

MULTIPLE PERINEURAL CYSTS IN THE SPINAL CANAL

Spinal kanalda multipl perinöral kist

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Summary: A rare case of multiple perineural cysts in the lumbar spinal canal was presented. The patient underwent a myelographic examination with non-ionic contrast media (iohexol) with the initial diagnosis disc herniation. But unusual finding was observed that was multiple perineurial cysts in the lumbar area. The patient had also degenerative spondylolisthesis at L4-5 level.

Key words: Perineurial cyst, Iohexol myelography

Özet: Lumbal spinal kanalda multipl perinöral kist bulunan bir vaka sunulmuştur. Hastaya disk hernisi düşünülerek non-iyonik kontrast madde olan iohexol ile myelografi uygulandı. Beklenmedik bulgu olarak lumbal bölgede multipl perinöral kist gözlemlendi. Hastada ayrıca L4-5 seviyesinde dejeneratif spondilolistezis mevcuttu.

Anahtar kelimeler: Perinöral kist, Iohexol myelografi

The perineural cyst described by Tarlov develops as an outpouching of perineural space on the extradural portion of the posterior sacral or coccygeal nerve roots at the junction of the root and ganglion (1, 3). Recent advances in contrast media and in radiologic technology such as introduction of the non-ionic water soluble contrast media for myelography, high resolution Computed Tomography and Magnetic Resonance for imaging the spine and spinal cord increased the chance of finding this pathologic process (4, 6). Localized bony erosions and vertebral scalloping are non specific indirect signs of evidence of spinal nerve root cysts.

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In this article a case with degenerative spondylolisthesis at L4-5 level and multiple perineurial cysts in the lumbar area was presented.

CASE REPORT

A 55 year-old woman with three years history of low back pain was admitted to the Neurosurgical Clinic of Gaziantep Medical Faculty in February 1992. Three months before the admission her low back pain increased in severity and radiated to her left leg. While walking the distance of 200 m. she felt tingling, numbness and pain in her left leg and she had to rest to relieve these symptoms. Neurological examinations on admission showed no abnormality and the pulses on both lower extremities were normal. Plain radiographs of the lumbar spine showed no local bony changes except for a spondylolisthesis at L4-5 level. Iohexol myelography showed multiple perineural cysts

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in the lumbar area and mild lateral dural sac compression at L4 level on the right side (Fig. 1). There was not any abnormality in myelographic appearance in the thoracic and cervical region. The myelographic appearance, did not support to the clinical pattern. The patient was advised to take conservative therapy for her complaints.

DISCUSSION

Perineural cysts occur along the nerve root at or distal to the junction of the posterior root and the dorsal ganglion (1, 3, 7). It is well known that the structure of the nerve root is different from that of the peripheral nerve. The nerve root which is surrounded by cerebrospinal fluid, is covered by nerve root sheath

and pia arachnoid membrane and also it lacks epineurium and perineurium (5).

Perineural cysts arise between the perineurium and endoneurium and they mostly have free communication with the subarachnoid space (4). In an experimental investigation it was established that the India ink given in the subarachnoid space was observed in the endoneural space of the nerve root and the dorsal root ganglion and, in addition the spinal nerve on the distal side of the ganglion was also covered by dye (8).

In the present case, it was noticed that the perineural cysts were opacified at myelography immediately after an intrathecal injection of contrast medium. It can be suggested that un-

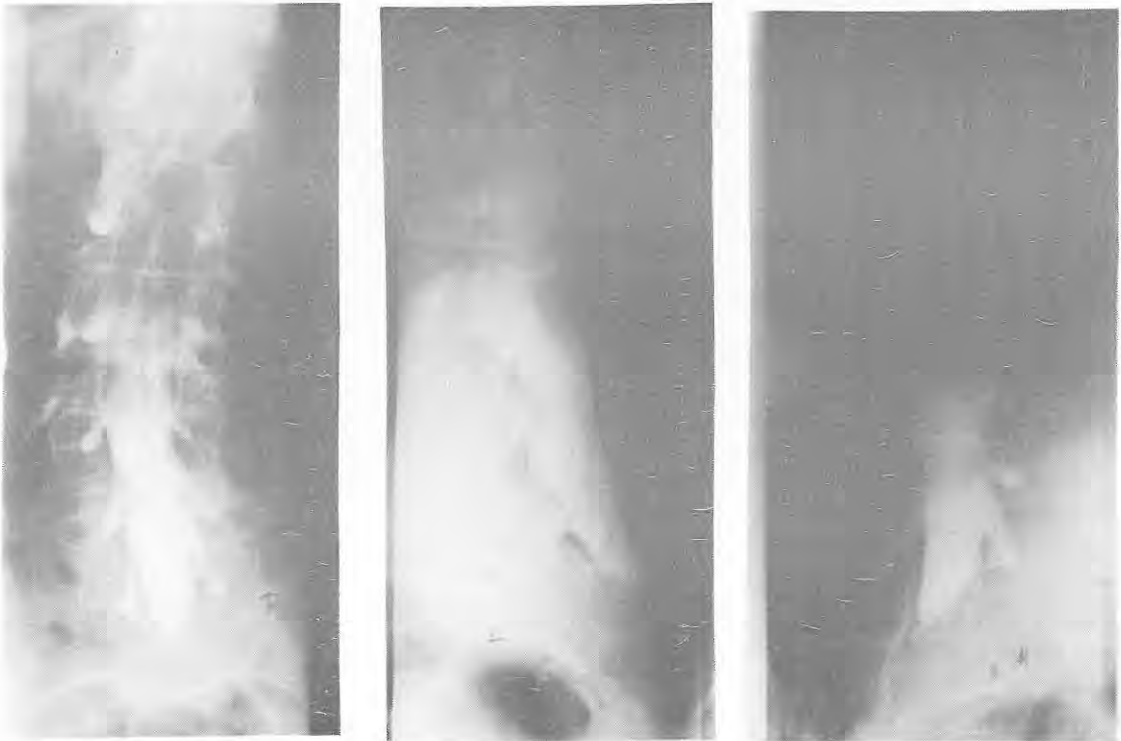


Fig. 1: Iohexol myelography. P-A, right and left oblique view. Multiple perineural cyst, mild lateral dural sac compression at L4 level and buckling of dye column at L4-5 due to spondylolisthesis.

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like oil contrast media, non-ionic water soluble contrast medium accounts for this finding (4).

The pathogenesis of perineural cysts is not known exactly but multiplicity of these cysts and high frequency in necropsy material seem to support the maldevelopment hypothesis (3).

Low back pain, lumbosacral root pain has been associated with perineural cysts (2, 4, 7). Nerve fibers covering these cysts degenerate as a result of pressure and this may account for the pain and neurological deficit (4, 7). Perineural cysts may cause a bony erosion especially in the sacrum (3), or they may be associated with a spina bifida occulta (4).

If there is free communication with the spinal subarachnoid space, contrast myelography either with non-ionic contrast or oil contrast will show the cysts directly. Despite computed tomography with myelography provides precise and direct imaging of these lesions (2, 4), Magnetic Resonance Imaging is recommended as the initial study for accuracy in diagnosis for cystic lesions of the spinal cord (6).

There is no agreement on the appropriate management of spinal nerve root cysts. Surgery is reserved for large cysts with mass effect with neurological deficit that can be related to them. Complete excision has been reported successfully (3, 4, 7).

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