

A 9-year-old boy is brought to the office by his parents due to frequent headaches. For the past week, the patient has been waking up in the morning complaining of headache that seems to improve throughout the day. His parents also report 2 episodes of emesis occurring overnight. The patient played in a football game two weeks prior to the onset of headaches but has no known history of recent trauma. Physical examination shows a tired-appearing boy with bilateral papilledema. An urgent MRI reveals an intracranial mass, and eventual histology of the mass confirms a diagnosis of medulloblastoma. In addition to his papilledema, which of the following additional examination findings would most likely be seen in this patient?

- ☐ A. Aphasia
- ☐ B. Bitemporal hemianopsia
- ☐ C. Eyelid retraction
- ☐ D. Hemiparesis
- ☐ E. Intention tremor
- ☐ F. Short stature
- ☐ G. Truncal ataxia

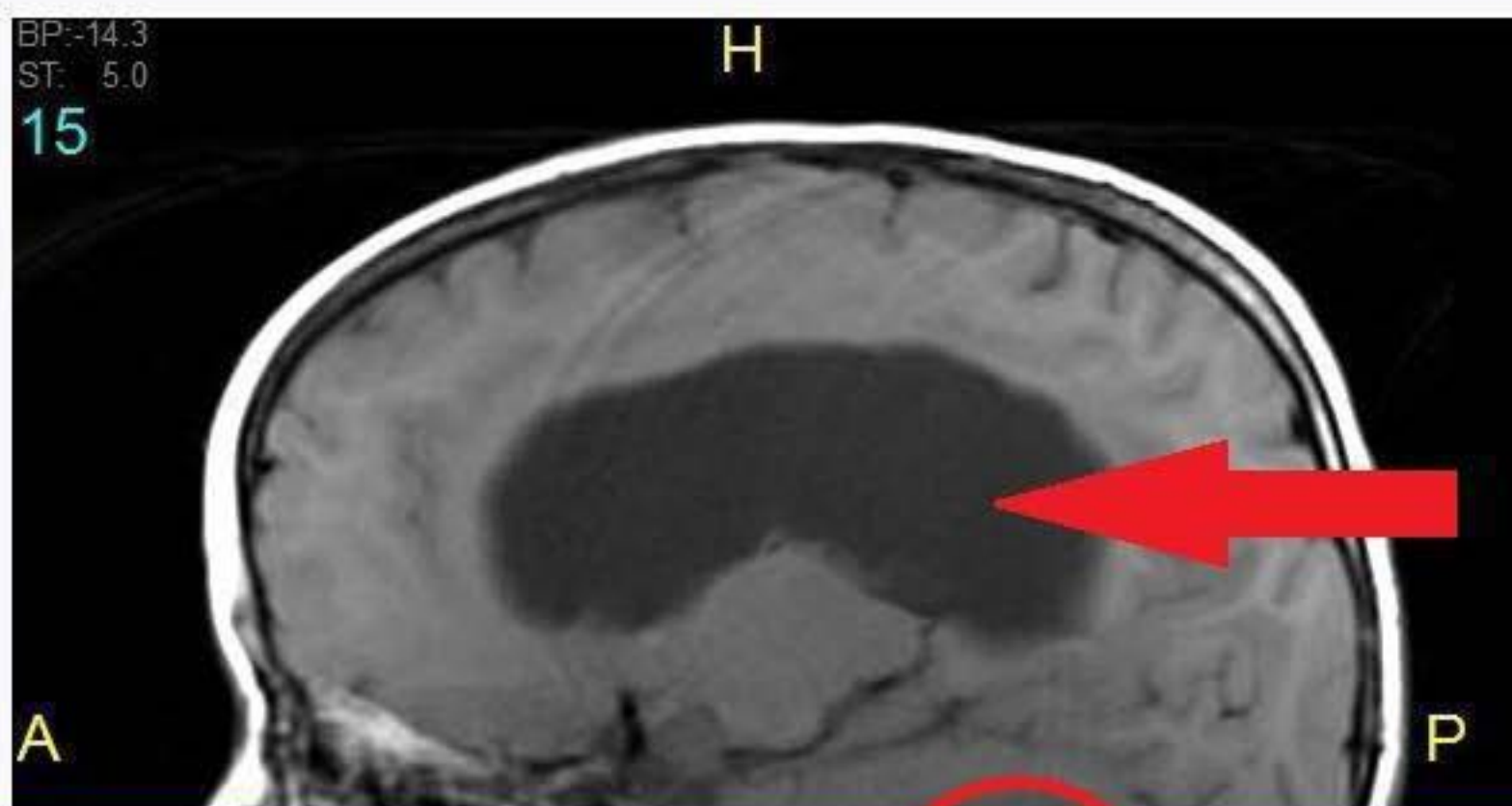


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- ☐ A. Aphasia [2%]
- ☐ B. Bitemporal hemianopsia [7%]
- ☐ C. Eyelid retraction [5%]
- ☐ D. Hemiparesis [7%]
- ☐ E. Intention tremor [8%]
- ☐ F. Short stature [1%]
- ☒ G. Truncal ataxia [71%]

