



Case Report

# Difficulty differentiating between a posterior extradural lumbar tumor versus sequestered disc even with gadolinium-enhanced MRI

Maurizio Passanisi<sup>1</sup>, Gianluca Scalia<sup>2</sup>, Paolo Palmisciano<sup>1</sup>, Daniele Franceschini<sup>1</sup>, Antonio Crea<sup>1</sup>, Crescenzo Capone<sup>3</sup>, Maria Grazia Tranchina<sup>4</sup>, Giovanni Federico Nicoletti<sup>2</sup>, Salvatore Cicero<sup>1</sup>, Giuseppe Emmanuele Umana<sup>1</sup>

<sup>1</sup>Department of Neurosurgery, Cannizzaro Hospital, <sup>2</sup>Department of Neurosurgery, Highly Specialized Hospital and of National Importance "Garibaldi," Catania, Sicily, Italy, <sup>3</sup>Department of Neurosurgery and Institute of Intensive Care Medicine, University Hospital and University of Zürich, Zurich, Switzerland, <sup>4</sup>Department of Pathological Anatomy, Cannizzaro Hospital, Catania, Italy.

E-mail: Maurizio Passanisi - mpassanisi@tiscali.it; Gianluca Scalia - gianluca.scalia@outlook.it; Paolo Palmisciano - paolo.palmisciano94@gmail.com; Daniele Franceschini - danieledoc21@yahoo.it; Antonio Crea - antonio\_crea89@virgilio.it; Crescenzo Capone - crescenzoapone@gmail.com; Maria Grazia Tranchina - mariagrazia.tranchina@aoc.it; Giovanni Federico Nicoletti - gfnicoletti@alice.it; Salvatore Cicero - cicerosalvatore@yahoo.it; \*Giuseppe Emmanuele Umana - umana.nch@gmail.com



\*Corresponding author:

Giuseppe Emmanuele Umana,  
Department of Neurosurgery,  
Cannizzaro Hospital, Via  
Messina, 829, Catania - 95126,  
Sicily, Italy.

umana.nch@gmail.com

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## ABSTRACT

**Background:** Differentiating between posterior extradural tumors versus sequestered lumbar disc herniations may be difficult even utilizing contrast-enhanced MR scans.

**Case Description:** A 49-year-old male acutely presented with an incomplete cauda equine syndrome. When the MRI showed a L4-L5 posterior extradural lesion that enhanced with gadolinium, an urgent left hemilaminectomy was performed. The lesion proved to be a sequestered disc herniation rather than a tumor. Notably, postoperatively the patient almost completely recovered after 6-month follow-up.

**Conclusion:** Even on contrast-enhanced MRI studies, posterior extradural sequestered lumbar disc herniations may mimic tumors.

**Keywords:** Cauda equina, Low back pain, Lumbar disc, Posterior epidural migration, MRI

## INTRODUCTION

Posterior extradural sequestered lumbar disc herniations (PESLDH) are rare. As per they typically occur in middle-aged males at the L3-L4 level where they result in cauda equine compression.<sup>[3-5]</sup> Enhanced MR studies are best utilized to differentiate extradural tumors from discs herniations and should prompt urgent surgery based upon the patients' neurological status. In some cases, only the final histopathology, will confirm the lesion type.

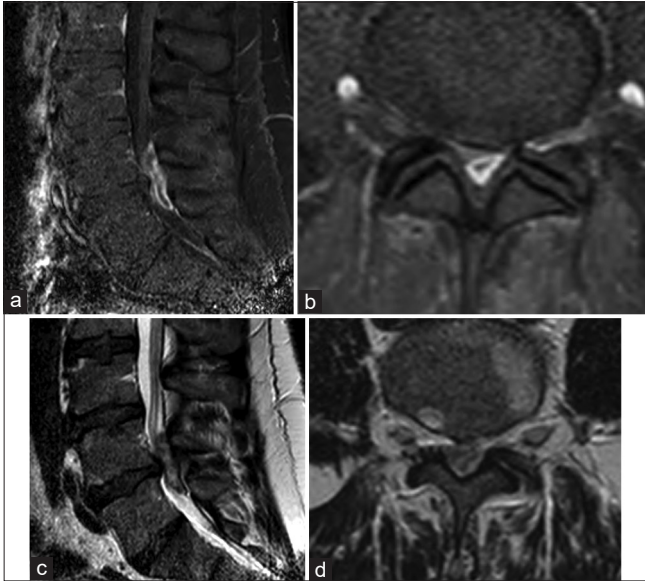
## CASE REPORT

### Medical history and physical examination

A 49-years-old male, with a history of trauma, had low back pain of 6 months' duration but presented with 4 weeks of paraparesis (numbness/weakness), and 10 days of bladder dysfunction.

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**Figure 1:** Lumbar spine MRI showed L4-L5 posterior extradural compression with peripheral contrast-enhancement on T1-weighted sagittal and axial sequences (a and b) and hypointensity on T2-weighted sagittal and axial sequences (c and d).

He exhibited an incomplete cauda equine syndrome, 2/5 in the left leg, 3/5 on the right, mild saddle hypoesthesia, and severe bilateral hypoesthesia below L5.

#### Radiological studies

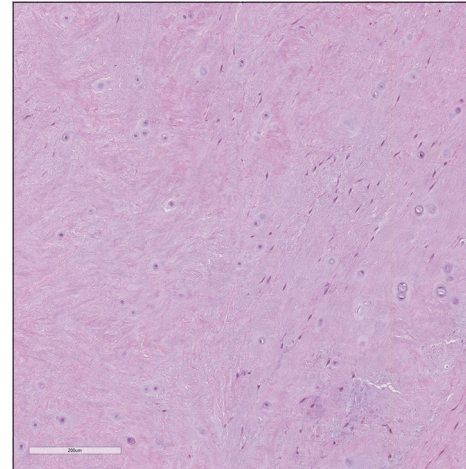
The lumbar MR showed a compressive posterior L4-L5 extradural lesion (i.e. iso/hypointense on T1-weighted sequences and hypointense on T2-weighted sequences); it markedly enhanced with contrast (Gadolinium DTPA) [Figure 1]. The differential diagnoses included: tumor, cyst (synovial and ligamentum flavum), and disc.

#### Surgical procedure and outcome

A left-sided hemilaminectomy was performed at the L4-L5 level and revealed atypical, extruded disc fragment that was microsurgically removed [Figure 2]. Postoperatively, patient's deficits largely resolved, leaving him only with mild residual left leg numbness (lasting 6 months).

#### DISCUSSION

PESLDHs frequently occur in middle-aged males with a chronic history of manual labor, heavy lifting, and/or a recent history of trauma. In 39.2% of cases, the discs are ventrally located at the L3-L4 level; however, posterior herniations are also rarely reported.<sup>[2]</sup> On MRI PESLDHs may be iso/hypointense on T1, hypointense on T2, and show peripheral contrast-enhancement.<sup>[1]</sup> Nevertheless,



**Figure 2:** Hematoxylin-eosin staining confirmed the disco-ligamentous nature of the disc sample.

since these lesions, whether extruded disc, tumor, or other may lead to acute complete/incomplete cauda equine syndromes, urgent/emergent surgical decompression is typically warranted.

#### CONCLUSION

Posterior extradural compressive lesions that enhance on contrast MR studies may include tumors, cysts, or sequestered lumbar disc herniations. Based on clinical symptoms, signs, routine decompression, and pathological confirmation of the diagnosis are essential to appropriate management.

#### Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

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