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Clinical case

Intradural Lumbar Disc Herniation: A Case Report of Intraoperative Discovery

Hernie discale lombaire intradurale : à propos d'un cas de découverte peropératoire

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Résumé

Introduction : La hernie discale intrathécale est une pathologie rare et de diagnostic difficile.

Cas clinique : Patient de 45 ans suivi pour une lombalgie chronique intermittente et présentant de façon brutale un tableau de lomboradiculalgie déficitaire en S1 droit associe à des troubles mictionnels. L'imagerie a mis en évidence une sténose canalaire sévère L4-L5 par une volumineuse hernie discale. L'indication chirurgicale est posée avec la recherche de la hernie en peropératoire se soldant par la découverte d'une masse intradurale. L'ouverture de la dure-mère confirme la hernie qui est complètement intradurale en position médiane et recouverte de radicelles. L'ablation de la hernie permet de mettre en évidence la brèche durale dont les berges adhèrent parfaitement au ligament longitudinal postérieur. Un amendement des radiculalgies a été obtenu en post-opératoire immédiat. La récupération neurologique était complète a 3 mois.

Conclusion : Pathologie rare de diagnostic souvent pose en peropératoire. L'IRM reste l'examen de référence. Le traitement est chirurgical par voie intrathécale. L'évolution est dépendante de plusieurs facteurs.

Mots-clés : Hernie discale, sciatique, Queue de cheval.

Abstract

Introduction:Intradural disc herniation is a rare condition that is difficult to diagnose.

Clinical case:A 45-year-old patient was followed for chronic intermittent low back pain and presented acutely with a clinical picture of lumboradicular pain with right S1 deficit associated with urinary disorders. Imaging revealed severe L4-L5 canal stenosis caused by a voluminous disc herniation. Surgical indication was established, with intraoperative search for the hernia resulting in the discovery of an intradural

mass. Opening of the dura mater confirmed the herniation, which was completely intradural in median position and covered by nerve rootlets. Removal of the herniation revealed the dural tear, whose edges adhered perfectly to the posterior longitudinal ligament. Improvement of radicular pain was obtained in the immediate postoperative period. Neurological recovery was complete at 3 months.

Conclusion:This is a rare condition whose diagnosis is often made intraoperatively. MRI remains the reference examination. Treatment is surgical via an intrathecal approach. Outcome depends on several factors.

Keywords:Intradural disc herniation, sciatica, cauda equina syndrome, MRI.

Introduction

Intradural disc herniation was first described by Dandy in 1942. More than a hundred cases have been described since, but it remains a rare condition (0.04 to 0.33% of disc herniations), difficult to diagnose with a high incidence of cauda equina syndrome. Surgery remains problematic. We report the case of an intradural disc herniation discovered intraoperatively in the context of cauda equina syndrome and managed surgically with uneventful postoperative course and favorable outcome.

Clinical case

This is a 45-year-old patient with no particular past medical history except for chronic intermittent low back pain for which he had been followed in the neurosurgery department for several months with conservative treatment including standard analgesics, anti-inflammatories, and functional rehabilitation measures. After several months of remission, he presented to consultation with a clinical picture of unilateral lumboradicular pain that was more or less disabling, making walking difficult, associated with urinary disorders in the form of dysuria. The patient's neurological examination revealed an incomplete distal motor deficit of the right foot, more marked in the toe flexor, associated with dysesthesia in the S1 territory on the same side and decreased sensation in the perineal region. Osteotendinous and cutaneoplantar reflexes were preserved. The Lasègue maneuver was positive with painful limitation of any elevation of the right leg from the bed plane at an amplitude greater than 30°.

Imaging revealed severe L4-L5 canal stenosis caused by a voluminous disc herniation, whose intradural character was difficult to assess at this stage.

Given this clinical picture of cauda equina syndrome due to a compressive disc herniation, surgical management was indicated, consisting of unilateral interlaminar discectomy via classic posterior approach. Intraoperative search for the hernia, after performing a hemilaminectomy and removal of the ligamentum flavum, resulted in inability to expose the intervertebral disc space with a dural sac that was very adherent in the posterior epidural space and presenting the characteristics of an intradural mass on palpation. Conversion to a bilateral approach was performed allowing good exposure of the dural sac after complete laminectomy of L4.

Opening of the dura mater confirmed the herniation, which was completely intradural in median position and covered by nerve rootlets.

