

LUMBAR GANGLION CYST CAUSING RADICULOPATHY IN A YOUNG ADULT

GENÇ ERİŞKİNDE RADİKÜLOPATİ YAPAN LOMBER GANGLİON KİSTİ

Ferhat HARMAN*, Mustafa Onur ULU*, Serkan Yaşar ÇELİK**

SUMMARY:

Symptomatic lumbar ganglion cysts are infrequent lesions that are particularly encountered in elder patients. We report a 21 years old patient who was presented with left radicular pain and paresia. Radiological investigations of the patient revealed a round, cystic epidural lesion compressing the L5 nerve and the dural sac at L4-L5 level. The patient underwent successful microsurgical removal of the lesion. The pathological evaluation was consistent with a ganglion cyst. Although lumbar ganglion cysts are uncommon in young adults they should be considered in differential diagnosis, especially in patients presenting with radiculopathy. Meticulous microsurgical excision provides definite treatment and symptom relief and is particularly recommended in symptomatic cases.

Key Words: ganglion cyts, lumbar, magnetic resonance imaging, radiculopathy, surgery

Level of Evidence: Case report, Level IV

ÖZET:

Semptomatik lomber ganglion kistleri özellikle ileri yaşta görülen nadir lezyonlardır. Bu yazıda sol radiküler ağrı ve parezi ile başvuran 21 yaşında bir hasta sunmaktayız. Hastanın radyolojik görüntülemelerinde L4-L5 seviyesine lokalize, L5 köküne ve dural saka bası yapan yuvarlak, kistik bir lezyon tespit edildi. Lezyon başarılı bir mikrocerrahi ile çıkartıldı. Patolojik değerlendirme ganglion kisti ile uyumluydu. Genç erişkinlerde nadiren görülse de lomber ganglion kistleri özellikle radikülopati ile başvuran hastalarda ayırıcı tanıda düşünülmelidir. Lezyonun özenli bir mikrocerrahi ile çıkartılması kesin tedaviyi sağlayıp semptomları gidermektedir ve özellikle semptomatik olgularda önerilir.

Anahtar Kelimeler: ganglion kisti, magnetik rezonans görüntüleme, radikülopati, cerrahi

Kanıt Düzeyi: Olgu sunumu, Düzey IV

(*) M.D., Attending Neurosurgeon, Diyarbakır Military Hospital, Department of Neurosurgery, Diyarbakır, Turkey

(**) M.D., Attending Pathologist, Diyarbakır Military Hospital, Department of Pathology, Diyarbakır, Turkey

INTRODUCTION:

Ganglion cysts represent a common pathological entity in the joints of the extremities (wrist, knee, ankle, foot etc.) and rarely manifest in the spine ⁽⁷⁾. When encountered in the spine, the lumbar region is the most commonly affected area ^(2,5). They are included in the term “juxtafacet cysts” which also encompasses synovial cysts and was introduced by Kao et al. in 1974 ⁽⁸⁾. 52 to 89 % of juxtafacet cysts occur at the L4–L5 level ^(2,6). Compared to synovial cysts, ganglion cysts do not have a synovial cell lining and do not communicate with a synovial sheath ⁽²⁾. However, in most cases, the exact pathological diagnosis does not make any difference with regard to treatment of both entities and surgical excision remains the treatment of choice particularly in symptomatic cases.

In the great majority of the juxtafacet cyst series reported in the literature, the mean age is above 60 years of age ^(2-3,5,10,12) and spinal ganglion cysts in young adults are exclusively rare. We present one such rare case, who admitted with radiculopathy symptoms and underwent total microsurgical excision of the cyst.

CASE REPORT:

A 21 years old patient admitted to our clinic with the complaint of back pain radiating to his left knee and dorsal side of left foot. The pain was exacerbated by ambulation. Neurological examination revealed limited motion of the lumbar spine, with a straight leg-raising test positive on the left at 20°. There was hypoesthesia in the L5 dermatome and the left

