Anterior Cervical Discectomy/Fusion

CASE REPORT (PRECIS)

INTRODUCTION

Patients who present with cervical radiculopathy to neurologists typically undergo initial MR scans. The neurologists, along with other physicians who read these reports including spinal

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surgeons, should consult directly with the interpreting radiologists/neuroradiologists to better assess the significance of any “abnormal” findings. Neurologists then often perform EMG (electromyographic studies)/other studies to differentiate intrinsic neurological disorders from myopathy, and/or radiculopathy. However, before patients, are told they have neurodegenerative syndromes (e.g. based on EMG/other findings), it is critical to both review the original “abnormal” MR findings with radiologists/neuroradiologists, and obtain a spinal surgical consultation to rule out “surgical” disease.

CASE

Several months ago, a middle aged patient presented to a neurologist with the chief complaint of unilateral neck/arm pain accompanied by focal numbness, and weakness. The neurologist had the patient undergo an initial MR study which was interpreted by radiology/neuroradiology as showing a large lateral disc herniation in the lower cervical spine on the symptomatic side. The neurologist subsequently performed an EMG that they read as consistent with a neurodegenerative syndrome. By the time the patient consulted a spinal surgeon (i.e. several months later), he had developed a severe focal distal unilateral cervical motor root deficit (3/5), focal sensory loss of pin appreciation, marked muscle atrophy, and fasciculations in the appropriate dermatomal distribution. Further, when the spine surgeon reviewed the original MR, they re-identified the large, unilateral, distal cervical disc herniation that markedly compressed the ipsilateral nerve root without cord compression; a follow-up MR was also ordered. The second MR corroborated the initial MR-documented large disc herniation, and the patient successfully underwent a

single-level anterior cervical discectomy/fusion (ACDF). Postoperatively, the patient’s neurological deficit resolved.

CONCLUSION

This Case Report (Precis) highlights several “teachable moments”. First, when there are “abnormal” findings “on MR reports, physicians, including neurologists and spinal surgeons, should not only read and/or independently evaluate the studies, but also consult with the interpreting radiologist/neuroradiologist to determine/confirm the “significance” of the MR findings. Second, when patients demonstrate progressive neurological deterioration, it is critical to reassess the initial MR findings, and repeat the studies where indicated. Third, before a neurologist determines that a patient has a neurodegenerative syndrome, any “significant” abnormality seen on prior MR studies should be assessed by a spinal surgeon to rule out a “surgical lesion”.

Declaration of patient consent

Patient’s consent not required as patients identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

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