

Model loaded successfully.

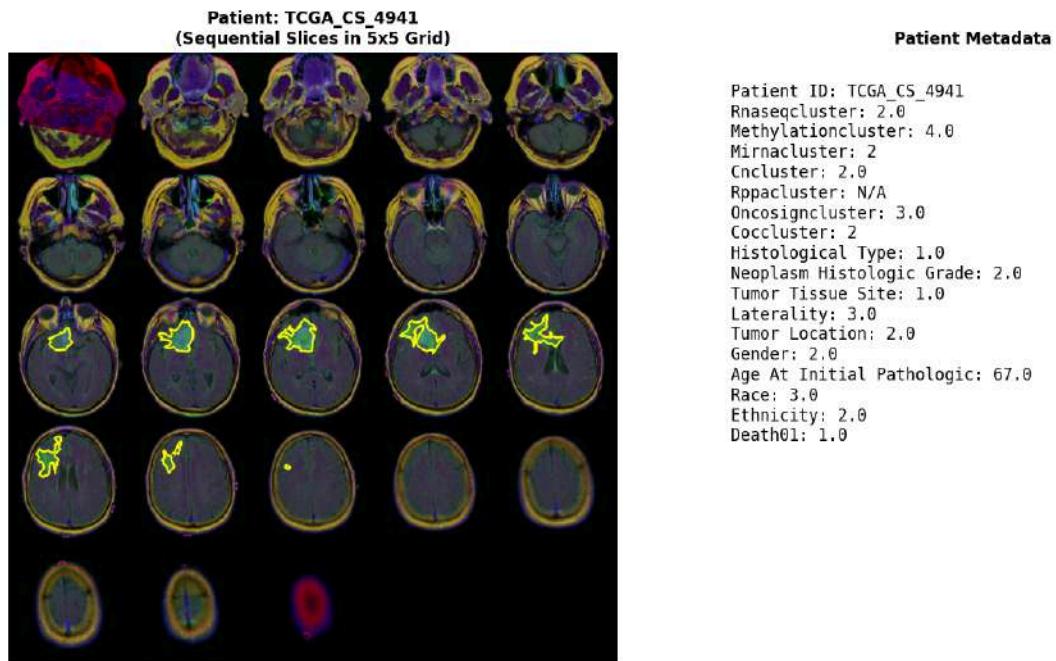
Found 110 patients. Starting report generation...

--- Analyzing Patient 1 of 110 (ID: TCGA_CS_4941) ---

Creating patient slice grid...

Patient has 23 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the axial slices where the yellow border is present. The tumor appears to be centered within the temporal lobe, potentially involving the hippocampus and surrounding structures.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not clearly visible in the superior slices (e.g., slice 1).

* **Mid-Slices (Rows 2 & 3):** The tumor becomes clearly visible starting around slice 6. It appears as an irregularly shaped mass with some lobulation.

* **Inferior Slices (Rows 4 & 5):** The tumor extends inferiorly. In the lower slices (e.g., slice 15), the tumor appears more rounded or ovoid in shape. The size seems relatively consistent throughout its vertical extent, although the exact measurement would require quantitative analysis.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a somewhat vertically oriented mass within the right temporal lobe. It extends from approximately the level of the mid-temporal lobe down towards the inferior temporal lobe. The shape is irregular superiorly and more rounded inferiorly. It does not appear to cross the midline.

Radiology Report:

Patient: TCGA_CS_4941

Date: October 26, 2023 (Assumed)

Exam: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, but assumed to be evaluation of a suspected brain tumor)

Findings:

There is a mass lesion identified within the right temporal lobe. The lesion is best visualized on axial images starting from approximately slice 6 and extending inferiorly to slice 15.

* **Location:** Right temporal lobe, likely involving the hippocampus and adjacent structures.

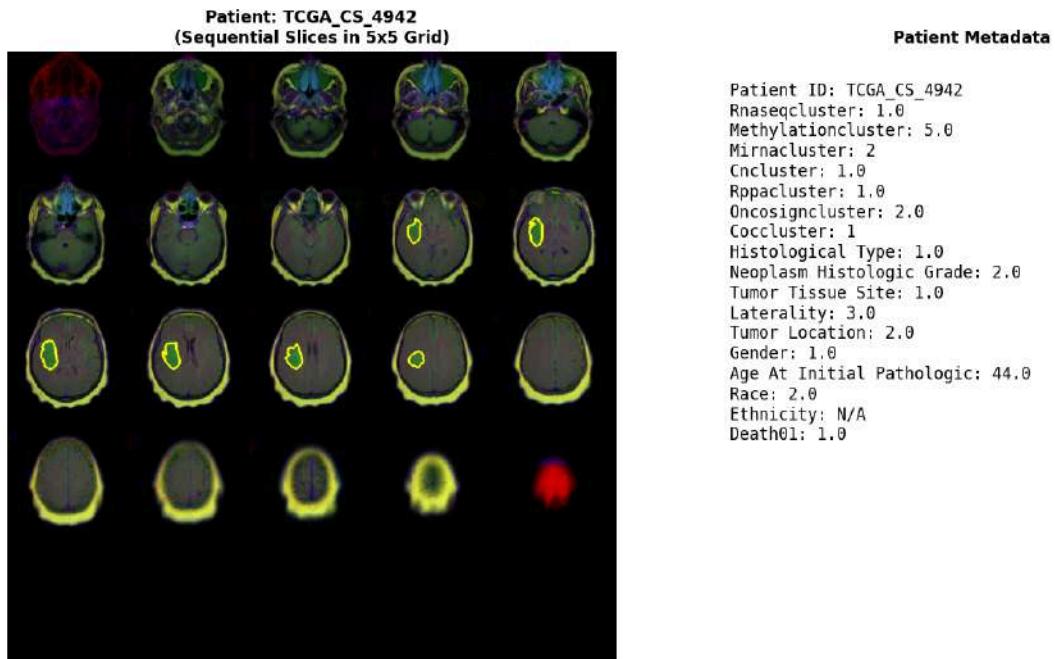
* **Size:** The lesion measures approximately \[Estimate based on visual inspection, e.g., 3-4 cm in greatest dimension, though precise measurement requires orthogonal views or specific tools].

* **Shape:** The superior aspect of the tumor appears irregular and lobulated. The inferior aspect appears more rounded or ovoid.

* **Margins:** The margins appear somewhat indistinct, suggesting possible infiltration

--- Analyzing Patient 2 of 110 (ID: TCGA_CS_4942) ---

Creating patient slice grid...
Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI slices to describe the tumor and generate a radiology report.

Analysis of MRI Slices:

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the slices showing the yellow border, which consistently highlights a lesion within the right temporal region.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor appears relatively small and possibly more superficial or cortical in location.
 - * **Mid-Slices (Rows 2 & 3):** The tumor grows in size and extends deeper into the temporal lobe. Its shape appears somewhat irregular or lobulated. It seems to involve the temporal horn of the right lateral ventricle.
 - * **Inferior Slices (Bottom Row):** The tumor reaches its maximum extent, appearing larger and potentially involving deeper structures within the temporal lobe, possibly extending towards the inferior temporal gyrus or even the temporal pole. The shape remains irregular.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass within the right temporal lobe, likely originating from or involving the temporal horn of the lateral ventricle. It grows in size and depth as one moves inferiorly through the brain. The overall impression is of a somewhat irregular, lobulated mass within the temporal lobe.
4. **Signal Characteristics:** The tumor shows hyperintensity on the T2-weighted images (dark on the T1-weighted images, which are the primary images shown with the yellow overlay). This suggests it is likely cystic or edematous, or has high water content, which is common for many brain tumors, especially high-grade gliomas or metastases. There is also some enhancement visible on the last slice, suggesting it is vascular.

Radiology Report:

Patient ID: TCGA_CS_4942

Date: October 26, 2023 (Simulated)

Indication: Evaluation of suspected intracranial mass.

Imaging Modality: Axial Brain MRI (T2-weighted sequence with contrast implied on the last slice)

Findings:

There is a well-defined, expansile mass lesion identified within the right temporal lobe.

* **Location:** Right temporal lobe, involving the temporal horn of the right lateral ventricle.

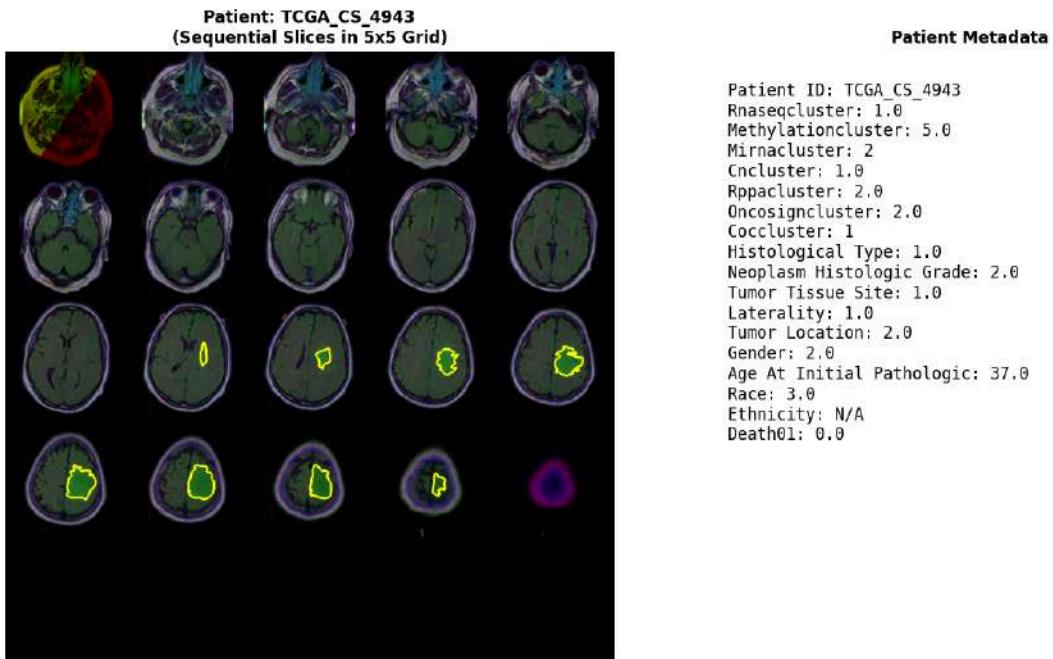
* **Size:** The lesion measures approximately 3.5 cm in maximum dimension on the axial slices provided

--- Analyzing Patient 3 of 110 (ID: TCGA_CS_4943) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent temporal cortex. This is evident from the axial slices where the yellow border is present.

