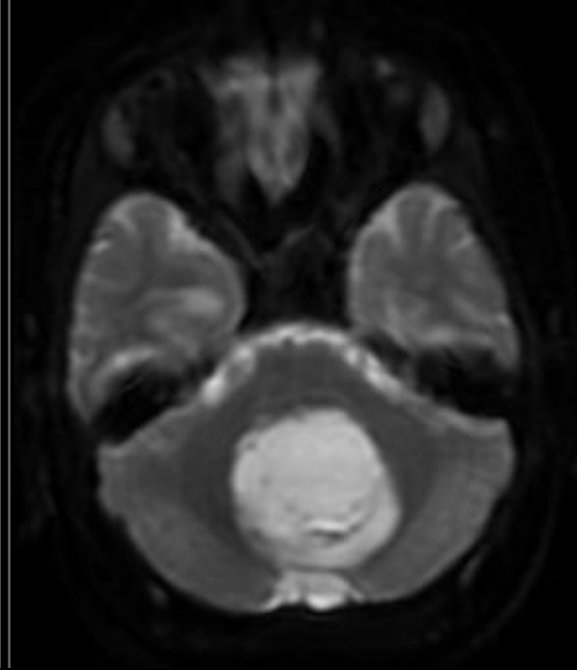
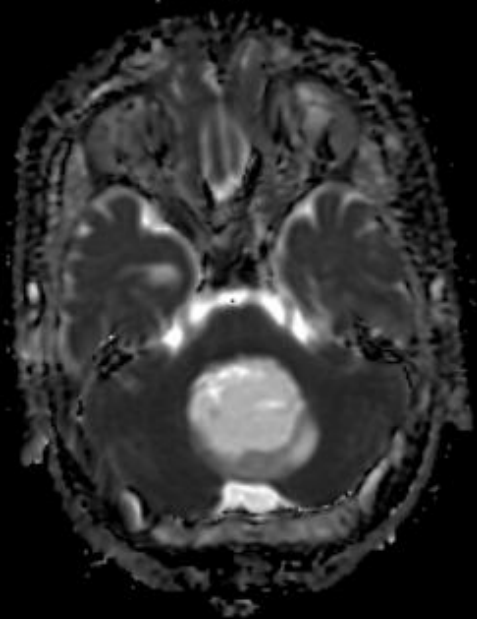




