

Neuraxial Anesthesia in Neurofibromatosis Type 1 After Open Duodenal Resection

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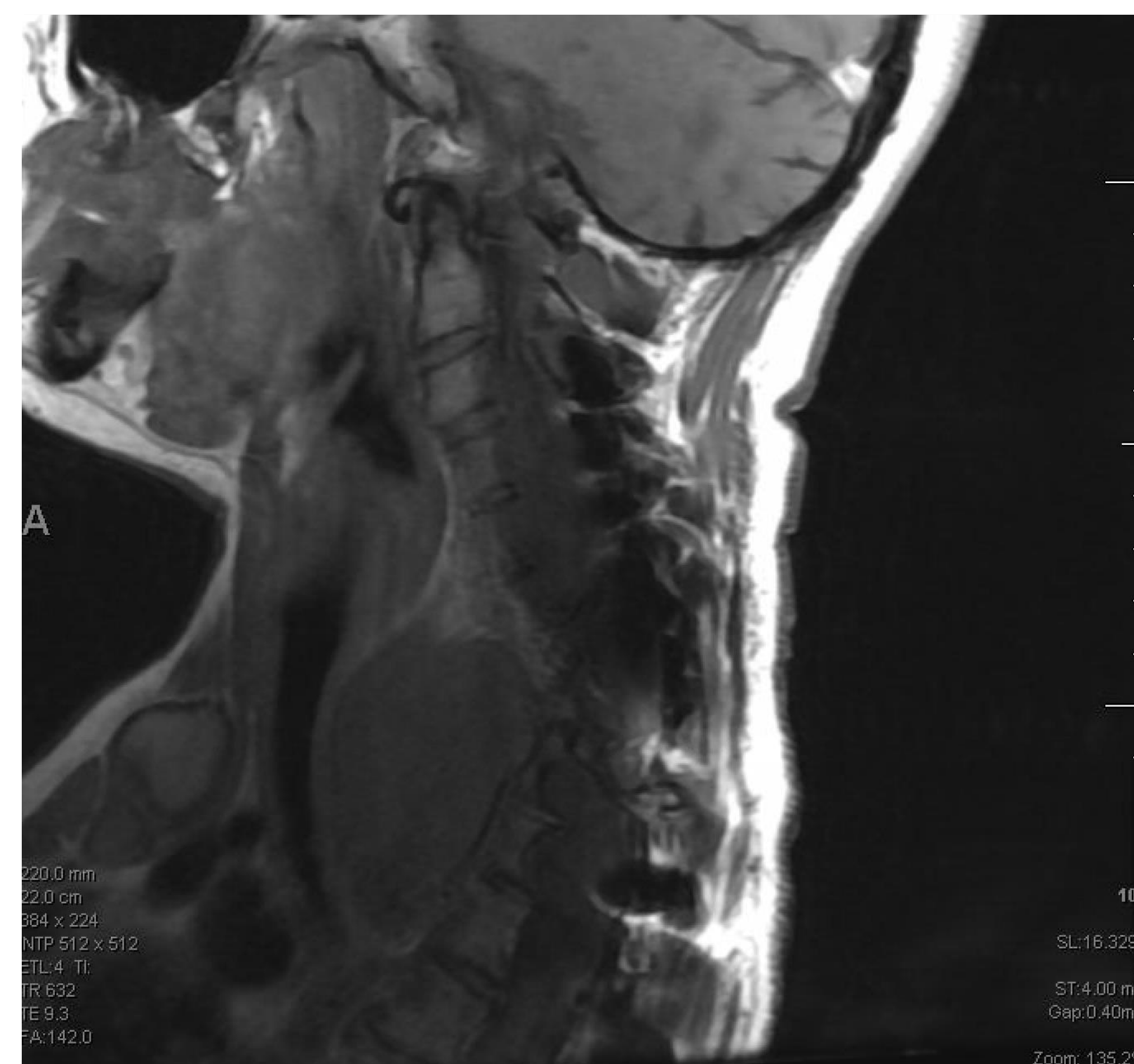


Background

- Neurofibromatosis (NF): autosomal dominant genetic disorder.
- Neuronal tumors commonly in brain, spinal cord, peripheral nerves
- 1 in 3,000 to 4,000 people.
- High rate of recurrence, tumor growth inversely related to age.
- NF1 pts have increased risk of cerebrovascular malformations.
- Multiple risk factors for increased ICP.

Methods

- Case of a young woman with a history of cervical/thoracic spinal cord lesion, requiring open duodenal tumor resection.
- Patient informed consent was obtained for this case report. All information was de-identified. Any information that may impact patient care was reported to the primary service provider and patient. Per Colorado Multiple Institutional Review Board policy, IRB review not required for de-identified, single patient case reports.



29 yo F with hx of depression, anxiety, headaches, and seizures secondary to Neurofibromatosis 1 (NF1) with CNS involvement presented for a robotic segmental duodenal resection.

Pt presented to OSH with abdominal pain, found to have mass suspicious for neuroendocrine tumor, was recommended for resection. Case was converted from laparoscopic to open.

2008:
Right neck plexiform neurofibroma extending into the right lung apex, lesion terminating at the T1 thoracic level.

Results

2012: The lesion had enough interval growth to cause tracheal shift. However, subsequent resection was not performed.

