

Figure 1. (A) Axial MRI view shows an intraventricular lesion. (B) Coronal MRI view with contrast shows an intraventricular lesion.

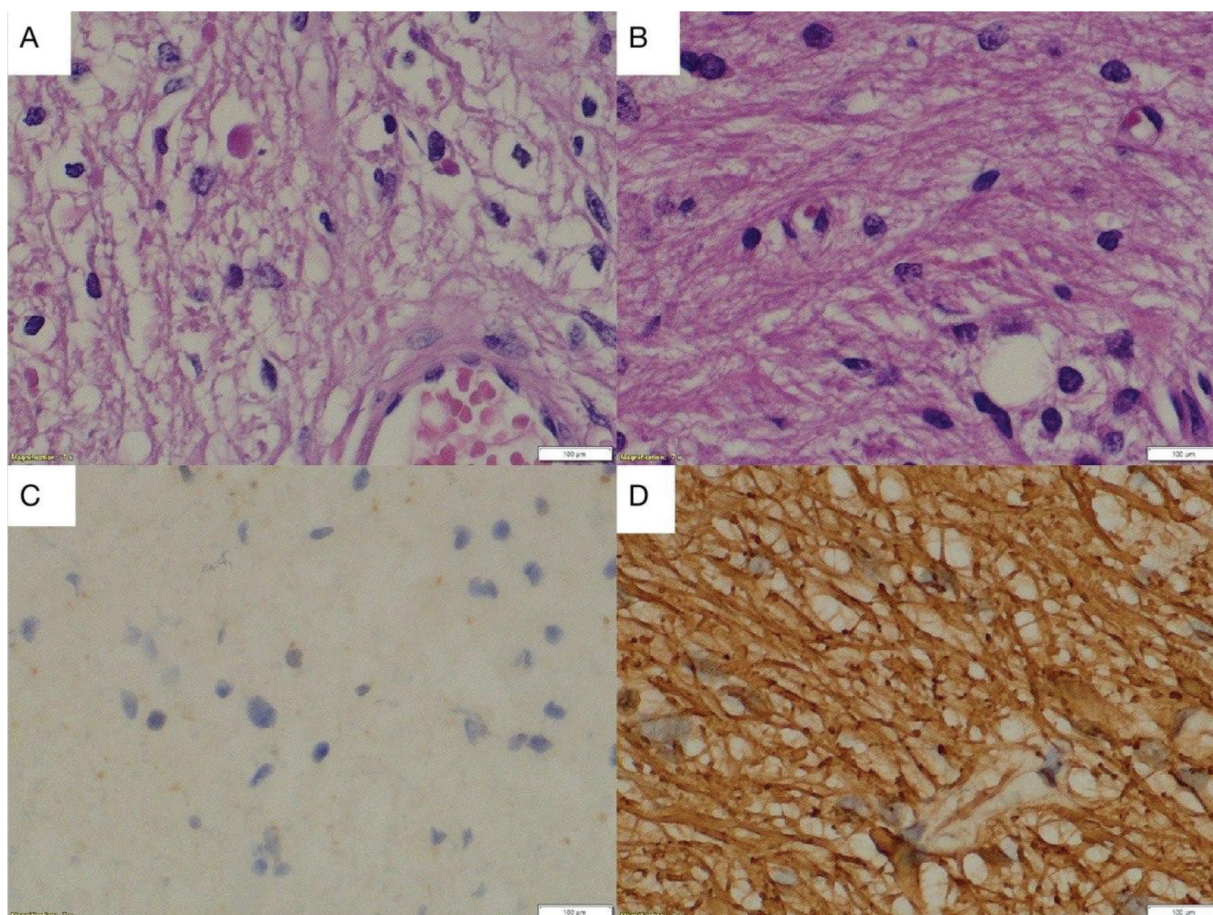


Figure 2. (A and B) Hematoxylin and eosin stained sections of the tumor. (C) Ki67 immunohistochemistry. The Ki67 labeling index was <1%. (D) GFAP immunohistochemistry.

Subsequently, the patient underwent surgery for tumor excision by the interhemispheric transcallosal approach. The tumor was resected and sent to the histopathology and cytology lab. Microscopically, the tissue showed proliferation with a biphasic appearance, compact fibrillar

portions, elongated nuclei, and microcystic portions. In addition, there were glomeruloid vessels. The histomorphological and immunohistochemical findings were consistent with PA (Figure 2). The tumor was classified as WHO grade 1 for central nervous system tumors;

