



Cortical Dysplasia

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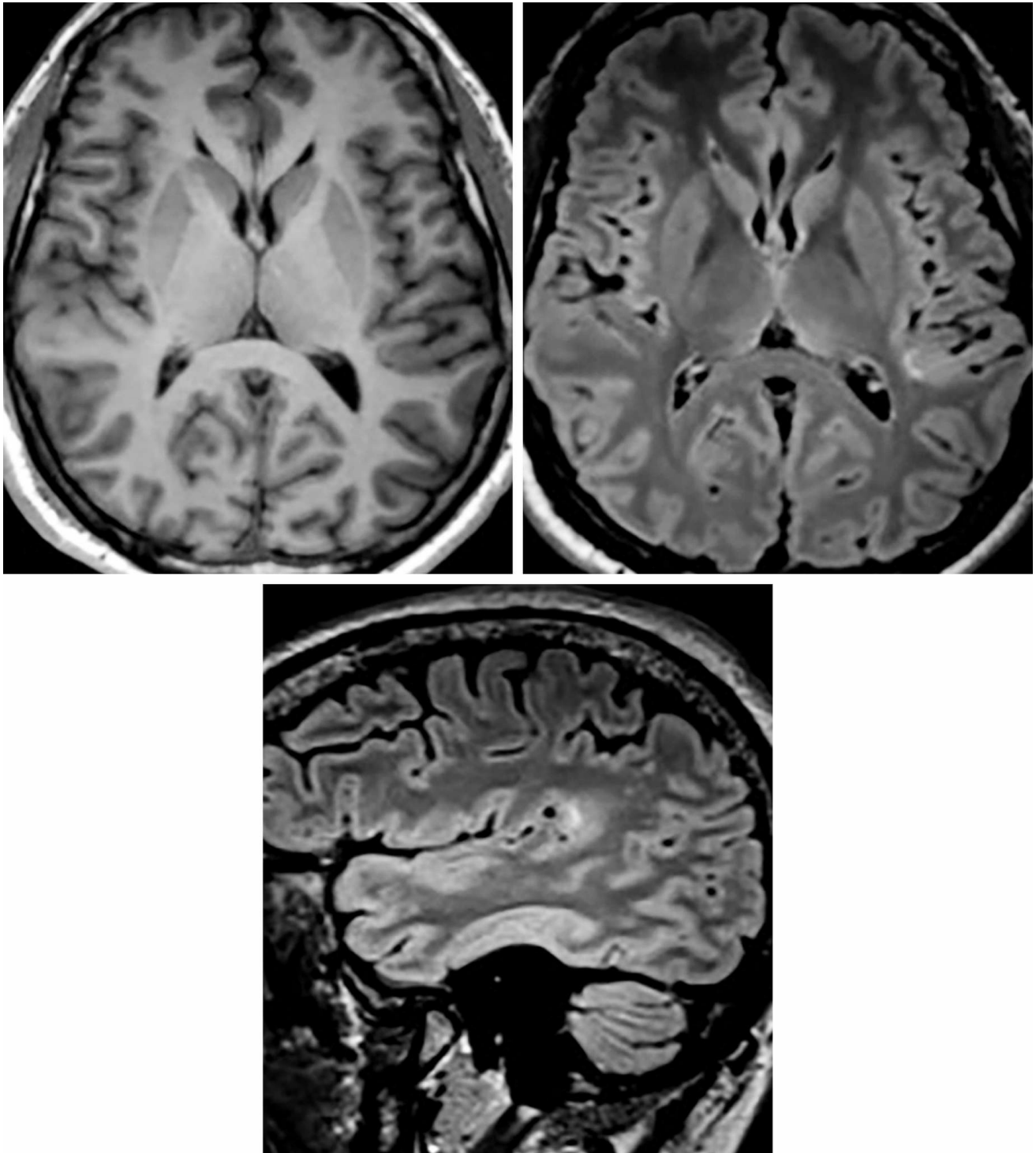


Figure 1: In this case, there is T1-isointense (top left), FLAIR-hyperintense (top right and bottom), nonenhancing signal within the left supramarginal and angular gyri subcortical white matter with overlying

cortical thickening. Although cortical dysplasia can be a difficult diagnosis to make, it most commonly is perisylvian in location, as is seen in this case.