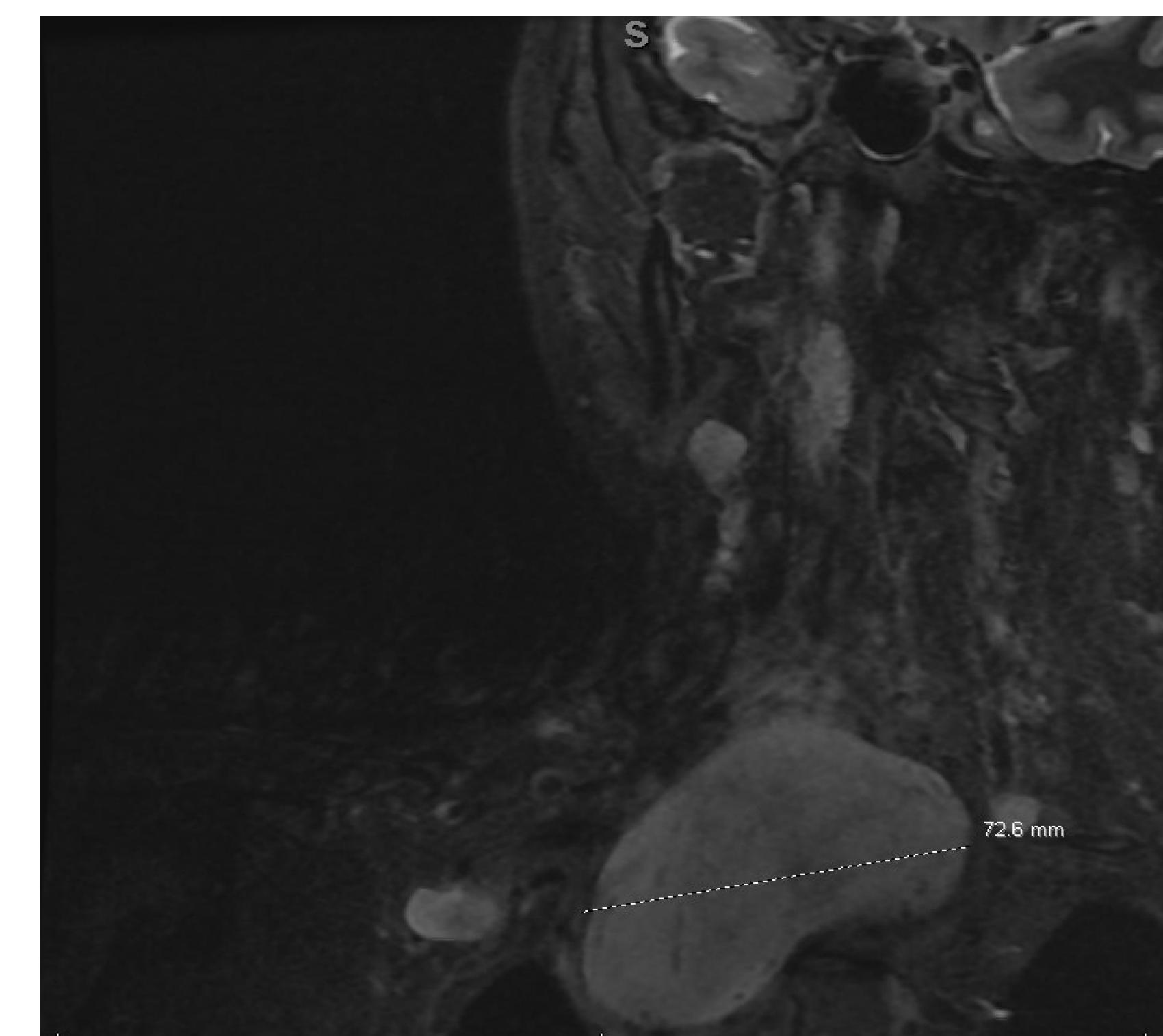
2019: The patient began chemotherapy for astrocytoma with hopes to shrink the mediastinal mass, and by that time, the lesion had extended down to Thoracic level T3.

2022: Surgical resection of the astrocytoma, there was no significant interval change of the intrathoracic lesion, but mass effect on local vessels was noted.

2023: Peri op team had no interval imaging of the lesion to assess growth or invasion of local structures. Patient's surgical incision would require epidural coverage from dermatomes T5-T9 necessitating epidural placement in the mid thoracic region, within a few vertebral levels of the previously imaged lesion.

It was unknown whether the patient's prior CNS lesion had a high likelihood of recurring, precluding epidural placement.

The decision was made to consult neurosurgery and neuroradiology. After discussion, it was determined that due to typical slow growth of a pilocytic astrocytoma following resection and due to the patient's history of slow tumor progression, it had a low likelihood of invading the CSF or obstructing an epidural needle trajectory. After discussion with the patient, the decision was made to proceed with placement of T7-T8 epidural with effective pain relief.



Conclusions

No complications were noted from epidural placement, and the patient was discharged on post op day 9. Through a multi-disciplinary approach, we were able to provide safe and effective acute pain management.

Implications

Central nervous system involvement in neurofibromatosis must be considered through a whole clinical picture and does not immediately remove neuraxial options. More frequent imaging, or pre-operative imaging, may have eliminated the initial barrier to epidural placement.

Disclosures

There are no financial affiliations to disclose in relation to this case.