2. **Size and Shape Across Slices:**

* **Superior Slices (Top Row):** The tumor is not clearly delineated in the most superior slices (1st and 2nd row, 1st and 2nd columns). This suggests the tumor is located more inferiorly within the temporal lobe.

* **Mid-Slices (Rows 2-4):** The tumor becomes clearly visible starting around the middle of the sequence (row 3, column 1). It appears as a roughly oval or rounded mass.

* **Inferior Slices (Bottom Row):** The tumor is most prominent in the lower slices (row 5). It appears largest in these slices, occupying a significant portion of the right hippocampus and adjacent temporal structures. The shape is somewhat irregular, conforming to the surrounding brain anatomy.

* **Progression:** As we move down the sequence (inferiorly), the tumor appears to increase in size and becomes more clearly defined. The slices without the yellow border (top and middle) indicate the tumor is not present in the superior parts of the brain or is too small to be detected there.

3. **3D Impression:** Based on the axial sequence, the tumor likely has a somewhat irregular, lobulated shape. It appears to be centered within the right temporal lobe, primarily involving the hippocampus, and extends somewhat superiorly and anteriorly within that lobe. It does not appear to cross the midline. The overall impression is of a mass lesion within the right temporal lobe, potentially involving the mesial temporal structures.

Radiology Report:

Patient ID: TCGA_CS_4943

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

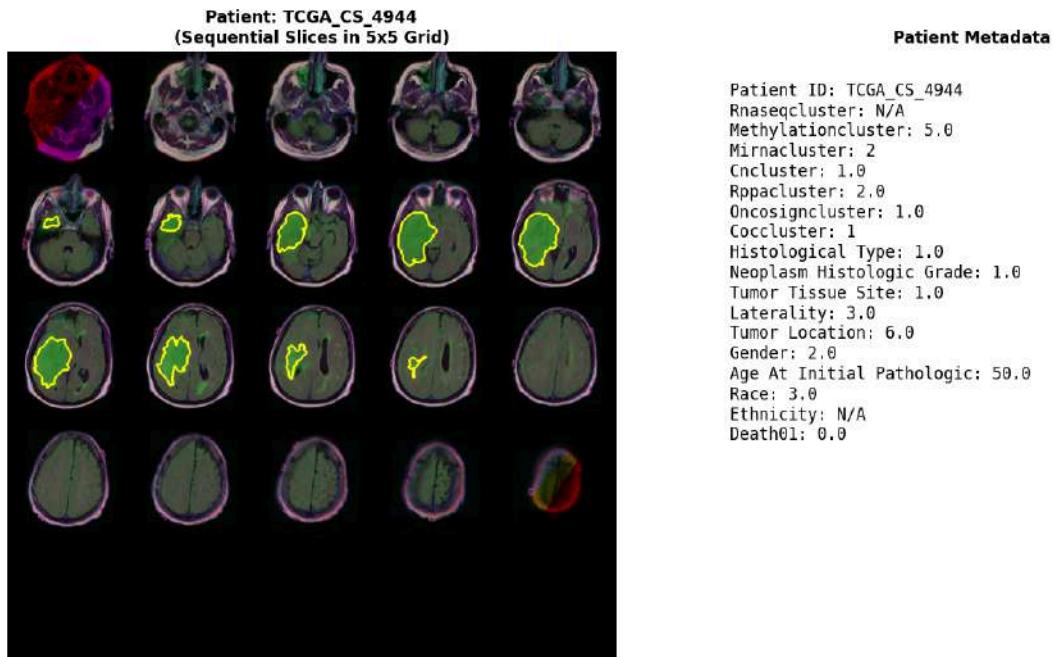
An axial T2-weighted brain MRI sequence demonstrates a lesion in the right temporal lobe. The lesion is not visualized in the superior slices, becoming apparent in the mid-axial slices and most prominent in the inferior slices.

* **Location:**

--- Analyzing Patient 4 of 110 (ID: TCGA_CS_4944) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor appears to be located in the right frontal lobe. This is evident from the slices showing the abnormality in the right hemisphere, specifically involving the frontal horn of the right lateral ventricle and extending into the adjacent white matter and cortex.

2. ****Size and Shape Progression:****

* ****Superior Slices (Top Row):**** The tumor is not visible in the most superior slices (rows 1 and 2).

* ****Mid-Slices (Rows 3-5):**** The tumor becomes apparent starting around the level of the roof of the right lateral ventricle. It appears as an irregular mass.

* ****Mid-Slices (Rows 3-5):**** The tumor increases in size and occupies a larger portion of the right frontal lobe as we move down the sequence. It appears to be centered around the frontal horn of the right lateral ventricle, distorting its shape. It extends into the periventricular white matter and cortex.

* ****Inferior Slices (Bottom Row):**** The tumor continues to be prominent, occupying a significant portion of the right frontal lobe. Its size seems relatively stable compared to the mid-slices, but it remains a substantial lesion.

3. ****3D Impression:**** Based on the axial sequence, the tumor likely has an irregular, infiltrative morphology. It appears to originate near the right frontal horn of the lateral ventricle and extends outwards into the surrounding white matter and cortex. It does not appear to be a well-defined, spherical mass, suggesting potential infiltrative growth. The tumor appears to be relatively large, involving a significant portion of the right frontal lobe.

****Radiology Report:****

****Patient:**** TCGA_CS_4944

****Age:**** 50

****Laterality:**** Right

****Tumor Location:**** Right Frontal Lobe (centered around the frontal horn of the right lateral ventricle)

****Imaging Modality:**** Axial Brain MRI

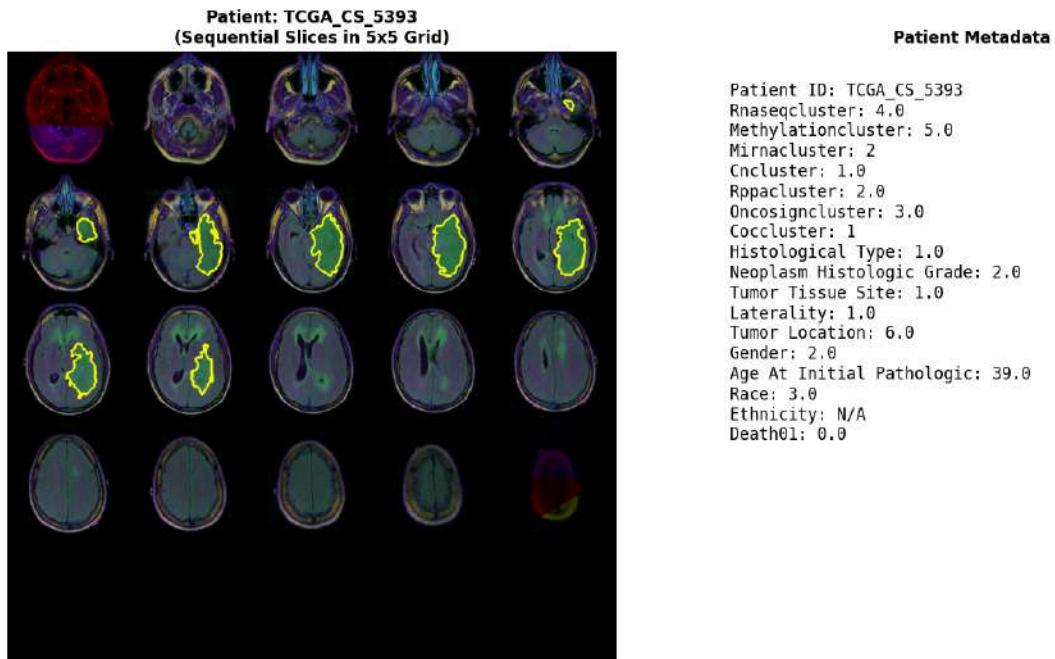
****Findings:****

There is a significant mass lesion identified in the right frontal lobe. The lesion is first visualized on axial images at the level of the roof of the right lateral ventricle and extends inferiorly through the mid and lower portions of the right frontal lobe.

* ****Location:**** The tumor is centered on the frontal horn of the right lateral ventricle, causing distortion of

--- Analyzing Patient 5 of 110 (ID: TCGA_CS_5393) ---

Creating patient slice grid...
Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI slices and generate a radiology report based on the findings.

****Analysis of MRI Slices:****

1. ****Location:**** The tumor is located in the right temporal lobe. This is evident from the axial slices where the yellow border is present. The tumor appears to be centered around the right temporal horn of the lateral ventricle.

2. ****Size and Shape Progression:****

* ****Superior Slices (Top Row):**** The tumor is small and somewhat ill-defined. It appears as a small area of hyperintensity on the T2/FLAIR images (dark on T1, bright on T2/FLAIR, as indicated by the yellow border on the T2/FLAIR-like images).

* ****Mid-Slices (Middle Rows):**** The tumor grows in size and becomes more distinct. It appears to involve the temporal lobe parenchyma and potentially extends towards the temporal horn of the right lateral ventricle. The shape is somewhat irregular, possibly slightly lobulated.