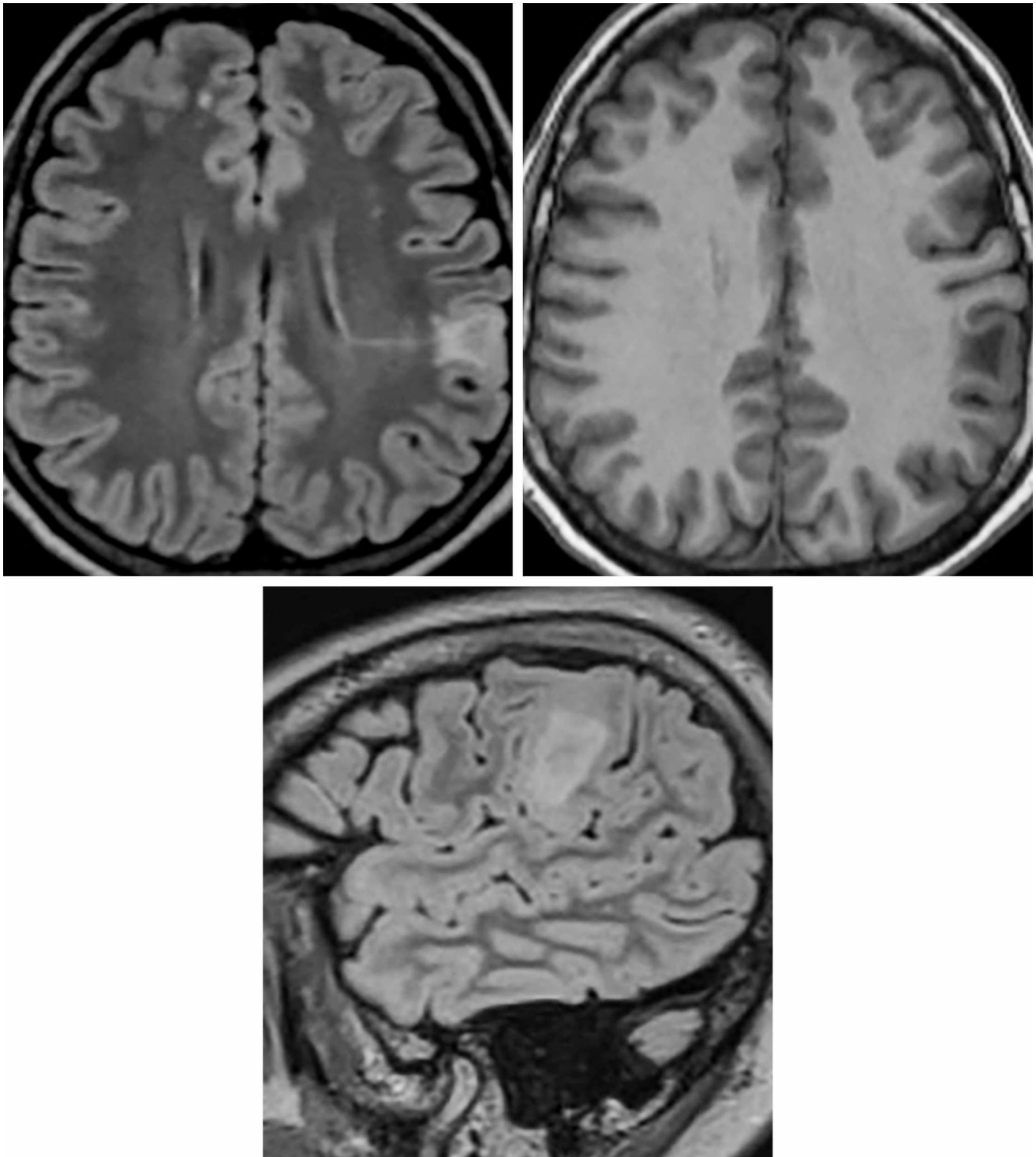


Figure 2: Although the Blumke classification is a pathologic classification, imaging occasionally will have features that are characteristic of type II cortical dysplasia (Taylor type). Notice the cortical and subcortical FLAIR-hyperintense and T1-hypointense signal with associated mild cortical expansion and a thin linear focus of FLAIR-hyperintense signal radiating toward the ventricle. This radiating signal is referred to as the

transmantle sign.

Description

- Often associated with refractory epilepsy

Pathology

- Histologically classified based on giant dysmorphic neurons with or without balloon cells

Clinical Features

- Symptoms
 - Refractory epilepsy
- Age and gender
 - No gender predilection; usually manifests in the first 2 decades of life with seizures

Imaging

- General
 - Thickening, blurring, and sometimes hyperintensity of the cortex
 - Abnormal signal may be seen to extend from the cortex to the ventricle with tapering as it approaches the lateral ventricle
- Modality specific
 - CT
 - Usually normal
 - MRI
 - T1WI
 - Slightly hypointense
 - T2WI/FLAIR
 - Homogeneous T2-hyperintense comet-tail
 - Contrast
 - Typically nonenhancing
- Imaging recommendations

- MRI with contrast
- Mimic
 - Cortical dysplasia can mimic low-grade glioma, depending on its location, size, and configuration. Usually a triangular appearance with the apex toward the ventricle is more characteristic of transmantle dysplasia. The cortical thickening and blurring of dysplasia can be much more difficult to distinguish from low-grade tumor such as [ganglioglioma](#).

For more information, please see the corresponding chapter in [Radiopaedia](#).

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