Removal of the herniation was performed using a straight disc forceps carefully and en bloc to avoid any trauma to the nerve rootlets. It allowed visualization of the dural tear, whose edges were in perfect continuity with the posterior longitudinal ligament. A watertight closure of the dura mater was performed with 4.0 Prolene suture.

No intraoperative complications were noted at the end of the procedure and the postoperative course was uneventful. The immediate outcome was marked by improvement of radicular pain. The postoperative hospital stay was 3 days. Neurological recovery was satisfactory at 3 months with good recovery of motor and sphincter function and stable results at 6 months.

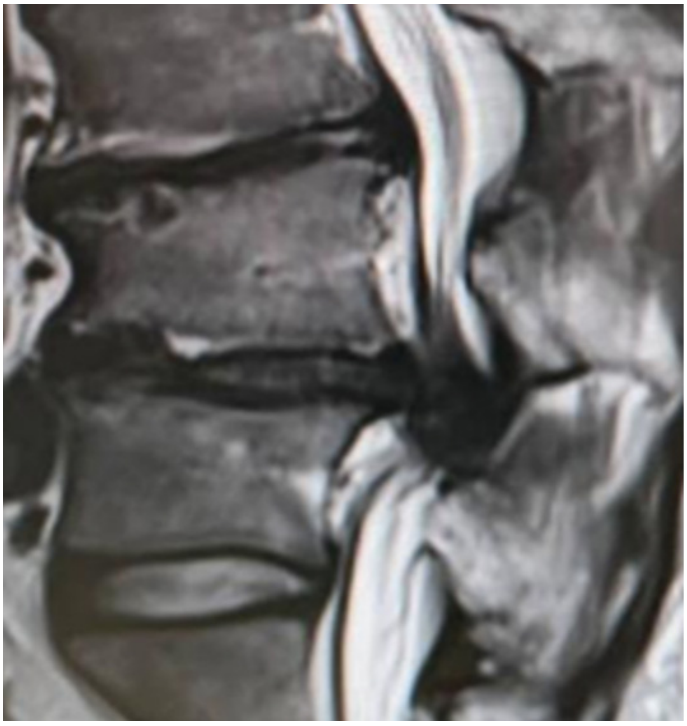

Figure 1: Sagittal MRI slice of the lumbar spine in T2 sequence showing severe canal stenosis caused by a voluminous posteromedian disc herniation severely compressing the dural sac.

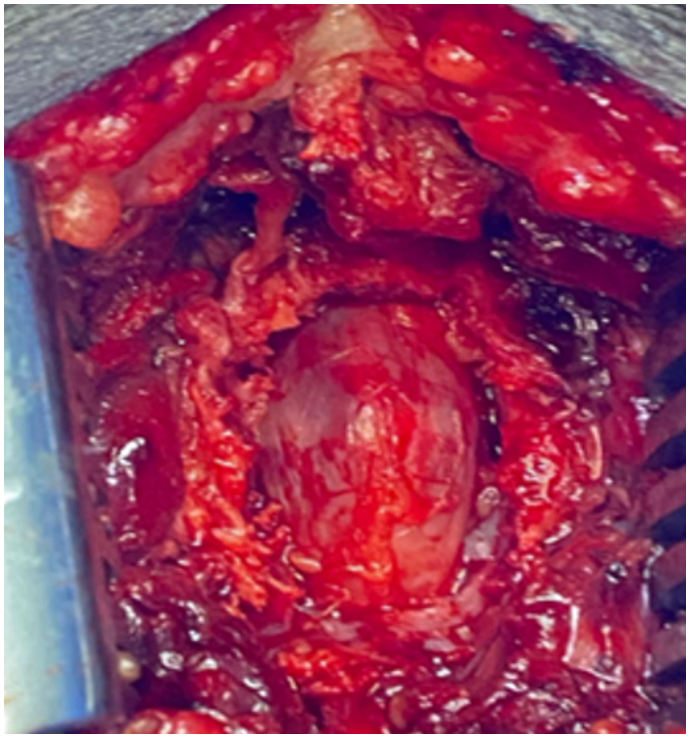

Figure 2: Exposure of the dural sac.