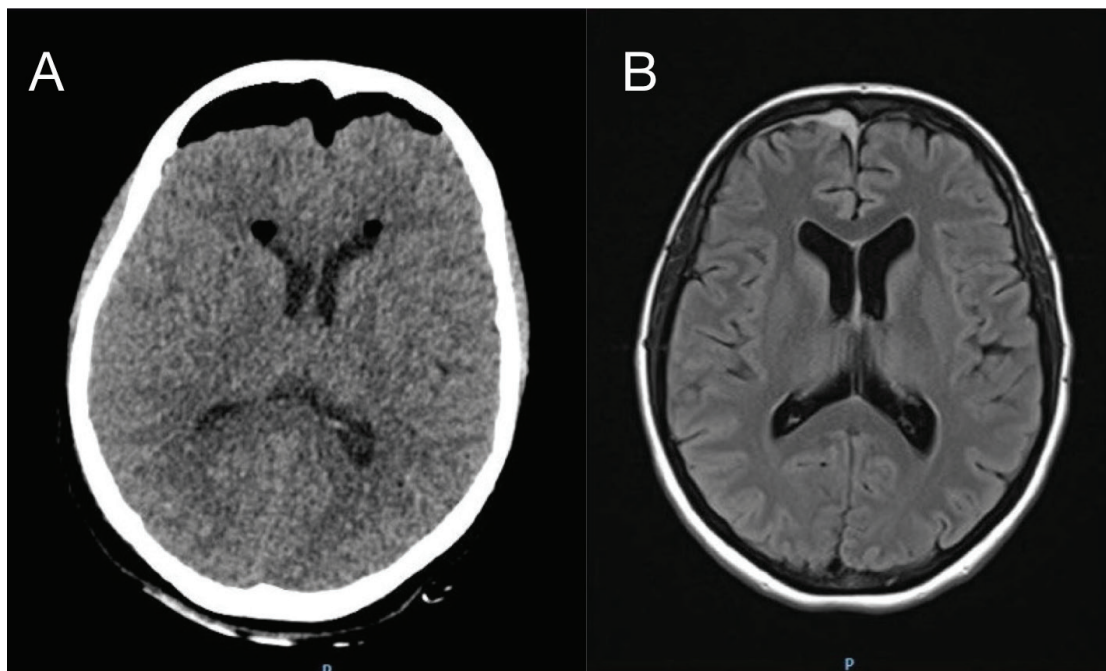


Figure 3. (A-Left) Postoperative computed tomography showing pneumocephalus. (B-Right) One month after the operation, MRI revealed that pneumocephalus had resolved.

therefore, neither chemotherapy nor radiotherapy was not administered to the patient.

Postoperatively, the patient had short-term memory impairment, which resolved partially after 6 months; however, her headache had completely subsided. Postoperative computed tomography showed pneumocephalus (Figure 3A), which had resolved 1 month after the operation based on MRI (Figure 3B).

Discussion

Intraventricular tumors are relatively asymptomatic until they grow and block the cerebral spinal fluid (CSF) pathway, resulting in hydrocephalus or signs of increased intracranial pressure such as headache, nausea and vomiting, visual disturbances, and cranial nerve palsies [3,9]. The radiological findings for IVPA typically include a rounded shape with well-circumscribed margins; however, they can occasionally be irregular in shape. The majority of IVPA are mixed cystic and solid, with very few being purely cystic. The cystic areas are highly T2 hyperintense/T1 hypointense, similar to CSF, whereas the solid parts are moderately T2 hyperintense/T1 hypointense with heterogeneous enhancement [10]. Bond et al. [11] conducted a systematic literature review and discovered that 13% of 46 adults with PA had tumor recurrence. All recurrent tumors were first treated with subtotal resection or radiotherapy alone. Therefore, gross total resection should always be the goal in adults with PA [11].

Conclusion

IVPA in adults is an exceedingly rare entity. This case underscores the importance of considering IVPA in the

differential diagnosis of intraventricular lesions, even in adult patients. Accurate diagnosis through imaging and histopathological examination is crucial for appropriate management. Surgical resection remains the primary treatment modality, with gross total resection being the goal to minimize the risk of recurrence. Our patient's favorable postoperative outcome, characterized by the resolution of headaches and partial recovery from short-term memory impairment, highlights the efficacy of surgical intervention. Ongoing monitoring and follow-up are essential to ensure long-term tumor control and to address any potential postoperative complications. This case contributes to the limited but growing body of literature on adult IVPA, emphasizing the need for heightened awareness and expertise in managing such a rare tumor.

What is new?

Intraventricular pilocytic astrocytomas in adults are rare but should be considered in differential diagnoses. Surgical resection is key for effective management and reducing recurrence risk.

List of Abbreviations

CSF	Cerebrospinal fluid
CT	Computed tomography
GCS	Glasgow Coma Scale
GFAP	Glial fibrillary acidic protein
IDH	Isocitrate dehydrogenase
IVPA	Intraventricular pilocytic astrocytoma
KIAA1549-BRAF	KIAA1549-BRAF gene fusion
MRI	Magnetic resonance imaging
PA	Pilocytic astrocytoma
WHO	World Health Organization

Conflict of interest

The authors declare that they have no conflict of interest regarding the publication of this case report.

Funding

None.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Ethical approval

Ethical approval is not required at our institution to publish an anonymous case report.

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Summary of the case

1	Patient (gender, age)	42 years, female
2	Final diagnosis	Intraventricular pilocytic astrocytoma tumor
3	Symptoms	Off-and-on paroxysmal positional headach
4	Medications	Symptomatic treatment given
5	Clinical procedure	Surgery for tumor excision
6	Specialty	Neurosurgery