Pure neuronal and mixed neuronal-glial tumors of the central nervous system are uncommon but fascinating because they are less aggressive than the more common glial tumors and their prognosis is excellent. Neurologic manifestations are varied and include seizures, symptoms of increased intracranial pressure, and neurologic deficits according to tumor location. Many neuronal tumors of the central nervous system demonstrate characteristic radiologic findings. At magnetic resonance (MR) imaging, gangliocytomas demonstrate low signal intensity on T1-weighted images, high signal intensity on T2-weighted images, and frequent enhancement on gadolinium-enhanced T1-weighted images. Characteristic MR imaging findings of Lhermitte-Duclos disease are a nonenhancing mass in a cerebellar hemisphere with a striated pattern. Central neurocytomas are typically located in the lateral ventricles near the foramen of Monro with a characteristic attachment to the septum pellucidum. Ganglioneurocytoma is a rare variant of central neurocytoma that is characterized by differentiation toward ganglion cells. In ganglioglioma, a well-defined cystic mass with a solid mural nodule is typically seen. Extension of enhancement to the leptomeninges is characteristic of desmoplastic infantile ganglioglioma and correlates with the firm dural attachment of the solid component. Dysembryoplastic neuroepithelial tumor has a well-demarcated, multilobulated or gyriform appearance [1)].

1)
Shin JH, Lee HK, Khang SK, Kim DW, Jeong AK, Ahn KJ, Choi CG, Suh DC. Neuronal tumors of the central nervous system: radiologic findings and pathologic correlation. Radiographics. 2002 Sep-Oct;22(5):1177-89. PubMed PMID: 12235346.