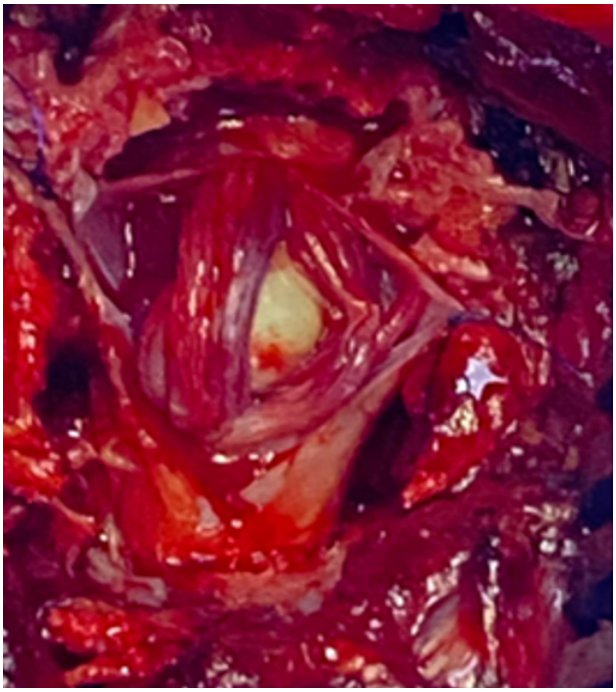

Figure 3: Disc herniation in median position covered by nerve rootlets after opening and suspension of the dura mater

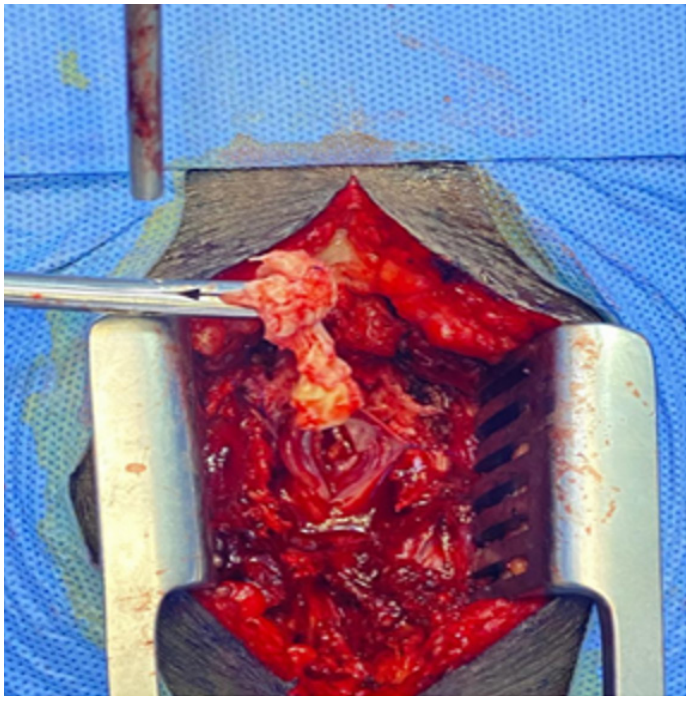

Figure 4: removal of the herniation.

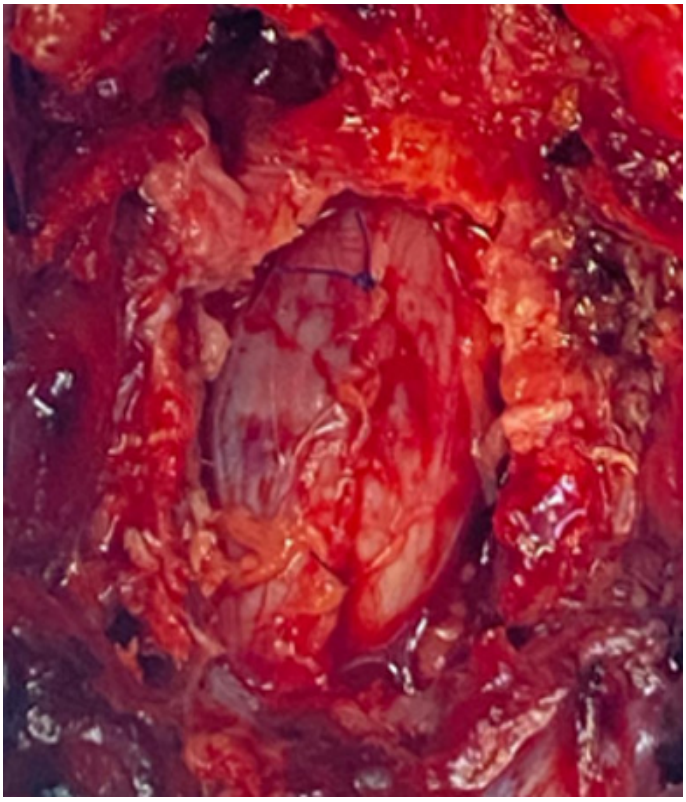

Figure 5: repair of the dural sac.