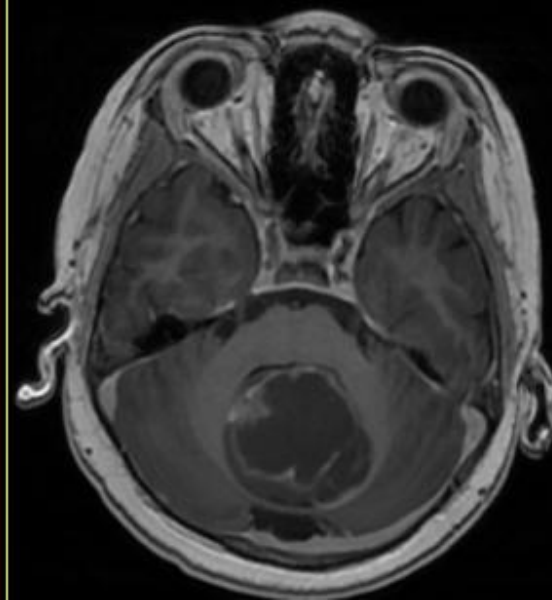
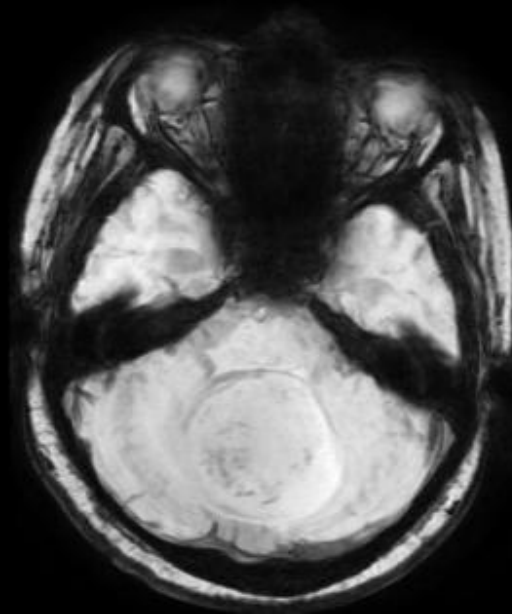
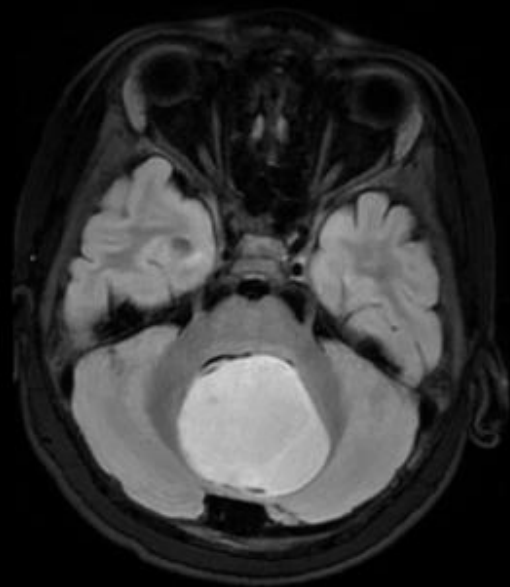
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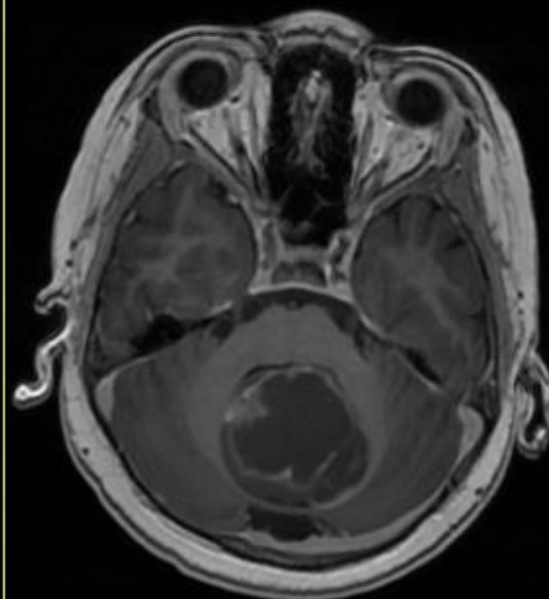
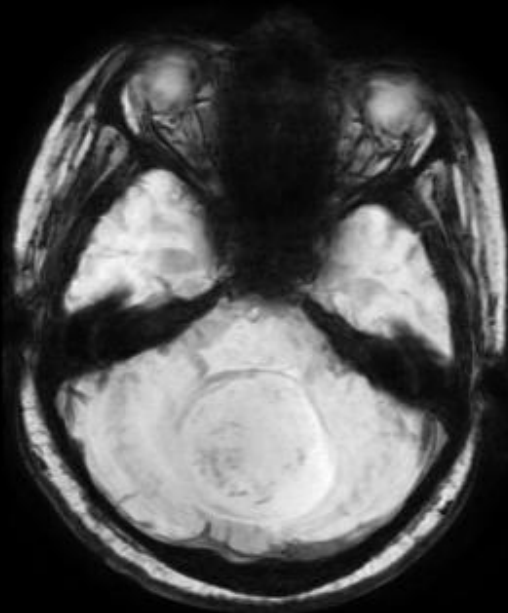
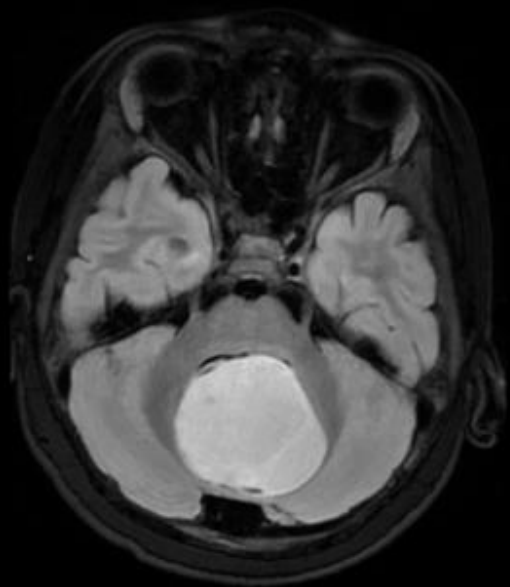
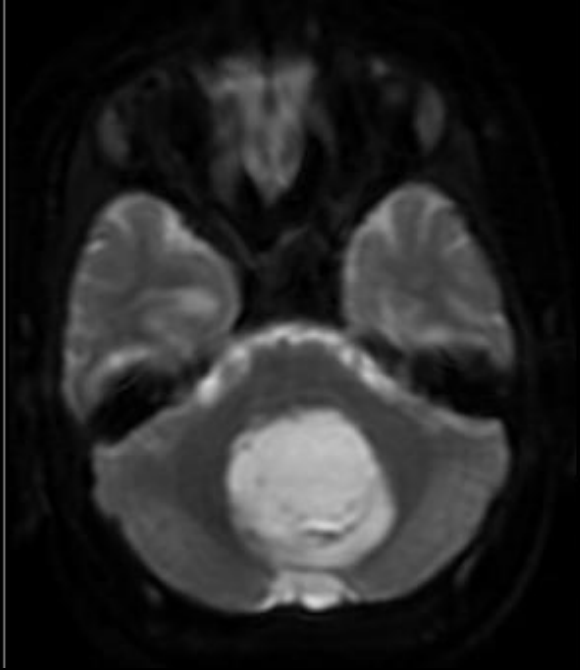
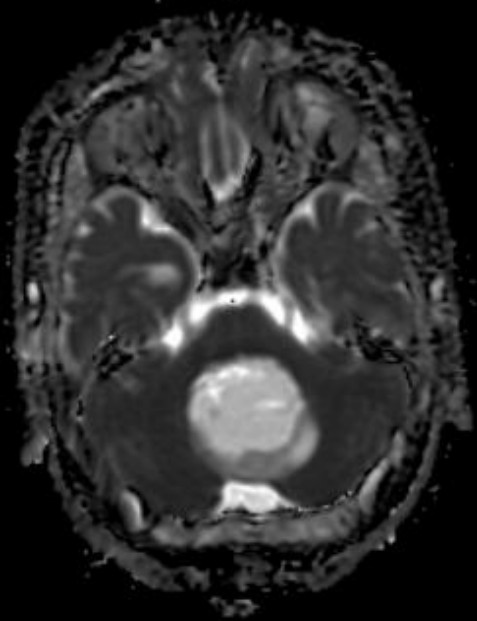
KARNATAKA RADIOLOGY EDUCATION PROGRAM