ankle dorsiflexion was paretic with a motor power of 2/5. Further questioning the patient revealed that the pain was started 3 months ago, after a blunt trauma to his back and progressively worsened along with the weakness of his left foot. Plain lumbosacral X-ray graphics showed no abnormalities. Lumbar computed tomography (CT) revealed a left extramedullary round lesion at the L4-L5 level, isodense with the soft tissues. Magnetic resonance imaging (MRI) confirmed the presence of the extradural space occupying lesion at the L4-L5 level and degenerative changes in the L4-5 disc. The lesion was hyperintense on T2-weighted images (Figure-1.a,b) and hypointense on T1-weighted images (Figure-1.c). The patient underwent left partial L4 and L5 hemilaminectomy and a round fusiform lesion compressing the L5 root was identified (Figure-2). The lesion was adhered to the dura and there was no connection with the intervertebral disc. As the cyst wall was opened a clear jelly-like fluid came out. Total resection of the cyst was achieved and the aspirated cyst material and the cyst wall were sent for pathological investigation. The pathological examination revealed a fibrous cyst wall without epithelial lining and chronic mononuclear inflammatory infiltrate (Figure-3). These findings were consistent with a ganglion cyst. The patient was free of radiculopathy in the immediate postoperative period although L5 hypoesthesia and weakness of ankle dorsiflexion remained. However, at his last follow up at postoperative 3rd month, he was fully recovered and control lumbar MRI study confirmed complete disappearance of the lesion and decompression of the L5 root and dural sac.

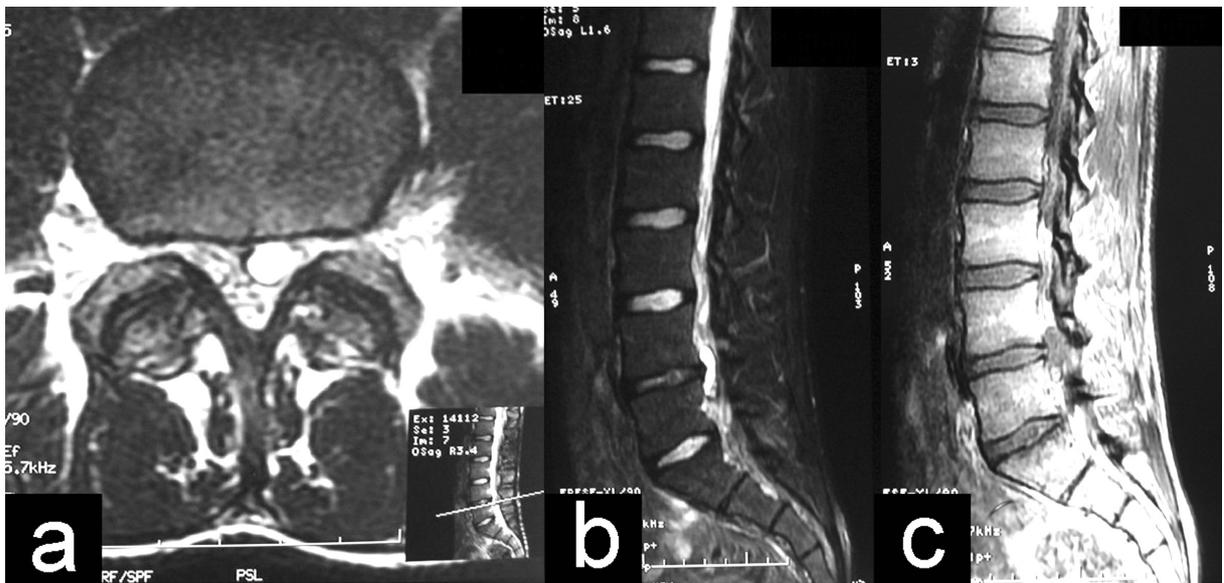


Figure-1. Magnetic resonance imaging. The lesion was hyperintense on T2-weighted axial (a) and sagittal (b) sections and hypointense on T1-weighted sagittal sections (c).

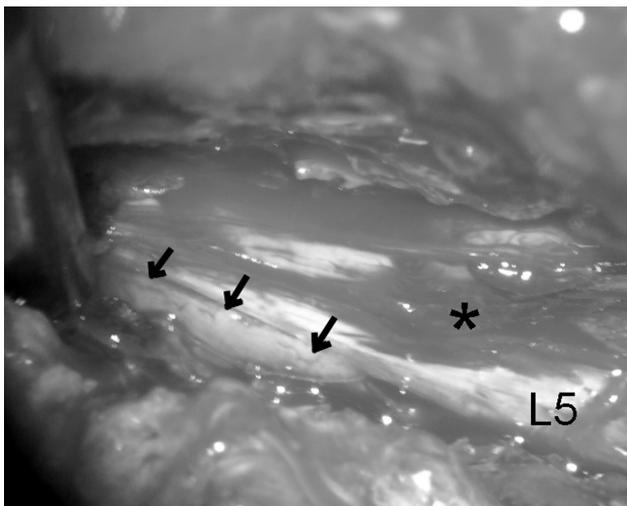


Figure-2. Intraoperative view of the lesion. The arrows show the margin of the lesion adjacent to the dural sac. (* denotes the axilla of left L5 root).