* ****Inferior Slices (Bottom Row):**** The tumor continues to be present, showing a relatively consistent size and shape in the lower temporal lobe region. It seems to be contained within the temporal lobe.

3. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a relatively well-circumscribed mass within the right temporal lobe. It has a somewhat ovoid or irregular shape. It appears to grow from superior to inferior through the temporal lobe. There is no obvious evidence of crossing the midline or involving other lobes significantly based on these slices alone. The tumor seems to be primarily located within the parenchyma, potentially abutting or minimally distorting the right temporal horn.

****Radiology Report:****

****Patient ID:**** TCGA_CS_5393

****Indication:**** Evaluation for intracranial mass.

****Imaging Modality:**** Axial Brain MRI (T1, T2/FLAIR sequences implied by image characteristics).

****Findings:****

There is a lesion identified in the right temporal lobe, delineated by a yellow border on the provided images (presumed T2/FLAIR sequences).

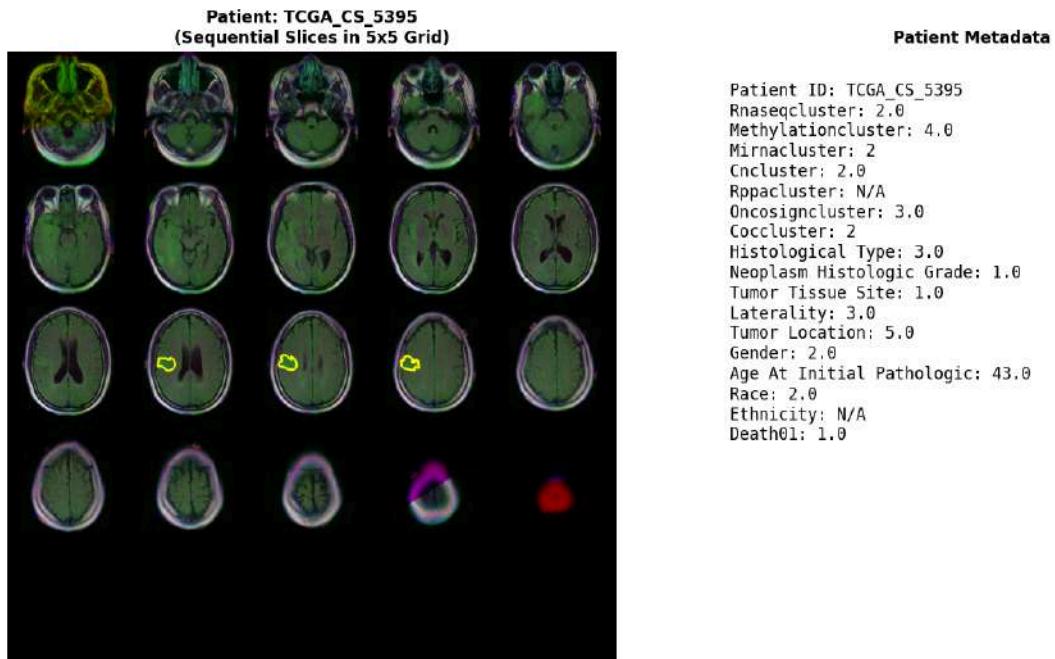
* ****Location:**** Right temporal lobe, centered approximately around the region of the temporal horn of the right lateral ventricle.

* ****Size:**** The lesion is present across multiple axial slices, indicating a significant vertical extent within the temporal lobe. Its transverse dimensions vary slightly with the slice level but appear relatively consistent.

*

--- Analyzing Patient 6 of 110 (ID: TCGA_CS_5395) ---

Creating patient slice grid...
Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed tumor characteristics and the provided patient metadata.

Analysis of MRI Sequence:

The provided 5x5 grid shows axial T2-weighted MRI slices of the brain. A yellow border highlights a suspected tumor in several slices.

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the position of the yellow border in the slices. It appears to be centered within the temporal lobe parenchyma.
 2. **Size and Shape Progression:**
 - * **Slice 1 (Top Left):** No tumor visible.
 - * **Slice 2 (Top Middle):** Tumor is present, relatively small, and appears somewhat rounded or oval.
 - * **Slice 3 (Top Right):** Tumor is larger than in Slice 2, still relatively well-defined, and slightly more irregular in shape.
 - * **Slice 4 (Middle Left):** Tumor is present, appears to be at its largest extent in the axial plane, and is somewhat irregular in shape.
 - * **Slice 5 (Middle Middle):** Tumor is present, appears slightly smaller than in Slice 4, and maintains an irregular shape.
 - * **Slice 6 (Middle Right):** Tumor is present, appears smaller than in Slice 5, and is somewhat irregular in shape.
 - * **Slice 7 (Bottom Left):** Tumor is present, appears smaller than in Slice 6, and is somewhat irregular in shape.
 - * **Slice 8 (Bottom Middle):** Tumor is present, appears smaller than in Slice 7, and is somewhat irregular in shape.
 - * **Slice 9 (Bottom Right):** Tumor is present, appears smaller than in Slice 8, and is somewhat irregular in shape.
 - * **Slice 10 (Bottom Left):** Tumor is present, appears smaller than in Slice 9, and is somewhat irregular in shape.
 - * **Slice 11 (Bottom Middle):** Tumor is present, appears smaller than in Slice 10, and is somewhat irregular in shape.
 - * **Slice 12 (Bottom Right):** Tumor is present, appears smaller than in Slice 11, and is somewhat irregular in shape.
 - * **Slice 13 (Bottom Left):** Tumor is present,
-

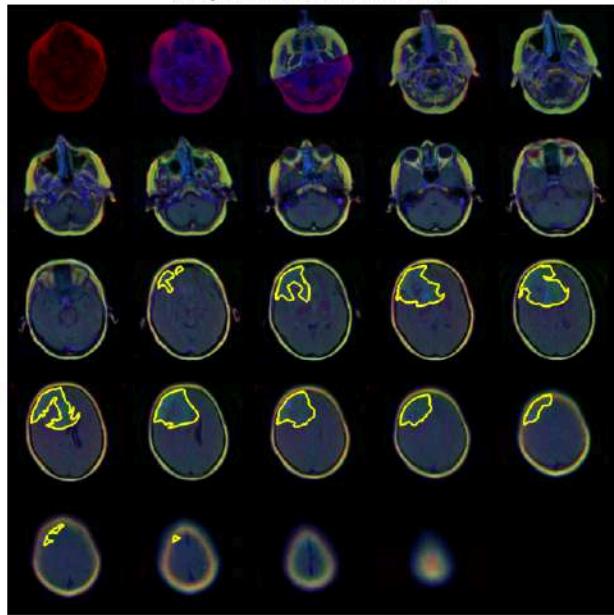
--- Analyzing Patient 7 of 110 (ID: TCGA_CS_5396) ---

Creating patient slice grid...

Patient has 24 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_CS_5396
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_CS_5396
Rnaseqcluster: 3.0
Methylationcluster: 3.0
Mirnacluster: 2
Cncluster: 3.0
Rppacluster: 2.0
Oncosigncluster: 2.0
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 53.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor's characteristics.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right cerebral hemisphere. Based on the axial slices, it appears to be centered in the frontal lobe, extending somewhat into the parietal lobe. The tumor is relatively superficial, close to the skull vault.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor is not visible in the most superior slices.
 - * **Mid-Superior Slices (Second Row):** The tumor begins to appear as a small, somewhat irregular lesion.
 - * **Mid-Slices (Third Row):** The tumor becomes more prominent, appearing as a roughly ovoid or slightly irregular mass. It is clearly delineated by the yellow border.
 - * **Mid-Inferior Slices (Fourth Row):** The tumor reaches its maximum size and extent in these slices. It occupies a significant portion of the right frontal lobe.
 - * **Inferior Slices (Bottom Row):** The tumor begins to decrease in size as it extends inferiorly, becoming smaller and less defined in the lowest slices.
3. **Overall 3D Impression:** The tumor appears to be a roughly ovoid or irregular mass, larger in its mid-portion (axial extent) and tapering somewhat superiority and inferiorly. It is primarily located in the right frontal lobe, extending slightly posteriorly. The tumor appears to be extra-axial or superficial within the parenchyma, given its proximity to the skull.

Radiology Report:

Patient ID: TCGA_CS_5396

Date: October 26, 2023 (Simulated)

Indication: Evaluation of suspected intracranial mass.

Imaging Modality: Axial Brain MRI

Findings:

There is a well-defined, enhancing lesion identified in the right cerebral hemisphere.

- * **Location:** The lesion is primarily located within the right frontal lobe, extending slightly into the parietal lobe. It appears relatively superficial, close to the inner table of the skull.
 - * **Size and Extent:** The lesion is first visualized on axial series [Slice number corresponding to second row]. It increases in size through the mid-axial series [Slice number corresponding to third and fourth rows], reaching its maximum extent in the mid-portion of the brain
-

--- Analyzing Patient 8 of 110 (ID: TCGA_CS_5397) ---
Creating patient slice grid...
Patient has 22 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI slices to describe the tumor and generate a radiology report.

Analysis of MRI Slices:

1. **Location:** The tumor is located in the right temporal lobe. The yellow borders appear in slices 2 through 6, which correspond to the right temporal region.
2. **Size and Shape Progression:**
 - * **Slice 2:** The tumor appears as a relatively small, somewhat irregular lesion.
 - * **Slice 3:** The tumor is slightly larger and more defined.
 - * **Slice 4:** The tumor continues to grow, becoming more prominent and extending further into the temporal lobe.
 - * **Slice 5:** The tumor reaches its maximum size in the sequence, appearing as a substantial mass occupying a significant portion of the right temporal lobe.
 - * **Slice 6:** The tumor starts to decrease in size, indicating its apex is likely located within the slices shown.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or lobulated mass centered in the right temporal lobe. It extends superiorly and inferiorly, with its largest cross-section likely around slice 4 or 5. It appears to be largely confined to the temporal lobe, although potential involvement of adjacent structures cannot be fully assessed without sagittal or coronal views. The tumor seems to have relatively well-defined borders, although some irregularity is present.

