Posterolateral transpedicular approach is a safe alternative for resection of multilevel ventral intradural schwannomas of the thoracic spine.

Carlos R. Goulart MD\textsuperscript{1}, Shawn S. Rai MD\textsuperscript{1}, Haydn Hoffman, MD\textsuperscript{1}, Michael A. Galgano MD\textsuperscript{1}

\textsuperscript{1}State University of New York-Upstate; Department of Neurosurgery

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Disclosures:

- None
Introduction:

- Surgical resection of intra-dural ventral thoracic lesions can be challenging.
- Anterior transthoracic approach if often required but it can be associated with significant morbidity and pain.
- Ventral CSF leak can be challenging to manage and might lead to respiratory dysfunction.
- To safely achieve safe resection of these lesions posteriorly a wide surgical opening is paramount to avoid retraction of the thoracic spinal cord.
- It is known that posterior approaches for ventral thoracic spine disc herniation are associated with poorer neurological outcomes. As a consequence, even though neurosurgeons are more familiar with posterior approaches this data will often steer surgeons away from this option.
Methods:

- We present a 75-year-old female who presented with inability to ambulate, and neurogenic bowel and bladder. Work up revealed 5 intradural tumors spanning from T10-12.

Figure 1: A) Sagittal T2 MRI demonstrating 5 intradural lesions anterior to the cord causing significant compression. B and C: Sagittal and axial T1 with contrast demonstrating marked enhancement.
Results:

- Via a midline posterior approach, a high-speed drill was used for posterior T9-T12 laminectomies and unilateral facetectomies and pediculotomies at T10-12 levels.
- Posterolateral instrumentation from T9-L1 of the contralateral side was done with placement of a temporary rod.
- The intradural removal of the schwannomas was then performed in an en-bloc fashion with minimal manipulation of the spinal cord. The posterolateral fusion was then finalized.
- MRI showed complete removal of the lesions.
- The patient’s neurological status was unchanged post operatively and spinal alignment was maintained with instrumentation without negative impacts for the patient up until his last follow up visit.
- Pathology results were consistent with Schwannoma WHO grade I lesions.
Results:

Figure 2: A) Intraoperative imaging during microdissection of the lesion demonstrates appropriate surgical corridor for excision without cord retraction. B) Two of the specimens after excision show that regardless of the significant diameter of some of the lesions they were safely removed with a posterior only approach.
Discussion/Conclusions:

- The proposed technique offers a safe wide operative field for ventral schwannoma excision through an instrumented posterolateral transpedicular approach.
- One of the main advantages to this technique is that most surgeons are very comfortable with posterior approaches to the spine.
- Even though thoracic cord retraction is a major concern with a posterior approach to ventral thoracic pathologies our case demonstrates that in some selected cases lesions can be safely remove with this technique avoiding the significant morbidity and pain associated with anterior transthoracic approaches.