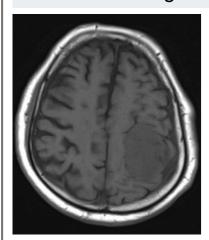
# **Central Nervous System: Case 2**

## **Prompt**

What is the diagnosis of this brain MRI?



# GPT-4V

The provided image is an axial view of a brain MRI. Based on the single slice provided:

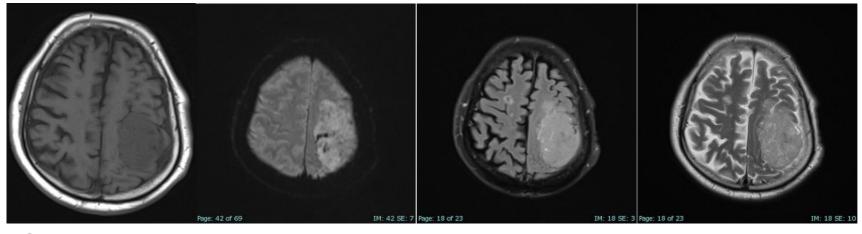
There appears to be an area of hyperintensity or increased signal in the right frontal lobe, which could be suggestive of various pathologies. These may include, but are not limited to, a glioma, metastasis, demyelinating lesion, infarct, or other types of lesions.

However, accurate diagnosis from a single MRI slice is challenging, and MRI interpretation requires viewing multiple sequences (T1, T2, FLAIR, DWI, post-contrast images, etc.) and multiple slices to make a definitive diagnosis.

Moreover, correlating the imaging findings with clinical symptoms, patient history, and other investigations is crucial. It's essential to consult with a radiologist or neurologist for a comprehensive evaluation and accurate diagnosis.

## **Prompt**

What is the diagnosis of these brain MRIs?



#### **GPT-4V**

Based on the provided MRI images, there appears to be a sizable lesion in the right frontal lobe of the brain. Features observed in the images:

- 1. T1 Weighted Image (first image): The lesion is hypointense (darker) relative to surrounding brain tissue.
- 2. T2 Weighted Image (second image): The lesion demonstrates hyperintensity (brighter) with surrounding vasogenic edema (swelling) which is also hyperintense.
- 3. T1 Post-Contrast Image (third image): There is a central area without enhancement, suggestive of necrosis, surrounded by ring enhancement.
- 4. Diffusion Weighted Image (fourth image, if correct assumption): This type of image helps in determining the diffusion characteristics of a lesion.

The features – particularly the ring enhancement on post-contrast images, central necrosis, and surrounding edema – are characteristic of glioblastoma multiforme (GBM), which is a high-grade primary brain tumor. However, other possibilities include metastatic tumors, brain abscess, or other less common entities.

It's essential to understand that while these features are suggestive of GBM, a definitive diagnosis requires a combination of imaging, clinical context, and, most critically, histopathological examination (biopsy). Please consult a neurologist or neurosurgeon for an expert opinion and potential next steps for management.

#### Reference answer

Meningioma.