Rosette-Forming Glioneuronal Tumor

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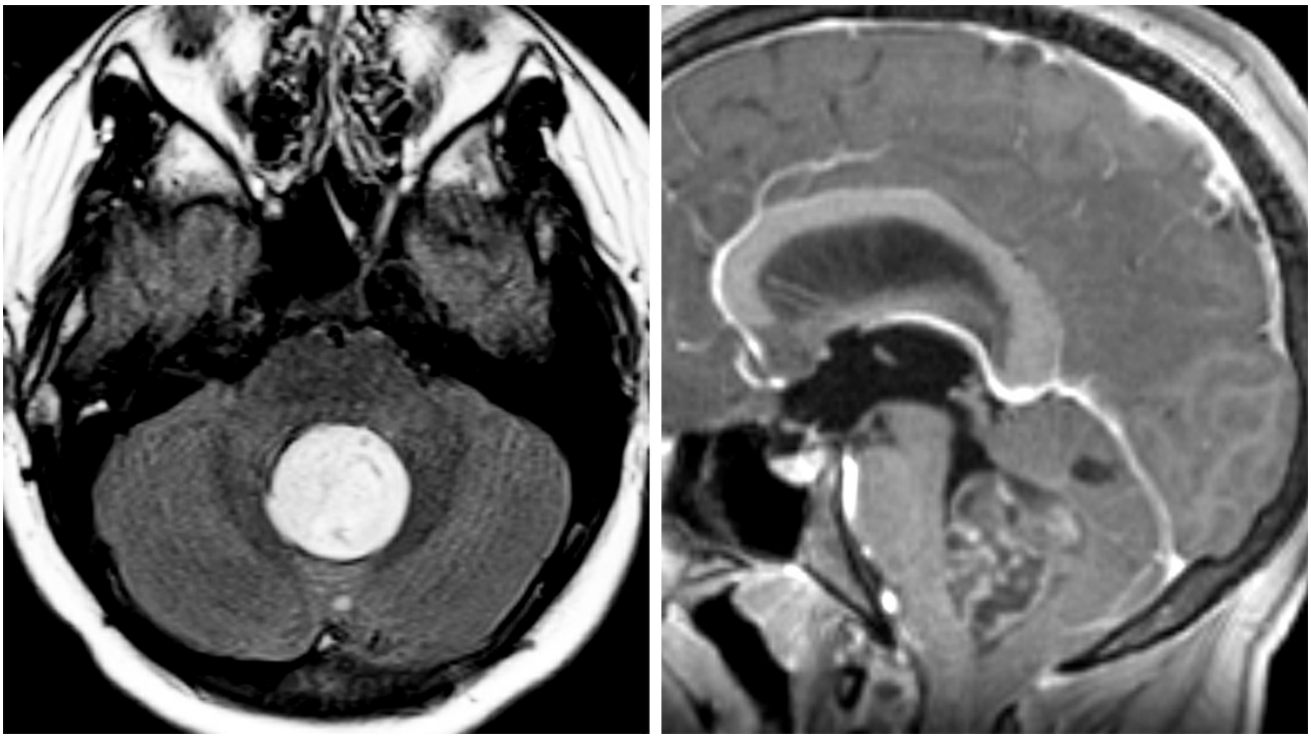

Figure 1: (Left) This mildly complex, circumscribed T2-FLAIR hyperintense rosette-forming glioneuronal tumor fills and expands the fourth ventricle, contributing to hydrocephalus in this patient, but causes little edema. (Right) The tumor demonstrates a heterogeneous internal pattern of enhancement.

BASIC DESCRIPTION

- Uncommon, slow-growing, and benign tumor that usually arises in the posterior fossa

PATHOLOGY

- WHO grade I
- Composed of pseudorosette-forming neurocytes and astrocytes
- No malignant transformation

CLINICAL FEATURES

- Affects young adults (mean age, 30 years)
- Female gender predilection (2:1)
- Commonly presents with signs/symptoms of increased intracranial pressure secondary to obstructive hydrocephalus
    - Headache, nausea, ataxia, vertigo
- Treatment: surgical resection
- Prognosis: recurrence uncommon after total resection; 90% 5-year survival rate

IMAGING FEATURES

- General
    - Mixed solid-cystic tumor ± calcification, hemorrhage; may be solid
    - Minimal peritumoral edema
    - Majority arise in fourth ventricle or midline cerebellum
    - Pineal, cerebellopontine angle cistern, or hemispheric locations are uncommon
- CT
    - Solid-cystic midline posterior fossa mass
- MRI
    - T1WI: hypointense to isointense
    - T2WI: usually hyperintense with cystic or bubbly appearance; ±flow voids
    - FLAIR: heterogeneously hyperintense
    - T2*/GRE/SWI: black signal blooming in foci of calcification, hemorrhage
    - T1WI+C: variable enhancement

IMAGING RECOMMENDATIONS

- MRI with contrast

For more information, please see the corresponding chapter in Radiopaedia.

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