

MULTIPLE SPINAL NERVE ROOT CYSTS : CASE REPORT

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SUMMARY :

A case with lumbosacral and cervical multiple root cysts that involved all roots except the thoracic region is presented and myelogram findings are discussed.

KEY WORDS :

Myelography, perineural cyst, root sleeve dilatation, spinal nerve root cyst.

INTRODUCTION :

In 1938 Tarlov first described cystic lesions of spinal nerve roots and introduced the term "perineural cyst" (9). Since then advances in radiological techniques have led to the identification of a variety of similar abnormalities (2,5). Early studies of nerve root cysts relied on plain radiographs by demonstrating the associated bony erosions (2,4,9). Direct visualisation of these cysts became possible with the introduction of contrast myelography, but the oil-based contrast agents had certain limitations (2,3), because they are viscous and the root cyst-spinal subarachnoid space communication is narrow. Cysts can generally be demonstrated by negative filling defects (2,3,7). They can be clearly demonstrated with positive images by using water soluble contrast agents, computerized tomography and magnetic resonance imaging (2,3,7).

These advances have led to the recognition of a variety of abnormalities of spinal nerve roots (1,2,3,5). In 1987 Goyal (2) classified intraspinal cysts.

In this article, we report an unusual case with cervical and lumbosacral multiple spinal nerve root cysts.

CASE REPORT :

A 35-year-old man was admitted to hospital in 1990 for investigation of low back and left leg pain. The back pain was located in the lumbosacral region and had been present for approximately two years. It was aggravated by exertion, prolonged standing and walking. The past medical history was unremarkable and did not include trauma. The pain was radiating from his buttock to his foot and he described transient hypoaesthesia in the distribution of L4, L5 and the S1 dermatome.

Examination revealed no abnormality of the spine. Left-sided straight leg raising elicited mild sciatic pain at 45 degrees. There was no neurological abnor-

mality except hypoaesthesia in the distribution of L4, L5 and the S1 dermatome. Plain x-ray of the lumbosacral spine showed minimal narrowing at the L5-S1 intervertebral disc space and no erosion of pedicles. The iohexole myelogram (See figures 1,2 and 3) confirmed the presence of multiple root cysts in the cervical and lumbosacral regions, but not in the thoracic region.

Surgical treatment was proposed for left L4-L5 and L5-S1 but the patient declined.

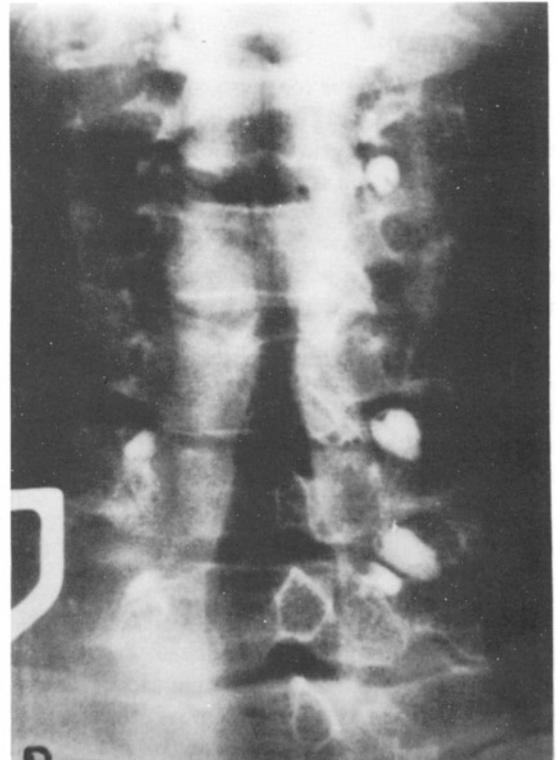


Fig 1 : Cervical myelogram, P-A view.

