

**REVIEWER'S REPORT**

Manuscript No.: JNHST- 088

**Title:** Case Report: Nondysraphic Thoracic Intradural intramedullary Lipoma in a 35-Year-Old Female

**Recommendation:**

Accept after minor revision

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance	✓			

Reviewer's ID: JPR- 215

***Detailed Reviewer's Report***

The case report titled "Nondysraphic Thoracic Intradural Intramedullary Lipoma in a 35-Year-Old Female" provides an insightful analysis of an exceptionally rare clinical entity. Nondysraphic intramedullary lipomas (NILs) represent a minute fraction of primary spinal cord lesions, occurring within an intact spinal column—a fact that distinguishes them from the more common dysraphic lipomas associated with spinal bifida. The author presents a detailed account of a 35-year-old patient experiencing subacute neurological decline, using the case to illustrate the diagnostic precision required to differentiate these lesions from more common myelopathies and the critical surgical nuances necessary to preserve neural function.

The narrative effectively establishes the "surgical paradox" inherent in NIL management: while the tumor itself is a benign fatty mass, its location within the spinal cord and its lack of a distinct surgical plane make radical removal extremely hazardous. The author emphasizes the importance of Magnetic Resonance Imaging (MRI), particularly fat-suppression sequences, as the diagnostic gold standard. This

**REVIEWER'S REPORT**

imaging is crucial for identifying the "liponeural interface," where tumor tissue "interdigitates" with the spinal cord. The paper argues that recognizing this interface is the most significant factor in surgical decision-making, as it dictates a shift in goal from gross total resection to subtotal decompression.

A primary strength of the report is the detailed description of the microsurgical strategy employed. The author advocates for a conservative approach, prioritizing the preservation of the patient's neurological integrity over oncological "completeness." The case demonstrates that subtotal resection, aimed at decompressing the cord while leaving a thin layer of lipoma attached to the neural tissue, provides excellent symptomatic relief with a minimal risk of recurrence. The six-month follow-up data, showing significant improvement in motor strength and sensory function without evidence of tumor regrowth, serves as compelling evidence for the efficacy of this "conservative operative strategy."

Furthermore, the paper addresses the differential diagnosis of progressive myelopathy, suggesting that NILs should be considered even in the absence of spinal dysraphism. The author's evaluation of the "nondysraphic" aspect is particularly important for the neurosurgical community, as it challenges the assumption that intramedullary lipomas are exclusively pediatric or developmental anomalies. The narrative successfully frames the case within the broader context of adult spinal cord pathology, providing a clear and professional analysis of the risks of iatrogenic injury versus the benefits of surgical intervention in the thoracic spine.

In summary, this case report offers a robust and professionally written contribution to neurosurgical literature. It moves beyond a simple clinical description to provide a sophisticated inquiry into the "liponeural" challenges of the spinal cord. The author's ability to link diagnostic imaging findings with specific intraoperative decision-making makes this an essential read for neurosurgeons and neurologists. The study reinforces the gold standard of "function over total excision," a principle that remains paramount in the management of rare and complex intramedullary lesions.

---

**Recommendations for Improving the Article**

- **Histopathological Documentation:** While the MRI findings are described as diagnostic, the paper would be significantly strengthened by the inclusion of histopathological descriptions or images (e.g., H&E staining) to confirm the mature adipocyte structure of the lesion.
- **Literature Review Expansion:** The report would benefit from a more comprehensive table summarizing previously reported cases of thoracic NILs in adults. This would allow for a clearer comparison of patient age, gender, exact spinal level, and surgical outcomes across the existing body of research.

**REVIEWER'S REPORT**

- **Refined Anatomical Description:** In the description of the "liponeural interface," it would be beneficial to specify if the lipoma was situated dorsally, ventrally, or centrally within the cord, as the anatomical approach (e.g., posterior midline myelotomy) varies significantly based on this orientation.
- **Long-term Follow-up Context:** While the six-month outcomes are positive, the author should briefly discuss the potential for very late recurrence (beyond 5–10 years) in subtotal resections, even if such occurrences are rare in the literature.
- **Technical Nomenclature:** Ensure consistent use of the term "nondysraphic" throughout the text; in some sections, the distinction between "intradural" and "intramedullary" could be more sharply delineated to aid the reader's visualization of the tumor's exact relationship with the pia mater.

**Recommendation:** Recommend for publication with minor revision.