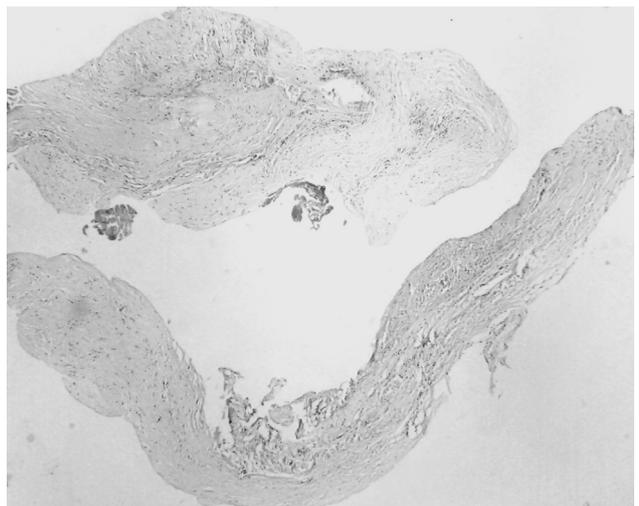


Figure-3. . Micropathological view of the fibrous cyst wall without epithelial lining and chronic mononuclear inflammatory infiltrate (Hematoxylen-Eosin X 40)

DISCUSSION:

Ganglion and synovial cysts most frequently present with back pain and chronic progressive radiculopathy ⁽¹⁾. Neurologic deficits are encountered in 18 % of the patients ⁽⁵⁾. Clinically, the main differential diagnosis is the herniated lumbar disc since both pathologies present with radiculopathy which is indistinguishable. Acute exacerbations of radicular symptoms have been also been reported after hemorrhage into the cysts ⁽¹⁾. In the present case, along with back pain and radiculopathy, the neurological deficit was progressively worsened in 3 months period and the definite diagnosis could only be achieved after radiological and pathological investigations.

The origin of ganglion and synovial cysts continues to be controversial. Although traumatic injury has been suggested as an etiological factor ⁽¹¹⁾, chronic microtrauma at areas of spinal segmental instability associated with facet joint arthritis is thought to be more important in the pathogenesis ⁽¹²⁾. Patients with bilateral ganglion/synovial cysts of the lumbar spine is reported to have evidence of spondylolisthesis ⁽⁴⁾, which support the role of excessive joint motion and degenerative arthritic changes in the development of these cysts. Moreover, in the majority of juxtafacet cyst series reported in the literature, the mean age of patients were over 60 and the cyst was localised in L4-L5 level which generally has the greatest degree of motion within the lumbar spine ^(2-3,5,10,12). Both of these findings are consistent with high incidence of degenerative spine disease. Our patient had a history of blunt trauma 3 months before his admission and his MRI sections revealed degenerative changes in L4-5 disc. Although not a definite cause, we can speculate that trauma may have facilitated the clinical presentation.

MRI is reported to be more sensitive than CT and remains the diagnostic method of choice ⁽⁵⁾. The ganglion cyts appear hypointense to isointense on T1-weighted sections and hyperintense on T2-weighted sections ⁽⁵⁾. Differential diagnosis include extramedullary intraspinal tumors such as meningioma, schwannoma and metastatic lesions and pannus formation due to romatoid arthritis ⁽⁹⁾.

The definite treatment is surgical excision. Although conservative treatments such as bed rest, oral analgesics, physical therapy, bracing and selective lumbar intraarticular steroid injections and cyst aspiration have been suggested, the results are not reported to be efficacious ⁽¹⁰⁾. As these cysts are usually markedly adherent to the underlying dura and nerve root, adequate surgical exposure must be achieved before cyst removal. The excision must be done under microscope and caution must be taken for avoiding inadvertent dural entry or nerve root trauma. In the present case total microsurgical removal of the cyst was achieved which provided the relief of symptoms and signs.

In conclusion, although lumbar ganglion cysts are uncommon in young adults they should be considered in differential diagnosis especially in patients presenting with radiculopathy. Meticulous microsurgical excision provides definite treatment and symptom relief and is particularly recommended in symptomatic cases.

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