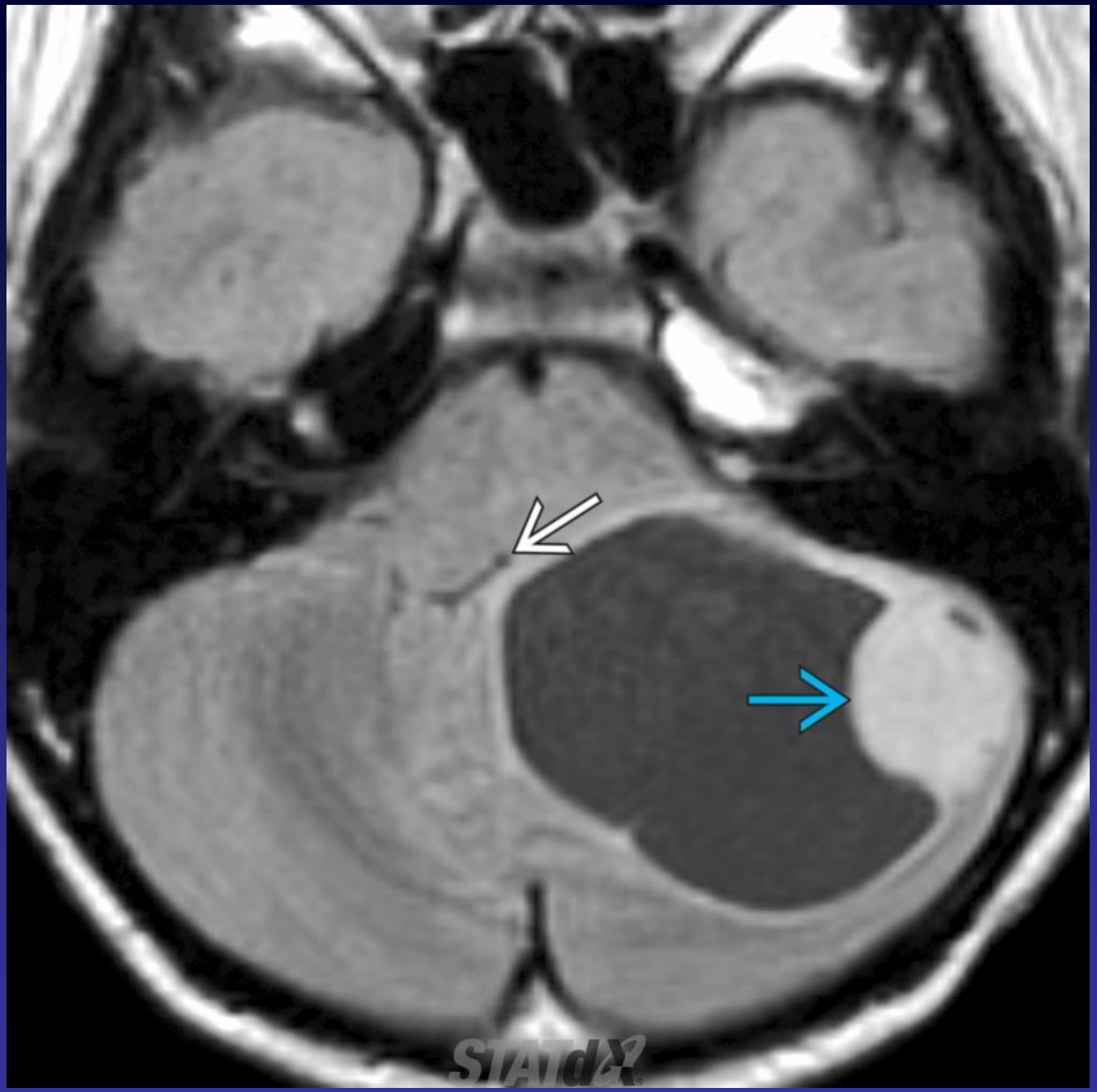
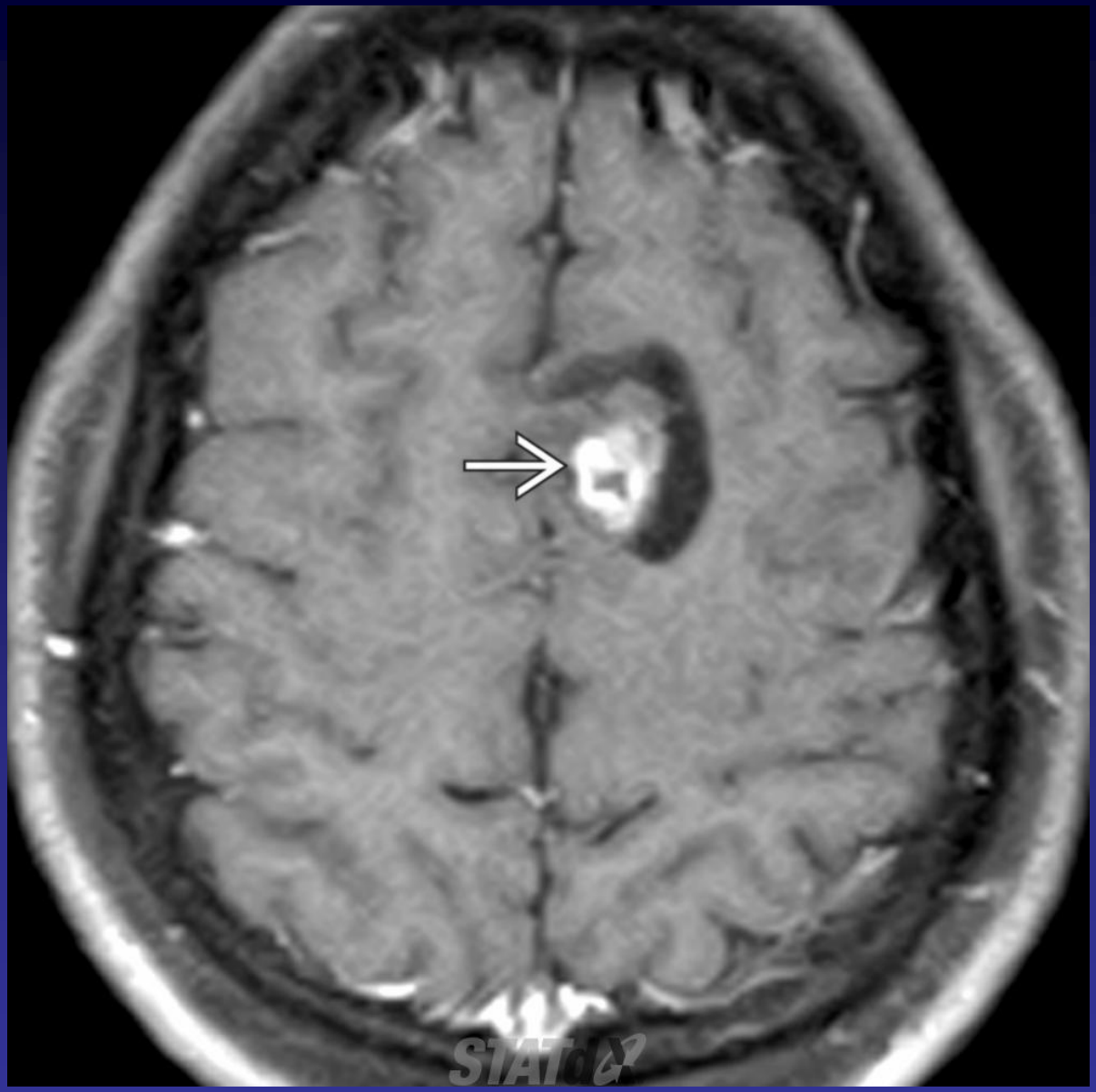
Pilocytic astrocytoma

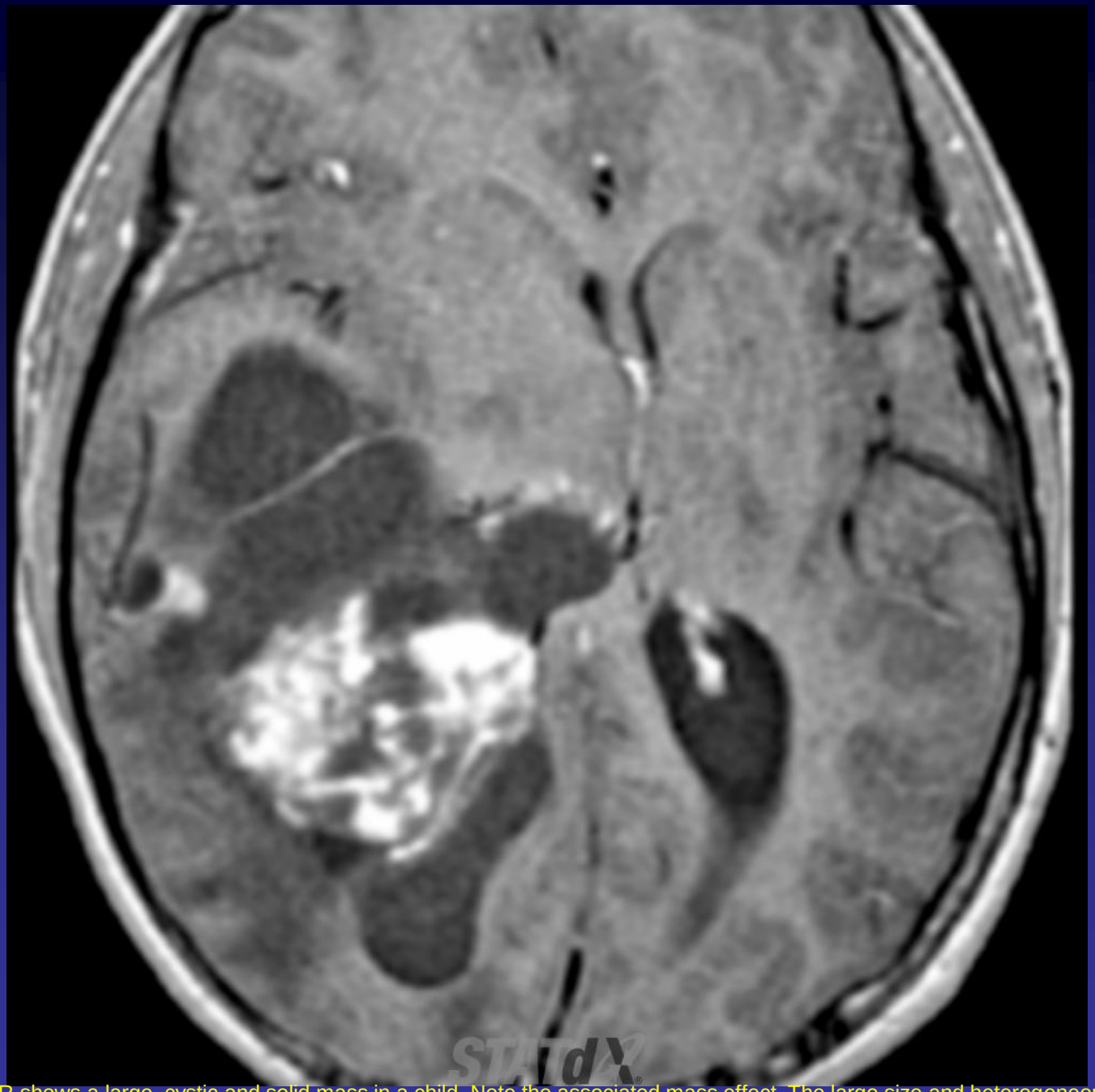
- Low-grade, relatively well-defined astrocytomas that tend to occur in young patients. They are considered WHO grade I tumors in the current (2016) WHO classification of CNS tumors and correspondingly have a relatively good prognosis.
- These tumors have a range of imaging appearances, with the majority presenting as a large cystic lesion with a brightly enhancing mural nodule.
- Majority arise from the cerebellum.
- Enlarged optic nerve/chiasm/tract with variable enhancement.
  - 15% of neurofibromatosis type 1 (NF1) patients develop PAs, most commonly in optic pathway



Axial FLAIR MR shows a classic cyst with mural nodule appearance (cyan solid arrow) of a cerebellar PA in a child. Note the typical lack of surrounding edema in the adjacent cerebellum. Mass effect on the 4th ventricle (white solid arrow) with associated hydrocephalus is common.



Axial T1WI C+ MR in the same patient shows central enhancement (white solid arrow) of the tumor and a cystic portion. Pilocytic astrocytomas are most common in the posterior fossa (60%) and optic nerve/chiasm (25-30%). Within the supratentorial brain, PAs are commonly adjacent to the 3rd ventricle. Hemispheric PAs are rare. The cystic and solid appearance is typical of these WHO grade I tumors.



Axial T1WI C+ MR shows a large, cystic and solid mass in a child. Note the associated mass effect. The large size and heterogeneous enhancement might suggest a more aggressive histology. At resection, this proved to be a WHO grade I PA.