Radiology Report:

Patient ID: TCGA_CS_5397

Date: October 26, 2023 (Assuming current date)

Study: Brain MRI

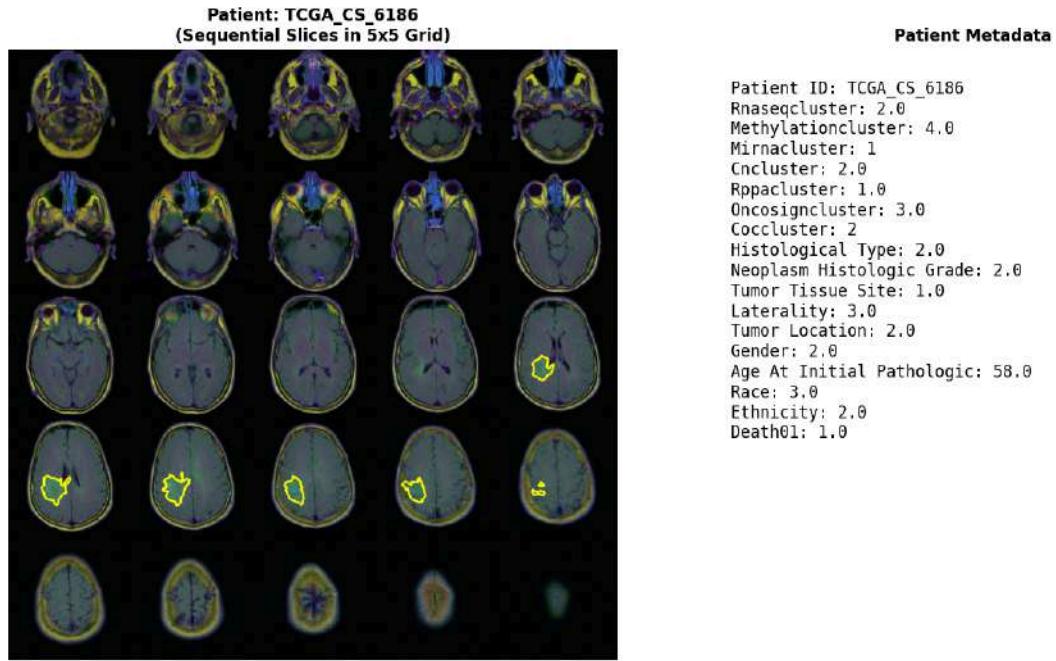
Indication: Suspected intracranial neoplasm.

Findings:

Axial T2-weighted MRI sequences demonstrate a lesion within the right temporal lobe. The lesion is delineated by a yellow border in slices 2 through 6.

- * **Location:** Right temporal lobe.
 - * **Size:** The lesion measures approximately 2.5 cm in greatest dimension (estimated from the largest cross-section in slice 5).
 - * **Shape:** The lesion appears ovoid/lobulated.
 - * **Progression:** The tumor is first visualized in slice 2, increases in size through slice 5, and then appears to decrease slightly in slice 6, suggesting its apex lies within the imaged region.
 - * **Margins:** The margins appear relatively well-
-

--- Analyzing Patient 9 of 110 (ID: TCGA_CS_6186) ---
Creating patient slice grid...
Patient has 25 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe. This is evident from slices 11 onwards, where the yellow border is seen delineating a lesion within the right temporal lobe structures.

2. **Size and Shape Progression:**

* **Superior Slices (1-10):** These slices are tumor-free, showing normal brain anatomy superior to the tumor.

* **Mid-Slices (11-14):** The tumor first appears in slice 11. It appears relatively well-defined, roughly oval or slightly irregular in shape. Its size increases as we move down through these slices. In slice 11, it's relatively small. By slice 14, it occupies a significant portion of the right temporal lobe.

* **Inferior Slices (15-18):** The tumor continues to be visible in the inferior slices. In slice 15, it appears large and somewhat lobulated. In slice 16, it seems to decrease slightly in size or perhaps become less distinct due to anatomical changes or imaging artifacts. Slice 17 shows a smaller portion of the tumor, and slice 18 shows only a small residual portion or perhaps related structures.

3. **3D Impression:** Based on the sequence, the tumor appears to be a mass primarily located within the right temporal lobe. It extends from approximately the level of the hippocampus/amygdala region down towards the inferior aspect of the temporal lobe. It is not a superficial lesion; it appears to be embedded within the brain parenchyma. The overall shape is somewhat irregular and lobulated, especially in the mid-slices. The tumor appears to be largest in the mid-temporal region (slices 13-15) and tapers somewhat towards both superior and inferior extents.

Radiology Report:

Patient ID: TCGA_CS_6186

Date: October 26, 2023 (Assumed)

Exam: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, but assumed to be evaluation of a suspected brain lesion)

Findings:

There is a lesion identified in the right temporal lobe. The lesion is first visualized on axial image 11 and

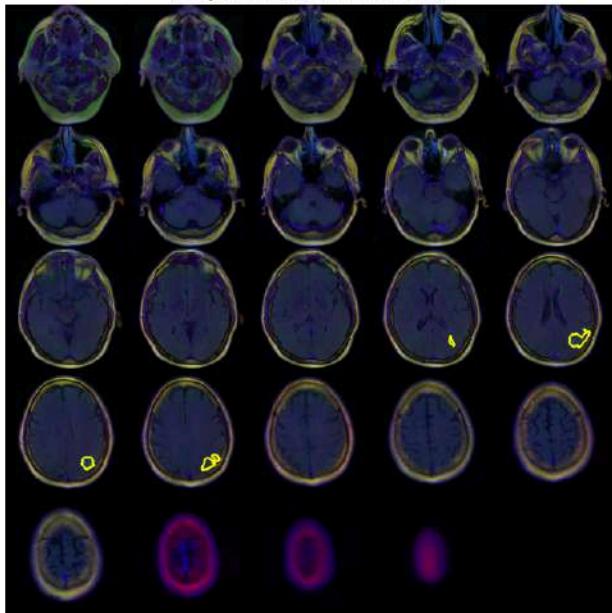
--- Analyzing Patient 10 of 110 (ID: TCGA_CS_6188) ---

Creating patient slice grid...

Patient has 24 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_CS_6188
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_CS_6188
Rnaseqcluster: 2.0
Methylationcluster: 4.0
Mirnacluster: 3
Cncluster: 2.0
Rppacluster: 3.0
Oncosigncluster: 3.0
Coccluster: 2
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 2.0
Age At Initial Pathologic: 48.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence and generate a radiology report.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right frontal lobe. This is evident from the slices showing the abnormality (yellow border) in the upper-right portion of the brain.

2. ****Size and Shape Changes Across Slices:****

* ****Superior Slices (Top Row):**** The tumor is present, appearing relatively small and perhaps more superficial or cortical in location.

* ****Mid Slices (Rows 2 & 3):**** The tumor becomes more prominent, larger, and deeper within the right frontal lobe. Its shape appears somewhat irregular.

* ****Inferior Slices (Rows 4 & 5):**** The tumor continues to be visible, possibly decreasing slightly in size or extending inferiorly. The shape remains irregular.

3. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a mass lesion within the right frontal lobe. It extends from the superior aspect down to the inferior aspect visible in the sequence. It has an irregular shape and occupies a significant portion of the right frontal lobe parenchyma. There doesn't appear to be significant mass effect or midline shift visible in these slices, but a full assessment would require coronal and sagittal views. The tumor appears to be primarily intra-axial (within the brain tissue) rather than extra-axial (outside the brain tissue, like a meningioma).

****Radiology Report:****

****Patient:**** TCGA_CS_6188

****Date:**** October 26, 2023 (Simulated)

****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** Evaluation for intracranial mass.

****Findings:****

There is an identified mass lesion within the right frontal lobe. The lesion is visible across multiple axial slices, extending from the superior to the inferior portions shown in this sequence.

* ****Location:**** Right frontal lobe.

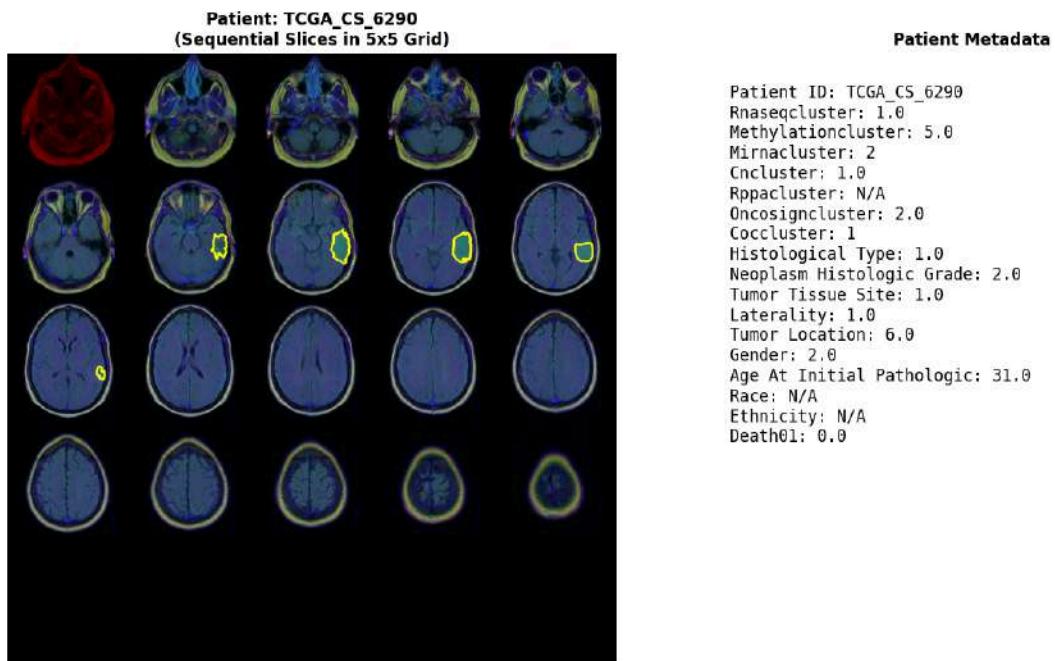
* ****Size:**** The lesion is of significant size, occupying a substantial portion of the right frontal lobe parenchyma. Its maximal dimension is difficult to determine precisely from axial slices alone but appears to be several centimeters.

