53-year-old female with a lung nodule and renal insufficiency, and other history withheld

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Gd T1-weighted
Susceptibility-weighted

Phase image
Tuberous Sclerosis
Cortical tubers (yellow arrows)
Radial migration lines (blue arrows)
Gyral Core Cortical tuber (yellow arrow)
Subependymal Giant Cell Astrocytoma (blue arrows)
Deep White Matter Lesion (yellow arrow) turns hyperintense on Phase image (blue arrow) indicating calcification.
Tuberous Sclerosis

- Classic clinical triad
  - Seizures
  - Developmental Delay
  - Adenoma Sebaceum
Tuberous Sclerosis

• Mutations in either of the two genes—TSC1 or TSC2 causes benign tumors
• Cortical tubers or subcortical tubers are present in 95-100% of cases and white matter abnormalities are present in 40%–90% of cases
Tuberous Sclerosis

• Four common CNS abnormalities are
  – cortical tubers
  – subependymal nodules
  – subependymal giant cell astrocytomas (SGCAs)
  – white matter abnormalities
Tuberous Sclerosis

- Four locations of white matter lesions
  - Near occipital horn
  - Near frontal horn
  - Corpus callosum
  - Deep white matter
References:

