

## Case Presentation

### Acute Care Course

- A 15-year-old female with no medical history developed left upper extremity (LUE) tremor and intermittent exertional flexor posturing.
- Initial imaging revealed no intracranial abnormalities.
- She also exhibited anxiety and depression. In the absence of other neurologic sequelae, she was diagnosed with functional neurological symptom disorder (FNSD).
- Two years later, she developed headaches, altered voice, impaired vision, and wide-based gait.
- During an episode of acute nausea and vomiting, MRI brain was obtained and revealed heterogeneous bilateral thalamopeduncular tumor with hydrocephalus (see images).
- She underwent craniotomy with biopsy, subtotal resection and drainage. Tumor pathology revealed WHO Grade I juvenile pilocytic astrocytoma.

### Rehabilitation Course

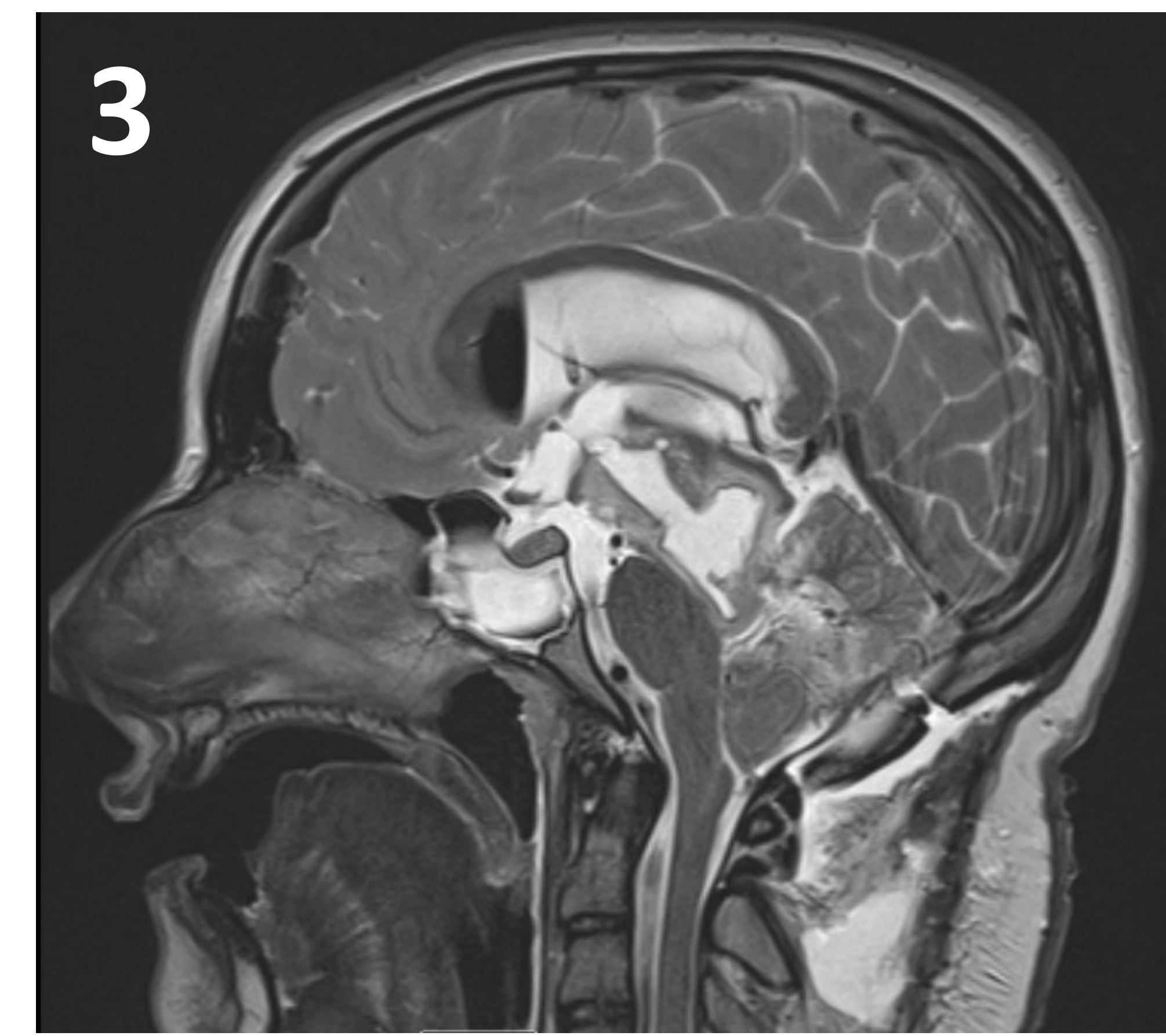
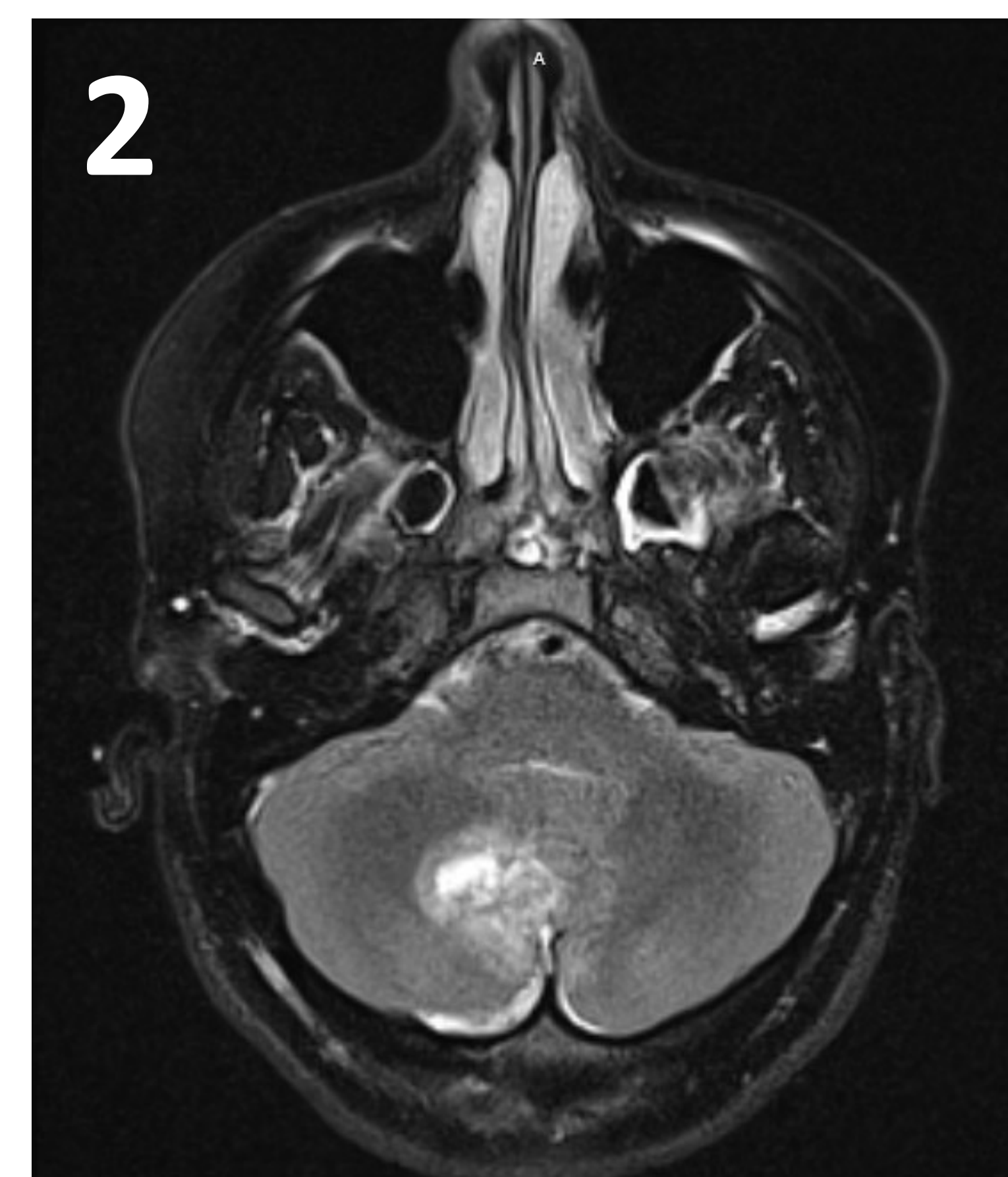
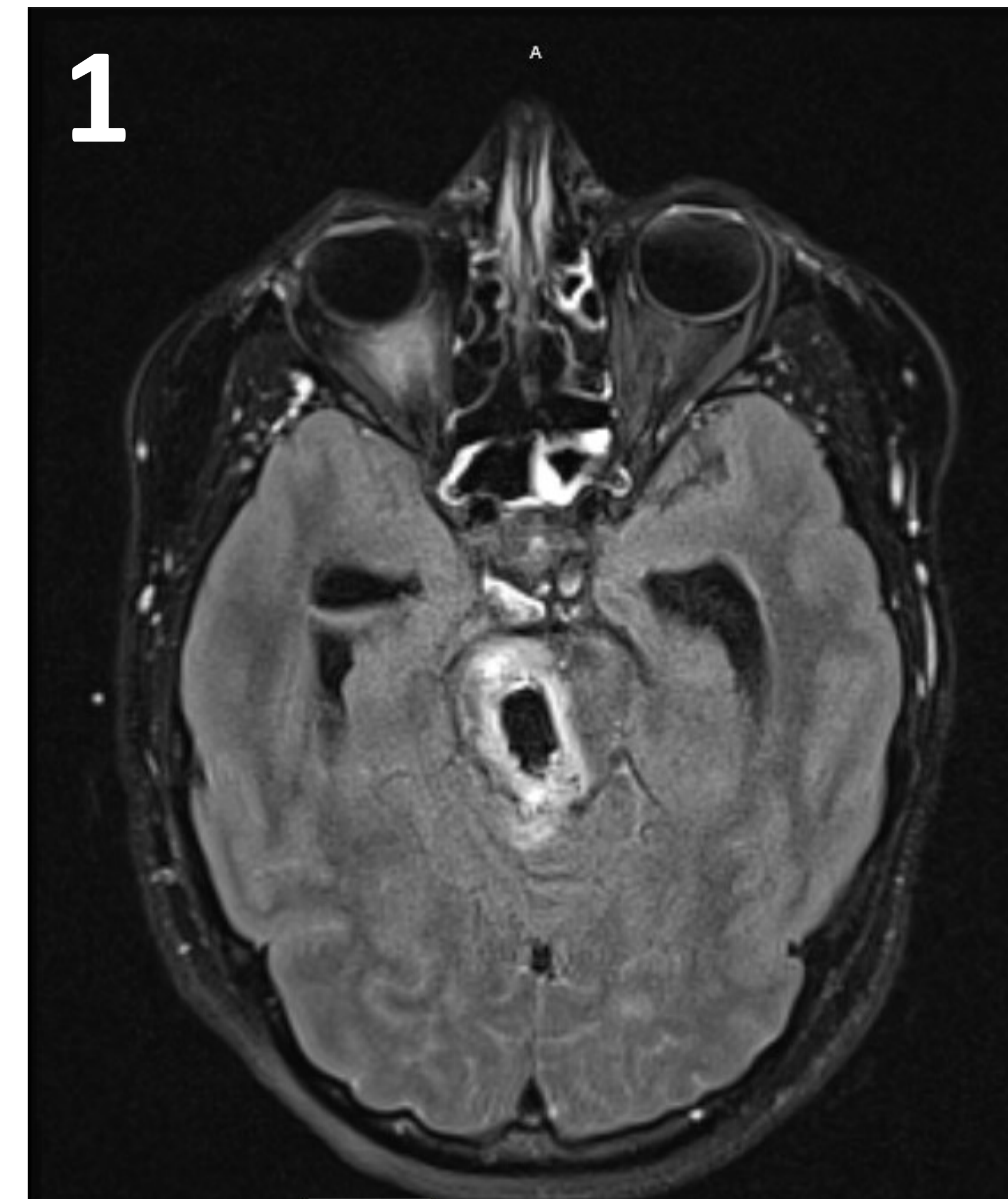
- With plans for chemotherapy pending, she completed a course of acute inpatient rehabilitation.
- She made functional gains in mobility, as evidenced by improvement in the six-minute walk test and BERG balance score.
- Activities of daily living, such as toileting and dressing, improved from dependent to supervision.
- Given LUE tremor, fine motor tasks remained impaired.