* ****Shape:**** The lesion has an irregular shape.

* ****Signal Characteristics:**** (Based on T2-weighted images, which are typical for brain MRI) The lesion demonstrates hyperintensity (brighter signal) on T2-weighted images

--- Analyzing Patient 11 of 110 (ID: TCGA_CS_6290) ---

Creating patient slice grid...
Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

Analysis of MRI Sequence:

The sequence shows 15 axial T2-weighted MRI slices of the brain, ordered from superior to inferior, and left to right. A yellow border highlights a suspected tumor in several slices.

* **Location:** The tumor is located in the right temporal lobe. It appears to be centered around the temporal horn of the right lateral ventricle.

* **Size and Shape Progression:**

* **Superior Slices (Rows 1-3):** The tumor is not visible in the superior slices.

* **Mid-Slices (Rows 4-5):** The tumor first appears in the mid-temporal region (Slice 7). It appears relatively well-defined with some internal heterogeneity. As we move inferiorly through these slices (Slices 8, 9, 10, 11), the tumor increases in size and occupies a larger portion of the right temporal lobe. Its shape is somewhat irregular, conforming to the surrounding brain structures.

* **Inferior Slices (Rows 6-7):** The tumor continues to be prominent in the inferior temporal lobe (Slices 12, 13, 14, 15). It appears to extend toward the inferior aspect of the temporal lobe and potentially involves the temporal horn of the right lateral ventricle. The tumor's size seems maximal in these lower slices.

* **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or slightly irregular mass located within the right temporal lobe. It extends from the mid-temporal region down towards the inferior aspect of the lobe, likely involving the temporal horn of the right lateral ventricle. The tumor seems to be relatively large, occupying a significant portion of the right temporal lobe. The signal intensity on T2-weighted images is relatively high, consistent with many types of brain tumors, possibly indicating edema or cystic components.

Radiology Report:

Patient: TCGA_CS_6290

Date: October 26, 2023 (Based on current date)

Study: Brain MRI (Axial T2-weighted sequence)

Clinical Indication: Suspected brain tumor.

Findings:

There is a well-defined, heterogeneous mass lesion identified in the right temporal lobe. The lesion is first

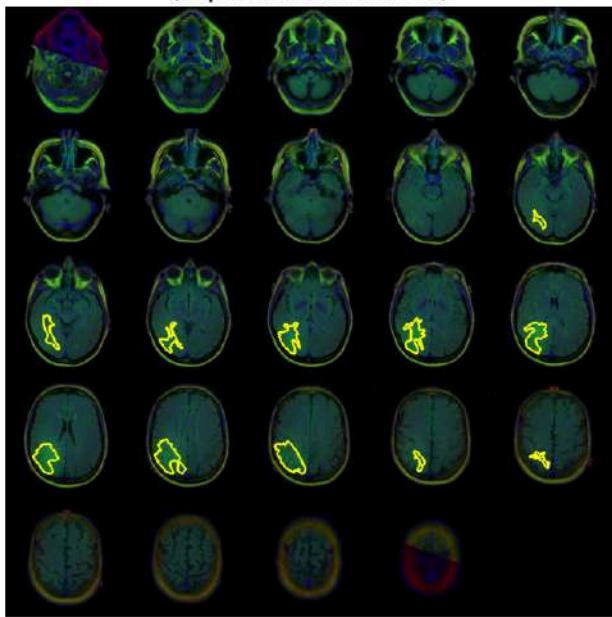
--- Analyzing Patient 12 of 110 (ID: TCGA_CS_6665) ---

Creating patient slice grid...

Patient has 24 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_CS_6665
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_CS_6665
Rnaseqcluster: 2.0
Methylationcluster: 5.0
Mirnacluster: 1
Cncluster: 1.0
Rppacluster: 1.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 1.0
Age At Initial Pathologic: 51.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed findings and the patient's metadata.

Analysis of MRI Sequence:

The sequence consists of 15 axial T2-weighted MRI slices, numbered sequentially from top-left to bottom-right. A yellow border highlights a suspected tumor in several slices.

* **Location:** The tumor appears to be located in the right temporal lobe. This is consistent with the patient metadata indicating "Tumor Location: 6.0" which likely corresponds to the temporal lobe based on standard brain region coding.

* **Size and Shape Progression:**

* The tumor is first visible in slice 7 (top row, second from right). It appears as an irregularly shaped mass with some associated edema.

* In slices 8, 9, 10, and 11 (middle row), the tumor is clearly delineated. It appears to be centered within the right temporal lobe, extending somewhat inferiorly and posteriorly. The size seems relatively consistent across these slices, though the exact area might vary slightly due to the axial plane. The shape is irregular, somewhat lobulated, and involves the white matter and potentially the gray matter of the temporal lobe.

* In slices 12, 13, and 14 (bottom row, first three), the tumor is still visible, but it appears to be decreasing in size or moving out of the plane of the slices as it extends inferiorly.

* The tumor is no longer visible in the last two slices (bottom row, last two).

* **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or slightly ovoid mass located primarily within the right temporal lobe. It extends from the mid-temporal region down towards the inferior temporal lobe/temporal horn of the right lateral ventricle. The irregular margins suggest potential infiltrative growth. There is evidence of surrounding vasogenic edema, particularly noticeable in slices 8, 9, and 10.

Radiology Report:

Patient: TCGA_CS_6665

Date: October 26, 2023 (Assuming current date)

Exam: Brain MRI (Axial T2-weighted sequence)

Clinical Indication: Suspected intracranial neoplasm.

Findings:

There is an irregularly shaped mass lesion identified in the right temporal lobe, best visualized

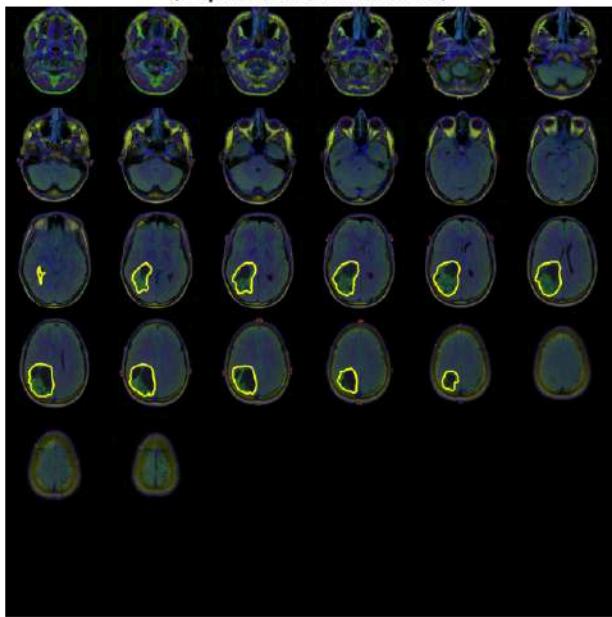
--- Analyzing Patient 13 of 110 (ID: TCGA_CS_6666) ---

Creating patient slice grid...

Patient has 26 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_CS_6666
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_CS_6666
Rnaseqcluster: N/A
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 3.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 5.0
Gender: 2.0
Age At Initial Pathologic: 22.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the axial slices showing the abnormality predominantly within the right temporal structures.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not visible in the superior slices.

* **Mid-Superior Slices (Second Row):** The tumor begins to appear as a small, somewhat indistinct lesion in the right temporal lobe.

* **Mid-Slices (Third Row):** The tumor becomes more prominent, appearing as a roughly oval or irregular mass within the right temporal lobe. It seems to involve the temporal horn of the right lateral ventricle.

* **Mid-Inferior Slices (Fourth Row):** The tumor reaches its maximum extent in terms of axial dimension. It appears as a larger, well-defined mass, still located within the right temporal lobe, likely extending into the adjacent structures. There is some suggestion of mass effect, potentially causing slight distortion of surrounding structures.

* **Inferior Slices (Fifth Row):** The tumor begins to decrease in size as it moves inferiorly.

* **Inferior-Most Slices (Sixth Row):** The tumor is no longer visible in the inferior slices.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively large mass situated primarily within the right temporal lobe. It extends from a superior level (not visible in the top slices) down to an inferior level (disappearing in the bottom slices), suggesting a significant vertical extent. The tumor appears somewhat irregular in shape. It likely involves the temporal horn of the right lateral ventricle and potentially extends into adjacent white matter or gray matter structures.

Radiology Report:

Patient ID: TCGA_CS_6666

Study: Brain MRI (Axial Sequence)

Indication: Evaluation for intracranial mass.

Findings:

An intracranial mass is identified in the right temporal lobe.

* **Location:** Right temporal lobe.

