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LUMBAR INTRADURAL DISC HERNIATION WITH CAUDA EQUINA SYNDROME

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ABSTRACT

Intradural disc herniation (IDH) are very rare entities with an incidence of 0.2–2.2% among all cases of herniated discs. The incidence of cauda equine syndrome in IDH is higher than in extradural herniation. Preoperative diagnosis is challenging because of variable clinical and radiological variations. We presented a recurrent lumbar discopathy case operated for intradural disc herniation with cauda equina syndrome. Intradural disc herniation must be remembered cases with cauda equina especially in recurrent lumbar disc cases and differential diagnosis must kept in mind.

Key words: Intradural disc herniation, cauda equina syndrome, recurrent disc herniation

Level of Evidence: Case report, Level IV.

INTRODUCTION

Intradural disc herniation (IDH) are very rare entities with an incidence of 0.2–2.2% among all cases of herniated discs(9). Dandy reported the first IDH case in 1942[(3)]. The incidence of cauda equine syndrome in IDH is higher than in extradural herniation[(1)]. Preoperative diagnosis is challenging because of variable clinical and radiological variations. We reporetd a recurrent lumbar discopathy case operated for intradural disc herniation presented with cauda equina syndrome.

CASE REPORT

Sixty-three years old woman applied to our outpatient clinic with severe back pain, left leg pain, urinary and gaita incontinence. She could not even walk because of the pain. She had been operated for L3-4 disc herniation 5 years ago. In neurological examination she had 3/5 bilateral lower extremities muscle strength, and bilateral paresthesia. Anal sphincter muscle tonus was relaxed.

Lumbar magnetic resonance imaging (MRI) suggested immediately. L3-4 disc herniation had been visualized in sagittal and axial images (Figure-1,2).

Figure-1. Preoperative MRI sagittal T2 image

Operation suggested urgently. Patient accepted the operation. After preperation for the operation, she had been operated from the old incision. L3-4 left hemi-partial laminectomy extended under microscope. Dura was stickled to lateral

side with fibrosis. Intradural mass appeared after fibrotic tissues cleaned from the dura. Dural incision made on the midline of dura. Rootlets carefully dissected with microdissectors from the disc fragment and then the fragment pulled out respectively(Figure-3).

Intervertebral disc space checked for residual fragments. After homeostasis dura and the other layers sutured properly. Fibrin glue used to prevent liquor fistula.

Postoperative second day the patient could be able to walk herself with urinary catheter and had no gaita incontinence. She is still followed up with urinary catheter.

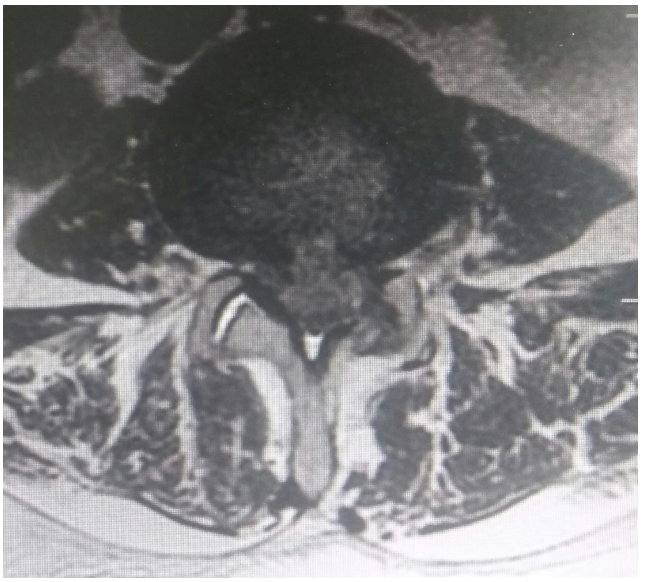

Figure-2. Preoperative sagittal MRI axial image

Figure-3. Intradural disc fragment

DISCUSSION

The pathogenesis of IDH is still controversial, but it may involve dural adhesion between the posterior longitudinal ligament and intervertebral disc annulus, which may be caused by postoperative scarring; and vulnerability of the dura to iatrogenic or congenital factors such as dural thickness and epidural adhesion with the longitudinal ligament [8]. Our cases' pathology is seemed to be as a result of the first operations' complication.

Öztürk et al. found that 92 % of all IDH cases occur in the lumbar region, with only 5% occurring in the thoracic region and 3% in the cervical region [11]. IDH is most common at the L4–L5 level because the dura mater and ventral posterior longitudinal ligament are anatomically closest at this level; also lumbar disc herniation frequently occurs at L4–L5 [2,4]. Our cases' level was L3-L4, which seemed to be rare.

There are no differences in symptoms between extradural disc herniation and IDH, most cases are acute, and typical symptoms include severe leg pain and chronic low back pain [7]. However, there is a higher incidence of cauda equina syndrome in IDH than in extradural herniation [4]. Our case presented with cauda equina syndrome with walking difficulty and severe back pain.

MRI is the gold standard for neuroimaging studies. Ring enhancement on gadolinium-enhanced MRI is the typical IDH imaging features, which is required for differential diagnosis of herniated discs from tumors such as schwannoma and meningioma [10]. Ring enhancement is caused by chronic granulation tissue and peripheral neovascularization [6]. In IDH, air images with the seqestrium in the intradural space or spinal canal are sometimes seen on CT, at six times the frequency observed in normal disc herniation [5].

We presented a recurrent lumbar discopathy case operated for intradural disc herniation with cauda equina syndrome. Intradural disc herniation must be remembered cases with cauda equina especially in recurrent lumbar disc cases and differential diagnosis must kept in mind.

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