

▪ **Answer:**

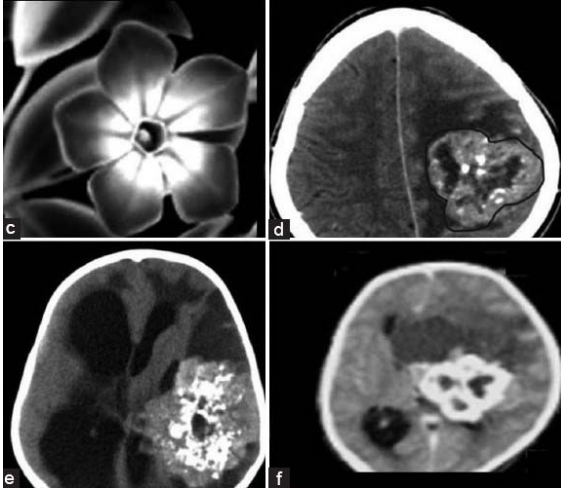
d) supratentorial ependymoma

▪ **Findings:**

- Brain MRI ± GAD shows a large intra axial heterogeneous mass lesion in the right frontoparietotemporal lobe with mass effect on the right lateral ventricle and midline shift to the left side.
- Large calcified component , hemorrhagic areas, heterogeneous enhancement and peripheral restriction on DWI are noted.

▪ **Discussion:**

- Supratentorial ependymomas are an uncommon type of ependymoma, found within the cerebral hemispheres, either remote to or abutting the ventricles. Overall, supratentorial ependymomas affect primarily children and adolescents but also, to a lesser degree, adults.
- Radiologically these tumors have few characteristic features, appearing as heterogeneous parenchymal masses with calcification(50%), cystic components(50%), solid enhancing components and surrounding edema.
- Although they can be located anywhere in the hemispheres, they seem to have a predilection for the frontal and parietal lobes .
- The imaging findings can be remembered by the “1234 rule”:
 - 1: a single large tumor common in the first decade
 - 2P: Perilesional edema and Periwinkle sign
 - 3L: Large Lobulated Lobar mass
 - 4C: Central Chunky Calcification and large peripheral Cyst
- Non-contrast CT appearances of an intraparenchymal ependymoma is said to resemble a periwinkle flower, thus periwinkle sign.



NECT axial images of the intraparenchymal form of STE show the characteristic periwinkle sign due to its lobulated margins , central necrosis and centripetal pattern of calcification. Large peripheral cyst is also noted which has been likened to a leaf. This sign is evident with varying degree of calcification as noted in Figures d–f. Mangalore, Sandhya et al. "Imaging characteristics of supratentorial ependymomas: Study on a large single institutional cohort with histopathological correlation." Asian journal of neurosurgery vol. 10,4 (2015): 276-81.

▪ References:

- Mangalore, Sandhya et al. "Imaging characteristics of supratentorial ependymomas: Study on a large single institutional cohort with histopathological correlation." Asian journal of neurosurgery vol. 10,4 (2015): 276-81.
- Kuai Xin-Ping et al. MRI Features of Intracranial Anaplastic Ependymomas: A Comparison of Supratentorial and Infratentorial Lesions : Frontiers in Oncology2020, vol 10.

"Case courtesy of Ali Hekmatnia, MD, Professor of Radiology, Isfahan University of Medical Sciences. "