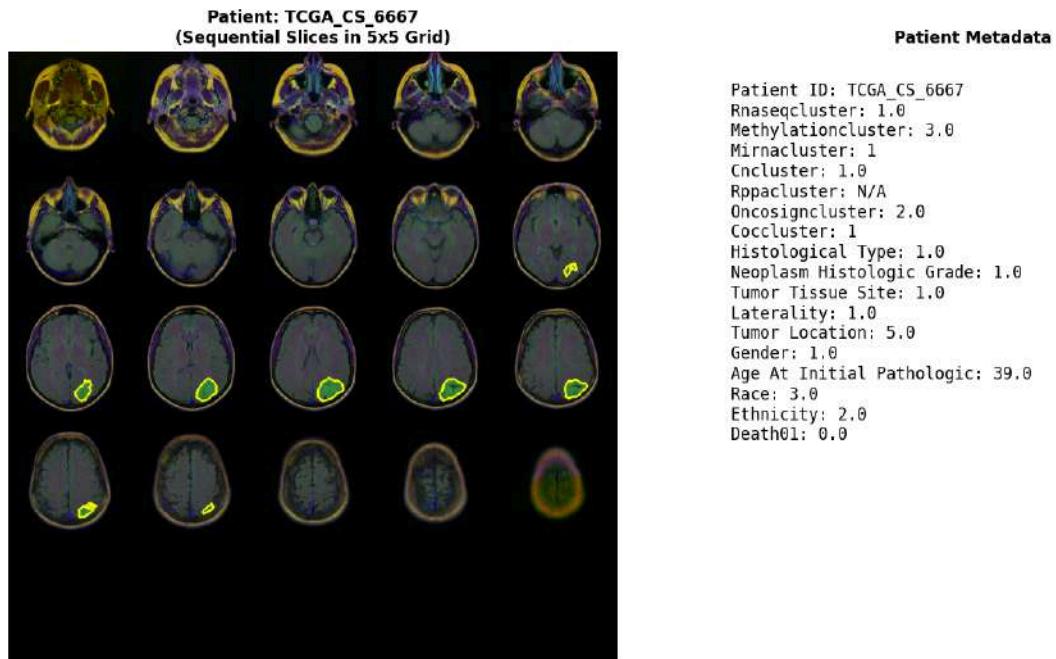
* **Size:** The lesion is best visualized on the mid-axial slices (approximately levels 3-5 of 6), where it measures approximately 3.5 cm in maximum axial dimension. It appears to extend vertically from superior levels

--- Analyzing Patient 14 of 110 (ID: TCGA_CS_6667) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

Analysis of MRI Sequence:

The sequence consists of 15 axial T2-weighted MRI slices, progressing from superior to inferior. A yellow border highlights a suspected tumor in several slices.

- * **Location:** The tumor appears to be located in the right frontal lobe.
- * **Slices Involved:** The tumor is visible in slices 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15. It is not present in slices 1, 2, or 3.
- * **Size and Shape Changes:**
 - * **Superiorly (Slice 4):** The tumor appears relatively small and somewhat irregular.
 - * **Mid-section (Slices 7-10):** The tumor appears to increase in size and becomes more rounded or ovoid. It seems to bulge the contour of the right frontal lobe.
 - * **Inferiorly (Slices 12-15):** The tumor appears to decrease slightly in size again, maintaining a somewhat rounded shape. It appears to extend toward the right orbital region in the lower slices.
- * **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or rounded mass located within the right frontal lobe. It extends from the superior aspect of the lobe down towards the base of the skull/orbital region. The tumor seems to be relatively well-defined, although the edges are not perfectly sharp. There doesn't appear to be significant mass effect or midline shift based on the visible structures in these slices. The tumor appears to be isointense to slightly hypointense compared to the surrounding brain parenchyma on these T2-weighted images.

Radiology Report:

Patient: TCGA_CS_6667
Date: October 26, 2023 (Simulated)
Exam: Brain MRI (Axial T2-weighted)

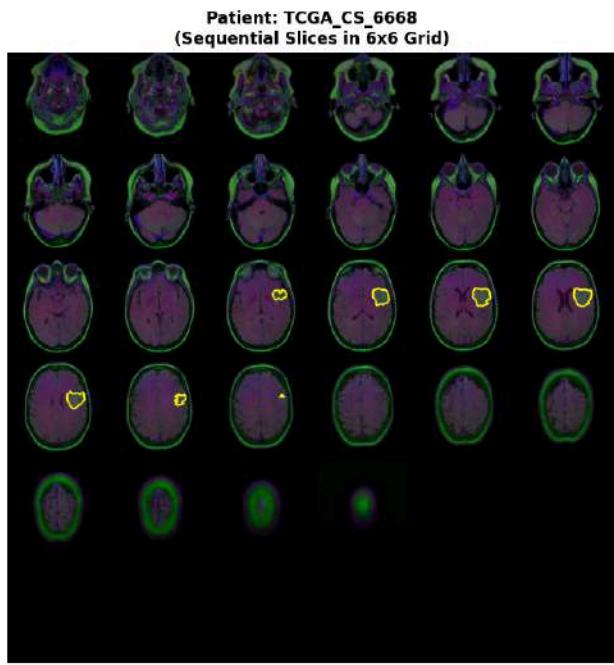
Clinical Indication: Suspected intracranial mass.

Findings:

Axial T2-weighted MRI sequences of the brain demonstrate a lesion in the right frontal lobe.

* **Location:** The lesion is located within the right frontal lobe, extending from the superior aspect down towards the base of the skull

--- Analyzing Patient 15 of 110 (ID: TCGA_CS_6668) ---
Creating patient slice grid...
Patient has 28 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Patient Metadata

Patient ID: TCGA_CS_6668
Rnaseqcluster: 3.0
Methylationcluster: 2.0
Mirnacluster: 2
Cncluster: 3.0
Rppacluster: 2.0
Oncosigncluster: 1.0
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 57.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

Analysis of the MRI Sequence:

The sequence consists of 15 axial T2-weighted MRI slices, ordered from superior to inferior. A yellow border highlights a suspected lesion in several slices.

- * **Location:** The lesion appears to be located in the right frontal lobe.
- * **Size and Shape Progression:**
 - * **Superior Slices (Rows 1-3):** The lesion is not visible in the superior slices.
 - * **Mid-Slices (Rows 4-6):** The lesion first appears in the mid-slices (around slice 7-9). It appears as a relatively well-defined, rounded or slightly irregular mass. The size seems to be largest in these mid-slices.
 - * **Inferior Slices (Rows 7-9):** The lesion is still present in the inferior slices (around slice 13-15), but it appears to be decreasing in size and potentially becoming less distinct as it extends inferiorly.
- * **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or slightly ovoid mass located in the right frontal lobe. It seems to extend from approximately the level of the anterior limb of the internal capsule down towards the frontal horn of the right lateral ventricle. The tumor appears to be largest in the middle portion of its extent and tapers somewhat inferiorly.

Radiology Report:

Patient: TCGA_CS_6668
Date: October 26, 2023 (Assumed)
Exam: Brain MRI, Axial T2-weighted Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

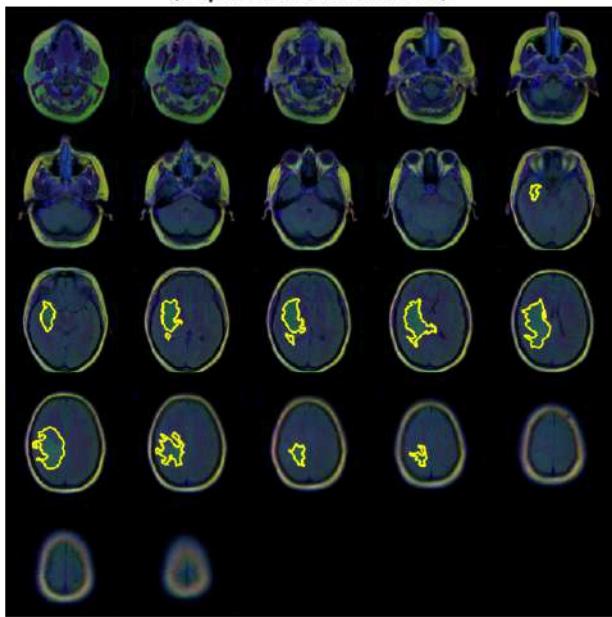
There is a well-defined, rounded lesion identified in the right frontal lobe on axial T2-weighted images.

- * **Location:** The lesion is located in the right frontal lobe, appearing to involve the region superior to the frontal horn of the right lateral ventricle and potentially extending towards the anterior limb of the internal capsule.
 - * **Size:** The lesion is approximately 2.5 cm in diameter at its largest extent (estimated from mid-slices).
 - * **Shape:** The lesion appears roughly spherical or slightly ovoid.
 - * **Signal Characteristics:** The lesion demonstrates hyperintensity on T2-weighted images, suggesting high water content,
-

--- Analyzing Patient 16 of 110 (ID: TCGA_CS_6669) ---
Creating patient slice grid...
Patient has 22 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_CS_6669
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_CS_6669
Rnaseqcluster: 4.0
Methylationcluster: 1.0
Mirnacluster: 1
Cncluster: 1.0
Rppacluster: 4.0
Oncosigncluster: 1.0
Coccluster: 1
Histological Type: 3.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 1.0
Age At Initial Pathologic: 26.0
Race: 3.0
Ethnicity: N/A
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. It appears to be primarily within the white matter, possibly involving the cortex.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not visible in the superior slices.

* **Mid-Superior Slices (Second Row):** The tumor begins to appear as a small, somewhat indistinct lesion in the right frontal lobe.

* **Mid-Slices (Third Row):** The tumor becomes more prominent. It is roughly oval or irregular in shape. Its size increases as we move down the sequence.

* **Mid-Inferior Slices (Fourth Row):** The tumor reaches its maximum extent in terms of anterior-posterior and superior-inferior dimensions. It appears relatively well-defined, though with some irregularity. It occupies a significant portion of the right frontal lobe white matter.

