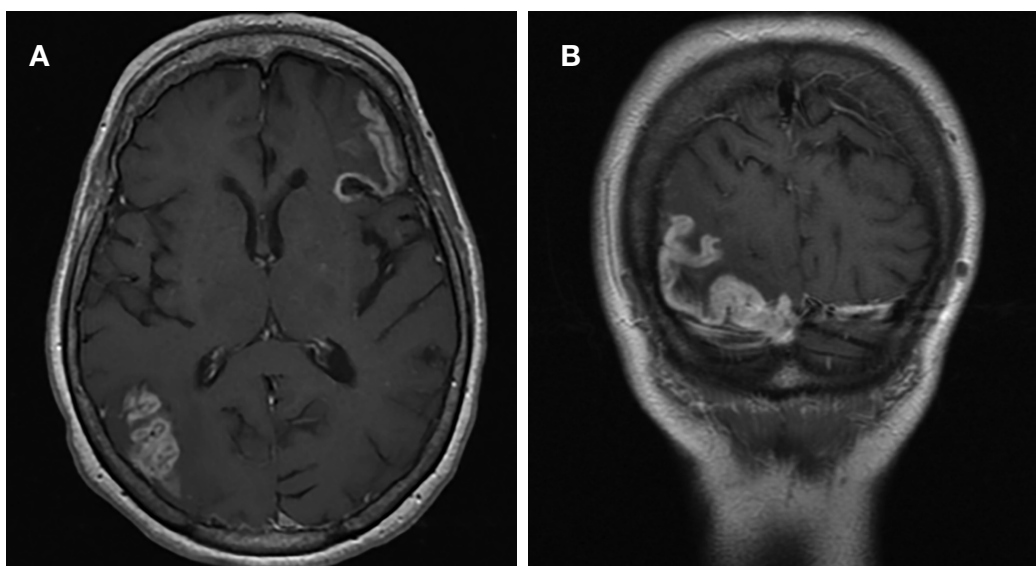


### Case Study

## MRI of 75-year-old female with confusion, weakness, speech problems, and visual deficit



**FIGURE 1.** Post-enhanced axial (A) and coronal (B) T1-weighted images of the head.

### Case Summary

A 75-year-old woman presented with sudden onset confusion, weakness, expressive speech problems, and visual deficit following cardiac catheterization 3 weeks earlier. She also had a history of breast cancer with radiation therapy. An MRI of the head was performed on a 3T GE scanner. The patient received 14 mL of ProHance® (gadoteridol) administered intravenously without complication. Post-enhanced axial and coronal T1-weighted images are shown.

### Imaging Findings

There is thick, curvilinear enhancement within the cortex of the left frontal lobe and right parietal-occipital lobes involving only the cerebral cortex. This produces a “gyriform” pattern of enhancement along the surface of the brain. There is minimal surrounding cytotoxic edema and mass effect.

### Diagnosis

Subacute cerebral infarction

### Conclusion

Blood brain barrier breakdown results in cortical contrast enhancement during the subacute phase of cerebral infarction. Contrast enhancement limited to the cerebral cortex produces a gyriform pattern of enhancement. In addition to subacute cerebral infarction (as seen above), the differential diagnosis includes encephalitis, cerebritis, the post-ictal state, hypertensive encephalopathy, and contrast material overdose.

### REFERENCE

1. Kuhn MJ, Burk TJ, Powell FC. Unilateral cerebral cortical and basal ganglia enhancement following overdosage of nonionic contrast media. *Comput Med Imaging Graph.* 1995;19:307-311.