Discussion

Intradural disc herniation remains a rare condition. Barat and Durand report an incidence of 0.04 to 0.33% (1) in their study versus 0.27% for Lesoin et al. (2). The lumbar location is the most common at 92% versus 5% in the thoracic region and 3% in the cervical region (3). The L4-L5 level is most commonly affected at 55%, followed by L2-L3 at 16% and L5-S1 at 10% (4)(5)(6). This trend is confirmed in our case with the location of the herniation at L4-L5. No difference was noted in the clinical presentation between extradural and intradural disc herniation. Although the pathogenesis of intradural disc herniation is uncertain, congenital or acquired adhesion between the dural sac and the posterior longitudinal ligament has been accepted as a predisposing factor (7)(8). It is often described as a complication resulting from a preexisting herniation that was either unrecognized or neglected, adhering to the anterior surface of the dura mater. Symptoms appear following exertion in a patient with a history of low back pain or sciatica. The neurological deficit is often considerable with pronounced cauda equina syndrome (2). A long history of low back pain was noted in our case with more or less sudden worsening of symptoms.

Different imaging techniques have been used to confirm the intrathecal nature of the disc fragment including CT scan, myelography, or MRI. The radiological diagnosis of intradural disc herniation is possible in carefully selected cases thanks to MRI with gadolinium injection. However, the final diagnosis is often made intraoperatively (9). Treatment of intradural disc herniation is surgical and should be performed as soon as the diagnosis is suspected. It must be recognized and treated appropriately during the initial operation to prevent complications such as "Failed Back Surgery Syndrome" (10). The use of the operating microscope is recommended to allow better visualization of the lesion and its surroundings.

Conclusion

Intradural disc herniation remains a rare condition whose diagnosis is often made intraoperatively. MRI is the examination of choice to refine the diagnosis. Treatment is surgical. The outcome is often dependent on the duration of symptom evolution and the severity of neurological deficits before treatment. Hence the need for early management when it is suspected.

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Conflict of interest : None

References

[1] Barat J.L, Durand A. La hernie discale intrathecale. Cahiers d'enseignement de la SOFCOT, La hernie discale lombaire. Elsevier Masson ; 2019. 127-130

[2] F. Lesoin, B. Duquennoy, M. Rousseaux, R. Servato, and M. Jomin, Intradural Rupture of Lumbar Intervertebral Disc : Report of Three Cases with Review of the Literature, the Congress of Neurological Surgeons, Vol. 14. No. 6.1984

[3] Epstein NE, Syrquin MS, Epstein JA, Decker RE : Intradural disc herniations in the cervical, thoracic, and lumbar spine. J Spinal Disord: 4396-403, 1990.

[4] Jae Young Choi, Wan Soo Lee, Kyeong Hoon Sung, Intradural lumbar disc herniations : Is it predictable preoperatively ? A report of two cases, The Spine Journal 7 (2007) 111-117

[5] Blikra G., Intradural herniated lumbar disc.J., Neurosurg.31 (1969) 676-679

[6] TIJOmolske G., G. Mohr, Intradurale Sequestration of lumbar Disc herniation with special consideration of achondroplasia, Nervenarzt 45 (1974) 376-379

[7] In-Ho Han, Keun-Su Kim, Byung-Ho Jin, Intradural lumbar disc herniation associated with epidural adhesion : report of two cases, J Korean Neurosurg Soc. 2009 ;46(2) : 168-171

[8] F. J. Prestat, H.H. Schattke, Minimal Invasive Neurosurgery 38 (1995) 125-128

[9] Giancarlo D'Andrea, Giuseppe Trill, Raffaelino Roperto, Paolo Celli, Epimenio Ramundo Orlando, Luigi Ferrante, Intradural lumbar disc herniations : the role of MRI in preoperative diagnosis and review of the literature, Neurosurg Rev (2004) 27 :75-80

[10] Jain SK. et al, Intradural Disc Herniation, Intradural Disc Herniation - A Case Report, Turkish Neurosurgery 2013, Vol: 23, No: 3, 389-391

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