## Imaging

### Images 1, 2, and 3: MRI images obtained at time of diagnosis.

Cystic and solid midbrain lesion extending into the right cerebral peduncle and thalamus with a large dorsal exophytic component filling the fourth ventricle and mild signal changes of the left thalamus and peduncle. There is associated mass effect with severe obstructive hydrocephalus.

- 1: axial view at the level of the orbits  
2: axial view through the cerebellum  
3: mid-sagittal view



## Discussion

- Juvenile pilocytic astrocytomas are the most common childhood brain tumors and tend to have good prognosis.
- They are low-grade gliomas most commonly occurring in the optic pathway, hypothalamus, and brainstem.
- Presenting symptoms include headache, emesis, and signs of increased intracranial pressure.
- This case highlights the importance of recognizing the potential for atypical features and slow progression of symptoms associated with central nervous system (CNS) tumors.

## Conclusion

- While typical symptoms such as headache, altered vision and/or emesis with neurologic deficits trigger providers to consider CNS neoplasms on the differential, the diagnosis can be missed in situations with atypical or delayed presentation.
- This case illustrates that when a patient develops new neurologic symptoms or the presentation drastically changes, it is worth reevaluating the diagnosis of FNSD with comprehensive workup.

## References

1. Bornhorst M, Frappaz D, Packer RJ. Pilocytic astrocytomas. *Handbook of Clinical Neurology*. 2016;134:329-44.
2. Zattara-Cannoni H, Gambarelli D, Lena G, Dufour H, Choux M, Grisoli F, Vagner-Capodano AM. Are juvenile pilocytic astrocytomas benign tumors? A cytogenetic study in 24 cases. *Cancer Genet Cytogenet*. 1998 Jul 15;104(2):157-60.
3. Fulham MJ, Melisi JW, Nishimiya J, Dwyer AJ, Di Chiro G. Neuroimaging of juvenile pilocytic astrocytomas: an enigma. *Radiology*. 1993 Oct;189(1):221-5.