[Proceed to Next Item](#)**Explanation:**

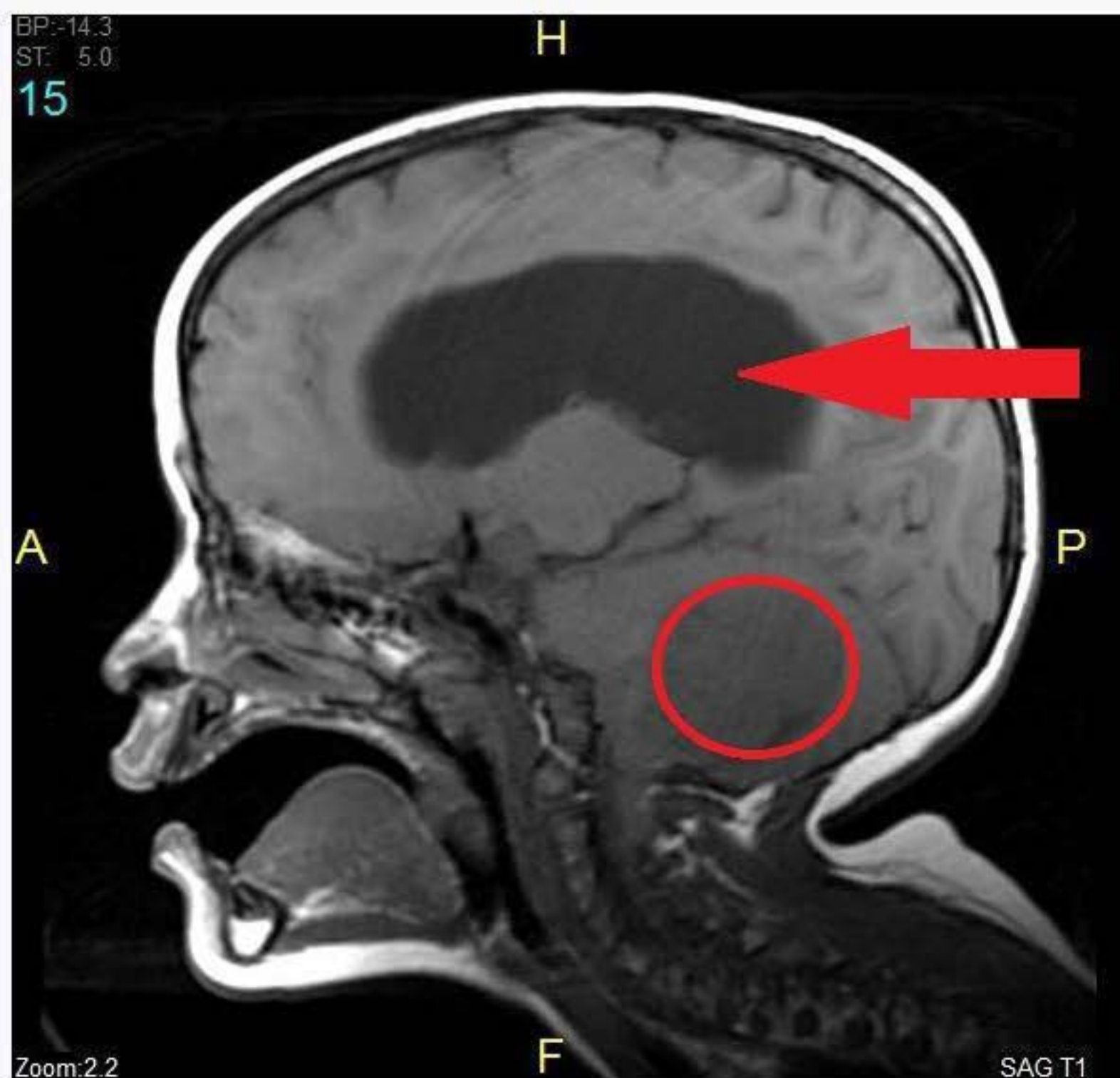
User Id: [REDACTED]





Explanation:

User Id: [REDACTED]



**Medulloblastoma** is the second most common **posterior fossa tumor** in children after cerebellar astrocytoma. The vast majority of medulloblastomas occur in the **cerebellar vermis** (red circle), which is particularly important for balance and gait coordination. As a result, symptoms include **truncal or gait instability**. Less commonly, medulloblastomas occur in the lateral cerebellar hemispheres similar to pilocytic astrocytomas, which affect fine motor planning and cause dysmetria, intention tremor (**Choice E**), and dysdiadochokinesia. Given the proximity to the fourth ventricle, medulloblastoma can also cause **obstructive hydrocephalus** (red arrow), resulting in signs of increased intracranial pressure (eg, headache, vomiting).

Medulloblastomas have a potential for leptomeningeal spread and are treated aggressively with a combination of surgery, craniospinal radiation, and chemotherapy.



Zoom:2.2

F

SAG T1

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(**Choices A and D**) Aphasia (ie, insult to frontal or temporal/language center) and hemiparesis (ie, insult to frontal lobe/motor cortex) can occur in patients with brain tumors in the cerebral hemispheres. The most common hemispheric tumors in children are low-grade astrocytomas.

(**Choices B and F**) Craniopharyngiomas are suprasellar masses that can create pressure on the optic chiasm causing **bitemporal hemianopsia**, visual field deficits in both temporal regions. Pressure on the pituitary can cause a range of endocrinopathies such as short stature from growth hormone deficiency.

(**Choice C**) Eyelid retraction occurs in Parinaud syndrome, which results from pressure on the pretectal region of the midbrain. Findings include limitation of upward gaze with a downward gaze preference, bilateral eyelid retraction, and light-near dissociation. Pineal tumors are associated with Parinaud syndrome.

#### Educational objective:

Medulloblastoma is the second most common posterior fossa tumor in children and typically arises from the cerebellar vermis, resulting in truncal and gait ataxia. Due to proximity to the fourth ventricle, obstructive hydrocephalus and signs/symptoms of increased intracranial pressure can also occur.

#### References:

1. [Medulloblastoma](#)
2. [Medulloblastoma.](#)



## Media Exhibit

lateral hemianopsia

