ABSTRACT

Patients with cervical disc herniation can be asymptomatic or present with radiculopathy or myelopathy symptoms. Generally, they are located anterior or antero-laterally in the epidural space. We present a case of an extruded cervical disc with a dorso-lateral migration, similar to a tumoral extradural lesion. Sequestered cervical disc herniation should be considered in the differential diagnosis of dorso-lateral lesions.

Keywords: Cervical myelopathy, sequestered disc herniation, unusual presentation.

INTRODUCTION

Cervical spondylotic myelopathy is the result of compression of the cervical spine by degenerative or congenital changes. Disc herniation occasionally can lead to cervical myelopathy, the most common type of spinal cord dysfunction in patients older than 55 years. The herniated disc generally migrates through the posterior longitudinal ligament into the anterior portion of the epidural space. However, in some rare cases, dorsal sequestration of the cervical disc migration can mimic a spinal tumor at the MRI. We present a case of an unusual cervical herniation into the dorsal epidural space.
A sixty-six years-old man presented at our facility with a 6 month history of progressive gait impairment, leading to non-ambulatory status 3 months prior to admission. His neurological examination on presentation was muscle strength grade 2 in the inferior right limb and grade 1 in the inferior left limb, with upper motor neuron findings (spasticity, hyperreflexia, clonus and Babinski signs). He also presented with bladder and bowel dysfunction. Cervical spine MRI showed a well-defined mass, on the left dorsal aspect of the spinal canal, compressing the dural sac at C7. The lesion was isointense on T1 weighted images with peripheral contrast enhancement, and heterogeneously hyperintense on T2 weighted images (Fig. 1).

Figure 1. MRI cervical region, T1 sequence - A) Sagittal cut, without contrast. A hypointense lesion can be seen at the posterior aspect of C7. B and C) Axial cut showing a left posterior lesion with contrast enhancement.

A diagnosis of a left postero-lateral extramedullary lesion at the level of the seventh cervical vertebrae was done. The differential diagnosis included: epidural hematoma, epidural abscess, synovial cysts, epidermoid cysts, and extradural tumor. We planned on performing a wide C6-C7-T1 laminectomy, with extradural tumor resection and then after, postero-lateral fixation with lateral mass screws at C6 and pedicle screws at C7 and T1 to avoid posterior spinal deformity due to the laminectomy at the cervico thoracic junction. Under the microscope, intra-operatively an extra-dural “infiltrative” lesion was found, with penetration of the dura mater. After sharp and blunt dissection, the whole fragment could be removed. Dural closure was required due to dural penetration.

Five months post operatively, the patient is walking without assistance, although he still has resolving paraparesis. He also has recovered his sphincter control. Postoperative MRI showed complete excision of the lesion (Fig. 2).

Figure 2. Postoperative MRI. A) Sagittal T1 sequence without contrast. B) T1 axial cut, showing no residual lesion. C) Cervical CT Scan – instrumentation with C6 lateral mass and T1 pedicle screws.

Anatomic and pathological examination of the lesion was compatible with disc material (nucleus pulposus), confirming that the unusual sequestered disc fragment simulated a spinal tumor on MRI.

Cervical disc herniations can lead to radiculopathy or myelopathy. They are generally anterior-medially located, migrating through the posterior longitudinal ligament. However, Post et al. proposed that herniated discs at C7-T1 are generally located laterally, resulting in radiculopathy rather than myelopathy. They attributed this to the lack of Luschka joints at C7-T1. With no Luschka joints, C7–T1 discs are more likely to herniate laterally because there is not a “barrier” to a lateral disc herniation at this level and, as these joints possibly aid in axial rotation as well as flexion-extension movements of the upper cervical spine and, the absence of these joints exposes the C7–T1 disc to unique biomechanical forces, potentially weakening the annulus laterally. This can lead to migration of the sequestered fragment along the pedicle to the lateral and dorsal sides of the dural sac. Moreover, the last reason for a different presentation of the herniation at this level is that...
the fixation of T1 to the thoracic spine limits any coupling of motion at the C7–T1 interspace with the caudal vertebral levels, placing greater stress on the annulus at C7–T1\(^5,6\). We found only two cases in our literature review with dorsal sequestered cervical disc herniations\(^2,8\). Curiously, in both cases, the two lesions were located at C7 and in the left side.

Enhancement of extradural disc fragment is commonly described in literature, but they appear heterogeneous, whereas tumors are generally homogenous\(^1,3,7\).

There have been rare reports of dorsally sequestered cervical disc herniations, so it is important for spine surgeons to consider them in the differential diagnosis of extramedullary lesions when planning a surgical procedure.

**REFERENCES**