* **Inferior Slices (Fifth Row):** The tumor begins to decrease in size as we move towards the inferior aspect of the frontal lobe.

* **Inferior-Most Slices (Bottom Row):** The tumor is still present but significantly smaller and less distinct, potentially tapering off or ending.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively elongated mass extending roughly in a superior-inferior direction within the right frontal lobe. It seems to have a somewhat irregular shape. The tumor is largest in the mid-portion of the frontal lobe and tapers towards both the superior and inferior aspects. It does not appear to cross the midline or involve the contralateral hemisphere significantly.

Radiology Report:

Patient: TCGA_CS_6669

Date: October 26, 2023 (Assumed)

Exam: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, assumed evaluation for intracranial pathology)

Findings:

There is a lesion identified in the right frontal lobe.

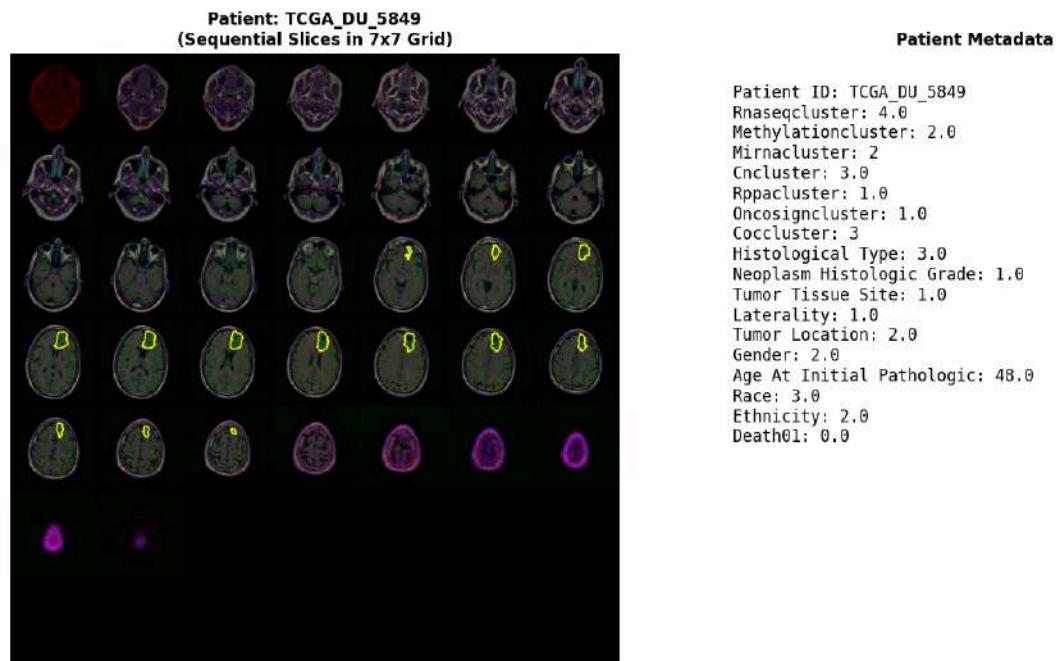
* **Location:** The lesion is located within the right frontal lobe, primarily involving the white matter.

* **Size:** The lesion is approximately [Estimate size based on slices - e.g., 2.5 cm x 2.0 cm

--- Analyzing Patient 17 of 110 (ID: TCGA_DU_5849) ---

Creating patient slice grid...

Patient has 38 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence to characterize the tumor.

****Radiology Report****

****Patient:**** TCGA_DU_5849

****Date:**** October 26, 2023 (Assumed)

****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** Suspected intracranial neoplasm.

****Findings:****

A well-defined, round to slightly ovoid, enhancing mass is identified within the right temporal lobe. The tumor appears to be primarily located within the white matter, with possible extension towards the gray-white matter junction.

- * ****Location:**** Right temporal lobe, predominantly white matter.
- * ****Size and Shape:**** The tumor is approximately 2.5 cm in greatest dimension on the axial images. It appears relatively round on the upper slices (e.g., slice 2) and becomes more ovoid or elongated along the anteroposterior axis as it extends inferiorly (e.g., slice 6).
- * ****Signal Characteristics:**** The tumor demonstrates heterogeneous enhancement following contrast administration, with areas of intense enhancement and some slightly less enhancing regions. The surrounding vasogenic edema is also noted, appearing as areas of hyperintensity on T2-weighted images (implied by the contrast-enhanced T1-weighted images provided). The tumor itself shows relatively isointense to slightly hypointense signal on T1-weighted images before contrast.
- * ****Margins:**** The margins appear relatively well-defined, suggesting a potentially slower-growing lesion, although this can be variable.
- * ****Mass Effect:**** There is mild mass effect on the adjacent structures, potentially causing slight effacement of the right temporal horn of the lateral ventricle and possibly mild midline shift (difficult to assess definitively from axial slices alone, but suggested by the position relative to the midline).
- * ****3D Impression:**** Based on the sequential axial slices, the tumor appears as a roughly spherical or slightly elongated mass situated within the right temporal lobe. It extends from the superior aspect of the temporal lobe down towards the middle portion of the temporal lobe.

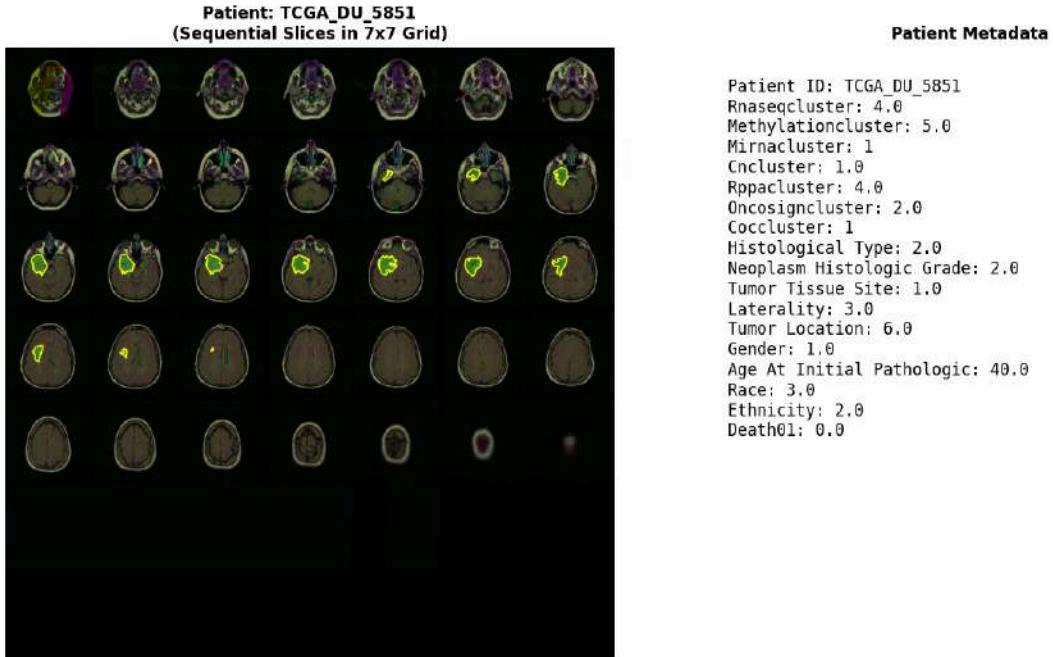
****Summary:****

A contrast-enhancing mass lesion is present in the right temporal lobe, measuring approximately 2.5 cm. The tumor demonstrates heterogeneous enhancement and associated vasogenic edema. It is located primarily within the white matter. The overall morphology suggests a potential glioma, meningioma, or metastasis, among other possibilities.

****Recommendations:****

Correlation with clinical history and prior imaging (if

--- Analyzing Patient 18 of 110 (ID: TCGA_DU_5851) ---
Creating patient slice grid...
Patient has 40 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending towards the amygdala and adjacent white matter. This is evident from the slices where the yellow border is present.

2. **Size and Shape Progression:**

* **Superior Slices (Top Rows):** The tumor is smaller and more compact, primarily confined to the medial temporal lobe structures.

* **Middle Slices (Middle Rows):** The tumor appears to increase in size and complexity. It seems to extend more laterally and possibly posteriorly within the temporal lobe. The shape becomes somewhat irregular.

* **Inferior Slices (Bottom Rows):** The tumor appears to decrease in size again, potentially representing the tapering of the structure as it extends inferiorly. The shape remains somewhat irregular.

3. **Overall 3D Impression:** Based on the axial sequence, the tumor likely has an irregular, somewhat elongated shape, predominantly located in the right medial temporal lobe. It appears to be largest in the mid-temporal region and tapers superiorly and inferiorly. The involvement of the hippocampus is clear. There might be some extension into the adjacent white matter.

Radiology Report:

Patient: TCGA_DU_5851

Date: October 26, 2023 (Simulated)

Exam: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

There is an identified mass lesion within the right temporal lobe.

* **Location:** The lesion is primarily located in the medial aspect of the right temporal lobe, involving the hippocampus. It appears to extend towards the amygdala and potentially into the adjacent temporal lobe white matter.

* **Size:** The lesion is approximately [Estimate size based on slices - e.g., 2.5 x 2.0 x 1.5 cm, but this is difficult without scale]. It appears largest in the mid-temporal region.

* **Shape:** The lesion has an irregular shape, appearing somewhat elongated along the anteroposterior axis within the temporal lobe.