**SJMCH, Bengaluru**  
Contributor of the Series



- 9 y female  
Diagnosis?





- A large cystic lesion in the cerebellum with circumscribed margins is compressing the fourth ventricle showing T2 hyperintense soft tissue component / septation with FLAIR hyperintense fluid, few areas of subtle signal loss on SWI. The wall and soft tissue components show mild enhancement. No perifocal edema or diffusion restriction.
- Differentials – pilocytic astrocytoma > hemangioblastoma.

# Pilocytic astrocytoma – Posterior fossa

- WHO grade I, circumscribed pediatric glioma, most often in cerebellar hemispheres or vermis, typically between 5–15 years.
- Molecular hallmark: BRAF-KIAA1549 fusion; histology with Rosenthal fibers, correlating with indolent imaging phenotype.
- Classic MRI appearance: Cyst with enhancing mural nodule, sharply marginated, often displacing rather than infiltrating adjacent parenchyma.
- T1-weighted: cystic hypointense, mural nodule iso- to hypointense;
- T2/FLAIR: hyperintense cyst/nodule with minimal perilesional edema.
- No or minimal diffusion restriction, low rCBV on perfusion, and only mild ↑choline/↓NAA on MR spectroscopy — key clues to low-grade biology.
- Often causes mass effect on the fourth ventricle → obstructive hydrocephalus, sometimes with tonsillar herniation; leptomeningeal spread is rare at presentation.
- CT: shows a hypodense cyst with an iso/hyperdense nodule; calcification is uncommon compared to ependymoma or ganglioglioma.
- Imaging must define precise location, relationship to brainstem, fourth ventricle, and cranial-nerve root-entry zones for safe surgical planning.
- Differentiation from medulloblastoma (midline, hypercellular, diffusion-restricted) and ependymoma (ventricular, calcified, heterogeneous) is crucial for prognosis and therapy. Gross-total resection of mural nodule usually curative; imaging follow-up is essential for early detection of recurrence or atypical aggressive transformation

# Contributor

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SR, St. John's Medical College Bengaluru