Abstract
Occult intrasacral meningocele is an uncommon condition that may produce chronic low back pain, sciatica, and bladder dysfunction. We describe a patient suffering from low back pain and radicular symptoms, in whom multimodality radiological examinations showed an intrasacral meningocele and a lumbar disc prolapse. The protruded disc was considered to be the cause of the clinical symptoms in this patient rather than the meningocele. Surgical removal of the protruded disc was performed without interference with the meningocele. Postoperatively there was recovery of the preoperative deficits. Clinical and radiographic findings in occult intrasacral meningocele are discussed and criteria for differential diagnosis with disc prolapse are stressed.

Keywords: Disc prolapse, magnetic resonance imaging, meningocele, sacrum.

1 Introduction
Spinal meningocele cysts have been classified into three categories [6]: Type I, extradural cysts without spinal nerve root fibers; Type II, extradural cysts with spinal nerve root fibers; and Type III, intradural cysts. Occult intrasacral meningoceles have been classified as extradural cysts without neural content (Type I). Synonyms include intrasacral cyst, intrasacral extradural arachnoid cyst, expansion of subarachnoid space in the lumbosacral region, and intraspinal meningocele [8].

The term “intrasacral meningocele” has been considered as inaccurate by some authors [11]. However, it has been used to denote a sac composed of fibrous tissue resembling dura mater that is usually lined by arachnoid, lies within an enlarged sacral spinal canal, and is attached to the caudal termination of the dural sac by a narrow or broad pedicle that usually permits the free flow of CSF from the tip of the subarachnoid space into the meningocele.

The occult intrasacral meningocele usually becomes symptomatic in adult life, suggesting enlargement with time. Nerve root compression by the large cyst seems to be the cause of patient’s symptoms. The most common complaint is low back pain, sometimes radiating pain and paresthesias in the sciatic distribution of one leg or both legs. Mild bladder dysfunction, impotence, and less commonly, weakness in one leg or both legs may also occur [2].

This report illustrates the management problem in a patient with concomitant occult intrasacral meningocele and lumbar disc prolapse.

2 Case report
This 45-year-old man presented with a four-month history of low back pain radiating down the posterolateral aspect of the left thigh and leg. General physical examination disclosed no abnormalities. The first neurological examination showed slight weakness of foot dorsiflexion, and positive Lasègue’s sign at 20°. Sensibility, deep muscle reflexes, bladder function, and potency were not altered. Within few days the patient experienced a worsening of the symptoms with ag-
Gravitation of the radicular pain and the foot weakness, and appearance of hypoesthesia in the same radicular distribution. The reflexes remained unchanged.

Plain radiographs of the lumbosacral spine demonstrated scoliosis and enlargement of the spinal canal with excavation of the sacrum. Magnetic resonance imaging (MRI) showed a sacral cyst of $7 \times 4$ cm diameter, which appeared hypointense on T1 and hyperintense on T2, as well as a disc prolapse at level L4/5 (Figure 1). A myelogram with a water-soluble contrast agent revealed an enlarged irregular thecal sac. A delayed CT myelogram showed the cystic lesion filled with contrast medium with the excavated sacrum, and a disc prolapse at level of L4/5 left.

The patient underwent hemilaminectomy at level of L4/5 left and removal of the disc prolapse without interfering the sacral meningocele, postoperatively, the patient experienced resolution of the pain and rapid improvement of left foot weakness.

![Figure 1. T1-weighted MRI of the lumbosacral region showing the occult intrasacral meningocele (small arrowheads) and the protuded disc at level L4/5 (large arrowhead).](image)

3 Discussion

Occult intrasacral meningocele was first described and demonstrated with myelography by Enderle in 1932 [3]. Since that time various theories have arisen to explain the pathogenesis of the occult intrasacral meningocele [7–10]. Of these, the most accepted today is that the condition is due to a primary mesenchimal defect involving the dura. An arachnoid hernia forms through the dural defect. With time it increases in size and produces bony changes secondary to pressure erosion [8]. It usually becomes symptomatic in adult life. Nerve root compression by the large cyst is thought to be the cause of symptoms.

Usual complaints are chronic, intermittent low back pain with or without radicular symptoms [2]. Aggravation of symptoms by activity or Valsalva’s maneuver is common [2]. Bladder dysfunction and sensory changes are not unusual. More rarely, a motor deficit of the S1 nerve root is observed [4, 5]. The major clinical signs and symptoms in our patient were related to the left nerve root L5. There were neither sensory changes of the sacral roots nor sphincteric dysfunction, ankle jerk reflex was maintained. These clinical findings supported the suspicion that the disc prolapse L4/5 was the cause of patient’s complaints rather than the occult intrasacral meningocele. After surgical removal of the protuded disc there was recovery of neurological deficits.

Radiological evaluation of occult intrasacral meningocele includes plain radiographs of the lumbosacral spine, myelograms and CT scan. More recently, MRI has allowed for a non-invasive demonstration of cysts and involved neural structures [2].

Plain radiographs reveal enlargement of the sacral canal, and eventual bony abnormalities such as spinal dysraphism. In the present case X-ray films demonstrate an associated scoliosis. Myelography is useful when a connection between the cyst and the thecal sac is demonstrated. Delayed CT scan may show the contrast agent within the cyst even if it was not demonstrated by the myelogram. In MRI, the meningocele has the signal intensity of cerebrospinal fluid. Diffusion-weighted MRI may demonstrate the flow connection between the cyst and the thecal sac.