



The Cause of Foot-Drop in a Patient with Ganglion Cyst in Lumbar Region: A Case Report

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Abstract

Ganglion cysts usually originate from vertebral facet joints in the spine that are often located at the dorsal portion of the facet being usually asymptomatic. In this case, we report a 60 year-old woman presented with suddenly developed lower back pain and right leg foot-drop. Lumbar Magnetic Resonance Imaging examination revealed a large cystic lesion at L5 body level. The cystic lesion was removed with standart microsurgical method. The histopathological findings were consistent with ganglion cyst. To our knowledge, this is the first report of ganglion cyst causing foot-drop without any bleeding in the spine.

Keywords: Ganglion cysts, foot drop, synovial cysts, lumbar spine

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Introduction

Ganglion cysts usually originate from vertebral facet joints of the vertebrae and may occur anywhere throughout the body articulation [1]. They are generally asymptomatic. On the other hand it may cause sciatica or lower extremity weakness symptoms when it compromise the surrounding thecal sac or nerve roots on the spine [2]. We report a case with ganglion cyst which is the cause of the foot-drop with radiological and pathological findings..

Case Report

A 60 year-old woman presented with suddenly developed lower back pain and right leg foot-drop. Her medical history was consisting of intermittent lower back pain and right leg pain for 1 year without any other medical problems. Patient reported that the pain became worse in the last twenty-four hours. Neurological examination revealed as the straight leg raising test was limited to less than 30 degrees in the right leg. Additionally, sensation was decreased in the right L4 and L5 dermatomes. In her motor examination, she had foot drop on the right. Lumbar sagittal magnetic resonance imaging examination (MRI) revealed a large cystic lesion at L5 body level (Fig 1). The cyst severely compressed the right L5 root on the axial MR imaging (Fig 2). The patient underwent standart microsurgical approach with hemilaminectomy and cystectomy at that level. The radiating pain declined immediately after the operation. Postoperative MRI confirmed cyst resection and satisfactory decompression of the foramen (Fig 3). The histopathological findings were consistent with ganglion cyst (Fig 4). At last follow-up after 12 months later, the neurological examination of the patient was normal.

Discussion

The ganglion cysts are rarely cause of low back pain or leg pain [3]. The cysts generally originate from facet joints but they may also arise from annulus fibrosus, ligamentum flavum, and posterior longitudinal ligament in the spine [4]. The etiology of the ganglion cyst remains controversial. The most accepted theory is the herniation of synovial tissue from the articular capsule. Trauma and segmental instability may also play a major role in formation of the ganglion cyst [5].



Figure 1. Magnetic resonance imaging shows a large cystic lesion at L5 body level

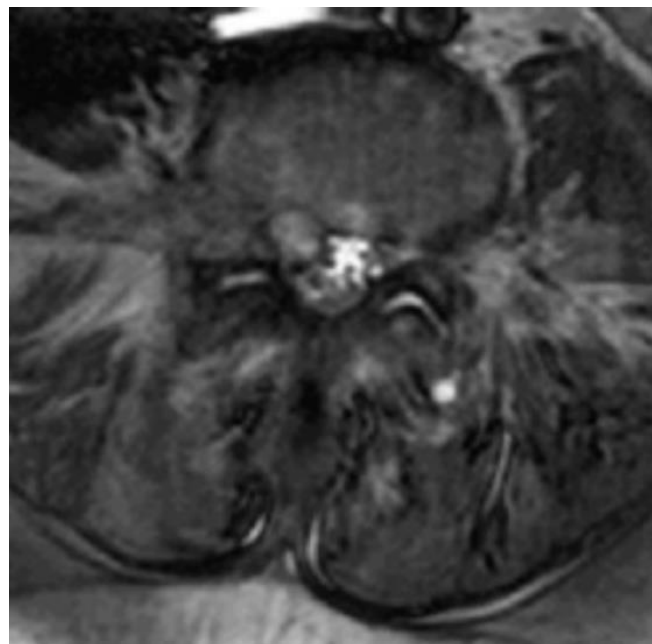


Figure 2: The cyst severely compressed the right L5 root on the axial MR imaging



Figure 3: Total cyst resection can be seen in the post operative MRI. Discussion

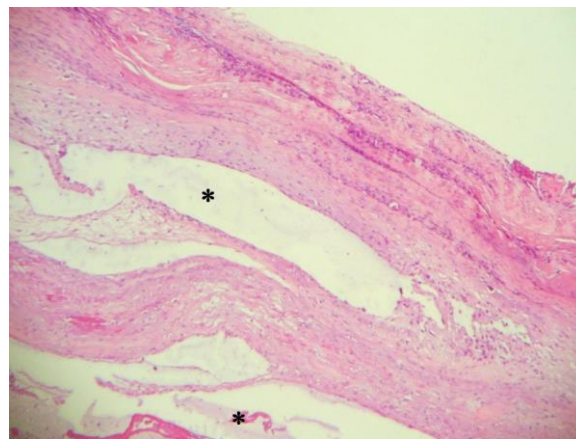


Figure 4: Ganglion cyst with amorpheous material in multilocular spaces (*). Note absence of any epithelium covering inner surface of lumen. H&E stain, 40x magnification.

The ganglion cysts are more common in the lumbar region than the cervical and thoracal regions [2]. They are often located on the dorsal portion of the facet being usually asymptomatic. According to the location and relationship with other structures, the cyst may cause low back pain, neurogenic claudication, cauda equina syndrome or radicular pain. Generally, haemorrhage in the cyst may cause compression to the nerve root [5]. In this case; despite the sudden foot-drop, no bleeding around or into the ganglion cyst is encountered.

MRI is the gold standart for the diagnosis of ganglion cysts [5]. These cysts appear on high signal intensity lesions with a capsule on T2 weighted image. The relationship between the dural sac and the root of the cyst can be seen with the MRI [1].

The ganglion cysts is most often confused with synovial cysts. The exact diagnosis is made by pathological examination. In the pathological examination, the synovial cysts have a synovial membrane which is connected with the joint capsule. And the synovial cysts have synovial like cubodial epithelium tissue. But ganglion cysts have gelatinous protein materials and fibrous adventitial tissue but do not have synovia like epitellium. In this case, pathological examination shows ganglion cyst [6].

The symptomatic patients with absence of the neurologic deficit, conservative management can be tried. But surgical treatment is recommended if it gives rise to motor deficit or intractable pain [4,2]. To our knowledge, this is the first report, being the cause of foot-drop in a patient with ganglion cyst without any bleeding in the spine.

Conclusion

The ganglion cysts are more common in the lumbar region, and the cysts are usually asymptomatic. The cysts may cause neurogenic claudication, cauda equina syndrome or radicular pain. But it can cause foot-drop suddenly without any haemorrhage.

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