Endoscopy for T10 nerve sheath tumor

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Minimally invasive surgery (MIS) is increasingly being adopted for spinal intradural tumors. Through the use of conventional microscopy or exoscopy for large lobulated nerve sheath tumors, the posterior root attachment is often visualized only after mobilizing the tumor. Here, the authors describe the utility of angled endoscopy with its panoramic view for a T10 nerve sheath tumor. Gross-total extracapsular excision was achieved utilizing a minimally invasive right paraspinous approach, fenestration, lateral durotomy, sliding delivery of the tumor, sharp dissection of radicular attachments under neuromonitoring, and dural closure with oblique clips. Angled endoscopes help visualize the attachments behind large multilobulated tumors and confirm the totality of excision.

The video can be found here: https://stream.cadmore.media/r10.3171/2024.1.FOCVID23214
https://thejns.org/doi/abs/10.3171/2024.1.FOCVID23214

KEYWORDS  minimally invasive; endoscopy; IDEM; intradural extramedullary; nerve sheath tumor; schwannoma

Transcript

0:26 Minimally invasive surgery is increasingly being adopted for spinal intradural tumors. Large IDEMs may impede the visualization of posterior attachments, and diligence is needed for the total excision of multilobulated tumors without causing neural deficits.1

0:48 A 28-year-old male patient presented with right-sided flank pain for 8 months and mild right-sided spasticity for a month. MRI of the thoracolumbar spine revealed a T10 intradural extramedullary tumor suggestive of a nerve sheath tumor toward the right.

1:11 The minimally invasive endoscopic approach was chosen because of the minimal disruption of the spine and soft tissues, and the panoramic view and angled optics provided by the endoscope.

1:25 In the prone position, the T10 level was identified using x-ray localization, and a right paramedian incision of 3 cm was given. The paraspinal muscles were retracted laterally to expose the T10 lamina, and a minimally invasive spine retractor was placed.

1:47 Using endoscopes of 4-mm diameter and 18-cm length for illumination and view, right-sided fenestration was carried out with a high-speed drill and rongeurs. As the tumor did not have a foraminal extension, medial facetectomy was not necessary.

2:08 A lateral longitudinal durotomy was done. De-
with fenestration of lamina and sliding delivery technique seems safe and effective for a T10 nerve sheath tumor.

References

Disclosures
The authors report no conflict of interest concerning the materials or methods used in this study or the findings specified in this publication.

Author Contributions
Primary surgeon: Dhandapani. Assistant surgeon: Gendle. Editing and drafting the video and abstract: Dhandapani. Reviewed submitted version of the work: Dhandapani. Approved the final version of the work on behalf of both authors: Dhandapani. Supervision: Dhandapani.

Supplemental Information
Patient Informed Consent
The necessary patient informed consent was obtained in this study.

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