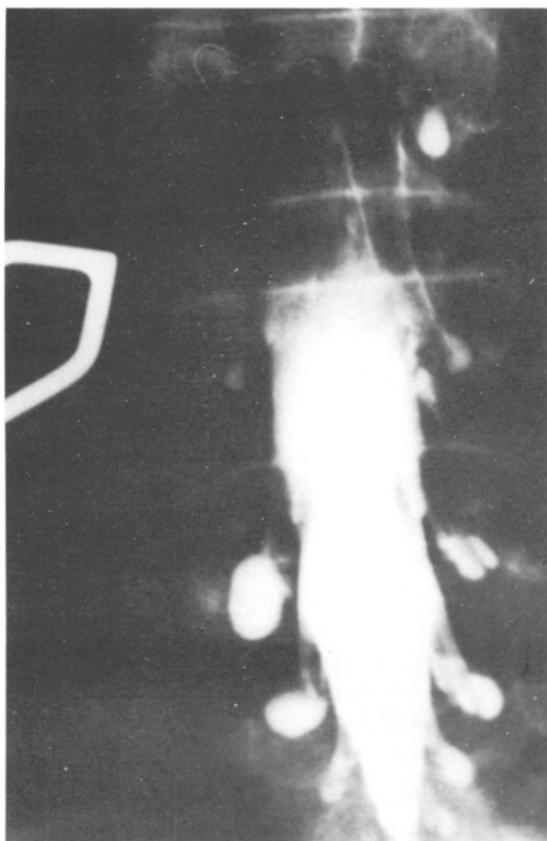


Fig 2 : Lumbosacral myelogram, P-A view.

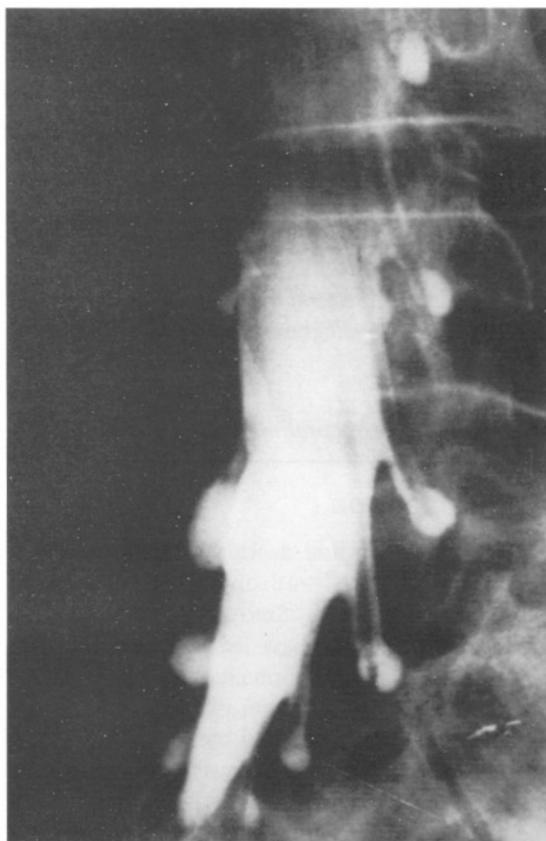


Fig 3 : Lumbosacral myelogram, left oblique view.

DISCUSSION

Lumbosacral nerve root cysts are relatively common, an incidence of 17 percent being reported in patients undergoing myelography for the investigation of low back pain and sciatica (1,5). They can be summarized in four categories: Perineural cysts, Root sleeve dilatations, Arachnoid cysts, Traumatic root cysts. In some papers arachnoid cysts are divided into two subgroups (Intradural and Extradural) (1,3,6,8,9).

Traumatic root cysts occur in closed spinal trauma often associated with pelvic fractures, the location is commonly at or below L5 and iatrogenic cases results from trauma to the leptomeninges during spinal surgery (2,3).

Arachnoid cysts, most common in the thoracic region, may also occur in the cervical or lumbar regions and are usually single (2,3).

Perineural cyst (Tarlov cyst) is pathologic of cyst formation within the nerve root sheath at the dorsal root ganglion. These usually present sacral, may involve the cervical, thoracic or lumbar roots and are often multiple, develop as a result of trauma and haemorrhage or arachnoid proliferation. Clinical

symptoms are backache and sciatica, sensorimotor deficit and reflex changes (2,3,7,9).

Root sleeve dilatations commonly involve the S1, S2 roots, and are often multiple. They are usually asymptomatic and no neurological deficits are reported (2). These may cause a bony erosion, or be associated with a spina bifida occulta, but radiographs of the spine may be completely normal (7,10). Root sleeve dilatation present as enlargement of the subarachnoid space around the proximal root extending up to the dorsal root ganglion. Primary pathology is "weakness" of the meningeal sleeve. The hydrostatic pressure of cerebrospinal fluid causes secondary dilatation of root sleeves. Myelography shows tubular or saccular expansion (2,3,7).

In our case plain x-rays of the lumbosacral spine showed neither bony erosions nor spina bifida occulta. Myelogram showed saccular expansion at all roots in the cervical and lumbosacral region, but symptoms related only to the left L4-L5 and L5-S1 roots, possibly the result of lumbar disc disease. There was no complaint related to the right leg and/or the cervical region.

It was decided that this case was multiple root sleeve dilatation in the cervical and lumbosacral regions combined with lumbar disc disease.

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