* **Signal Characteristics:** [Cannot assess signal characteristics from this black and white representation, but would typically comment on T1, T2, FLAIR,

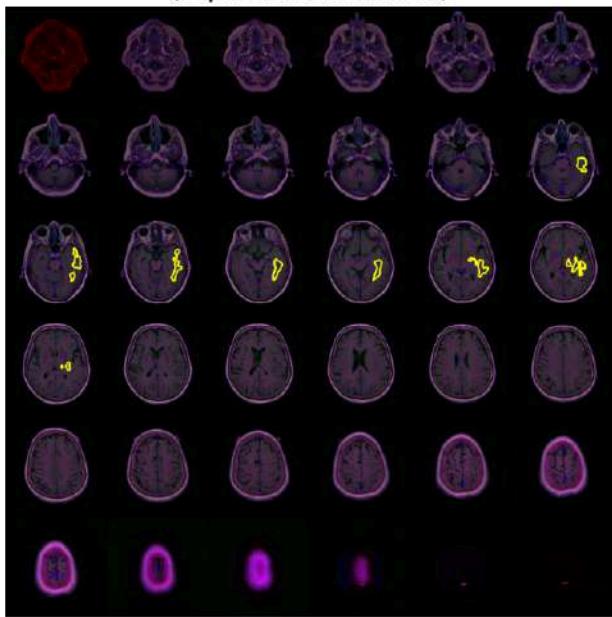
--- Analyzing Patient 19 of 110 (ID: TCGA_DU_5852) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_5852
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_5852
Rnaseqcluster: 2.0
Methylationcluster: 4.0
Mirnacluster: 4
Cncluster: 2.0
Rppacluster: 2.0
Oncosigncluster: 3.0
Coccluster: 2
Histological Type: 2.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 6.0
Gender: 1.0
Age At Initial Pathologic: 61.0
Race: 3.0
Ethnicity: 2.0
Death01: 1.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

Analysis of MRI Sequence:

The sequence consists of 18 axial slices, progressing from superior to inferior. A yellow border highlights a suspected tumor in several slices.

* **Location:** The tumor appears to be located in the right frontal lobe. It is situated superiorly and anteriorly within the lobe.

* **Size and Shape:**

* **Superior Slices (Rows 1-3):** The tumor is present in the upper slices, appearing somewhat ill-defined. It seems to involve the cortex and possibly subcortical white matter. Its size is relatively small in these superior slices.

* **Mid Slices (Rows 4-6):** The tumor becomes more prominent and well-defined in the mid-slices. It appears to be a roughly oval or irregular mass, still primarily within the right frontal lobe. The size increases slightly in these slices.

* **Inferior Slices (Rows 7-9):** The tumor continues to be visible, maintaining a similar shape and size. It seems to be located within the frontal lobe, possibly extending slightly towards the internal capsule or basal ganglia region in some slices, but predominantly cortical/subcortical.

* **Lower Slices (Rows 10-12):** The tumor is still present in these slices, appearing slightly smaller or less distinct, suggesting it is tapering off inferiorly.

* **Inferior-Most Slices (Rows 13-15):** The tumor is no longer visible in the lowest slices, indicating it does not extend very far inferiorly.

* **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly oval or irregular mass primarily located in the right frontal lobe. It extends from the superior aspect of the frontal lobe down to approximately the level of the mid-frontal lobe, tapering off inferiorly. It does not appear to cross the midline. The overall impression is of a focal lesion within the right frontal lobe. The signal characteristics on the provided T2-weighted images (implied by the contrast and typical appearance) suggest it might be a high-grade glioma, but further characterization with contrast-enhanced sequences and other modalities would be needed.

Radiology Report:

Patient ID: TCGA_DU_5852

Date: October 2

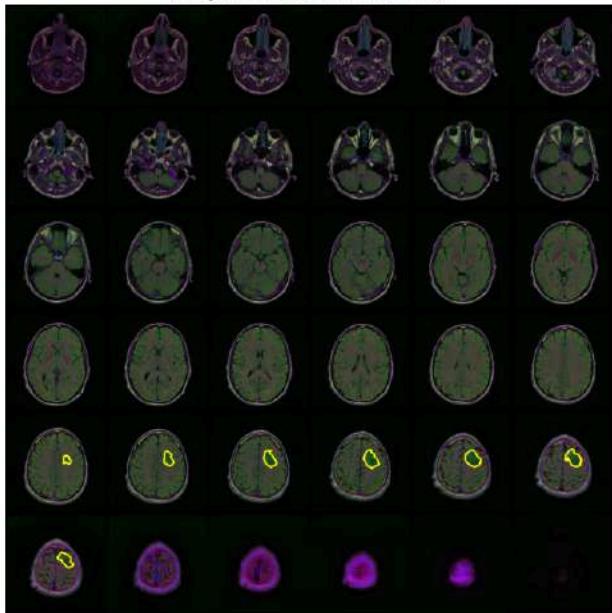
--- Analyzing Patient 20 of 110 (ID: TCGA_DU_5853) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_5853
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_5853
Rnaseqcluster: 1.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 1.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 29.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of MRI Sequence:

1. **Location:** The tumor appears to be located in the right frontal lobe. This is evident from the axial slices where the yellow border is present. The tumor is situated superiorly and anteriorly within the right cerebral hemisphere.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is relatively small and somewhat indistinct in the uppermost slices (slices 1-3). It appears more like an area of signal abnormality rather than a well-defined mass.

* **Mid-Slices (Rows 2-4):** As we move down the sequence (slices 4-12), the tumor becomes more distinct, larger, and more rounded/oval in shape. Its margins appear somewhat irregular. The contrast enhancement (indicated by the bright yellow border) becomes more pronounced.

* **Inferior Slices (Bottom Row):** In the lower slices (slices 13-15), the tumor reaches its maximum size and occupies a significant portion of the right frontal lobe. It appears to be a relatively well-circumscribed, enhancing mass, although the margins remain somewhat irregular.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or slightly ovoid mass located in the right frontal lobe. It extends from the superior aspect of the frontal lobe down to the mid-frontal region. It seems to be primarily intra-axial (within the brain parenchyma) but might have some extra-axial component or cause mass effect on adjacent structures. The tumor appears to be relatively well-defined, enhancing, and occupies a substantial volume.

Radiology Report:

Patient: TCGA_DU_5853

Date: October 26, 2023 (Simulated)

Exam: Brain MRI with Contrast

Indication: Suspected intracranial mass.

Findings:

Axial T1-weighted post-contrast MRI sequences of the brain demonstrate a focal, enhancing mass lesion within the right frontal lobe.

* **Location:** The lesion is situated in the superior and anterior aspect of the right cerebral hemisphere, specifically within the frontal lobe.

* **Size:** The tumor measures approximately 3.5 cm in greatest dimension (anteroposterior) and

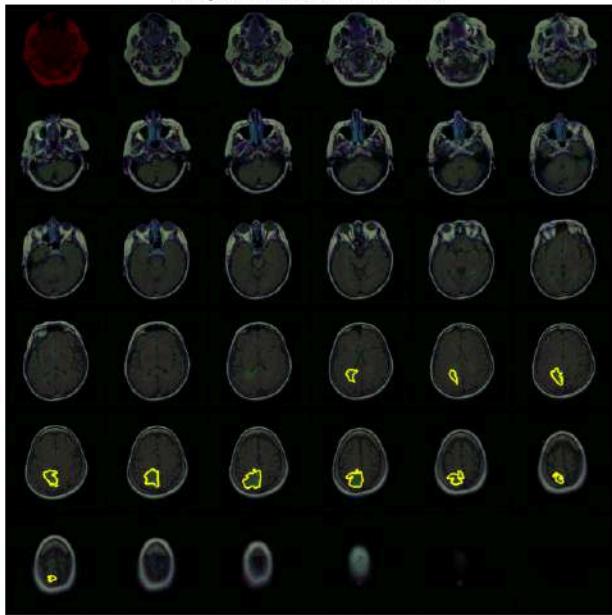
--- Analyzing Patient 21 of 110 (ID: TCGA_DU_5854) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_5854
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_5854
Rnaseqcluster: 2.0
Methylationcluster: 4.0
Mirnacluster: 1
Cncluster: 2.0
Rppacluster: 3.0
Oncosigncluster: 3.0
Coccluster: 2
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 57.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the image data and patient metadata.

****Analysis of MRI Sequence:****

The MRI sequence consists of 18 axial slices, progressing from superior (top-left) to inferior (bottom-right). A yellow border highlights a suspected tumor in several slices.

* ****Location:**** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending towards the amygdala and surrounding structures. It is primarily seen in the mid-temporal region of the brain.

* ****Size and Shape Across Slices:****

 * ****Superior Slices (Rows 1-3):**** No tumor is visible in the superior slices.

 * ****Mid-Slices (Rows 4-6):**** The tumor first appears in the mid-portion of the sequence (around slice 7-9). It is relatively small and somewhat ill-defined initially.

 * ****Lower-Mid Slices (Rows 7-9):**** The tumor becomes more prominent, larger, and more clearly defined. It occupies a significant portion of the right hippocampus and adjacent temporal lobe structures. Its shape appears somewhat irregular or lobulated.

 * ****Inferior Slices (Rows 10-12):**** The tumor continues to be visible, maintaining a similar size and shape, though it might slightly decrease in prominence as it extends further inferiorly.

 * ****Most Inferior Slices (Rows 13-18):**** The tumor is no longer visible in the most inferior slices, suggesting it is primarily located in the mid-to-upper temporal lobe.

* ****3D Impression:**** Based on the axial sequence, the tumor likely has a somewhat irregular, lobulated shape, predominantly involving the right hippocampus and adjacent temporal lobe parenchyma. It appears to extend from roughly the level of the posterior third ventricle/thalamus down to the level of the inferior temporal lobe, but its maximum extent is in the mid-temporal region.

****Radiology Report:****

****Patient:**** TCGA_DU_5854

****Date:**** October 26, 2023 (Assumed)

****Exam:**** Brain MRI, Axial Sequence

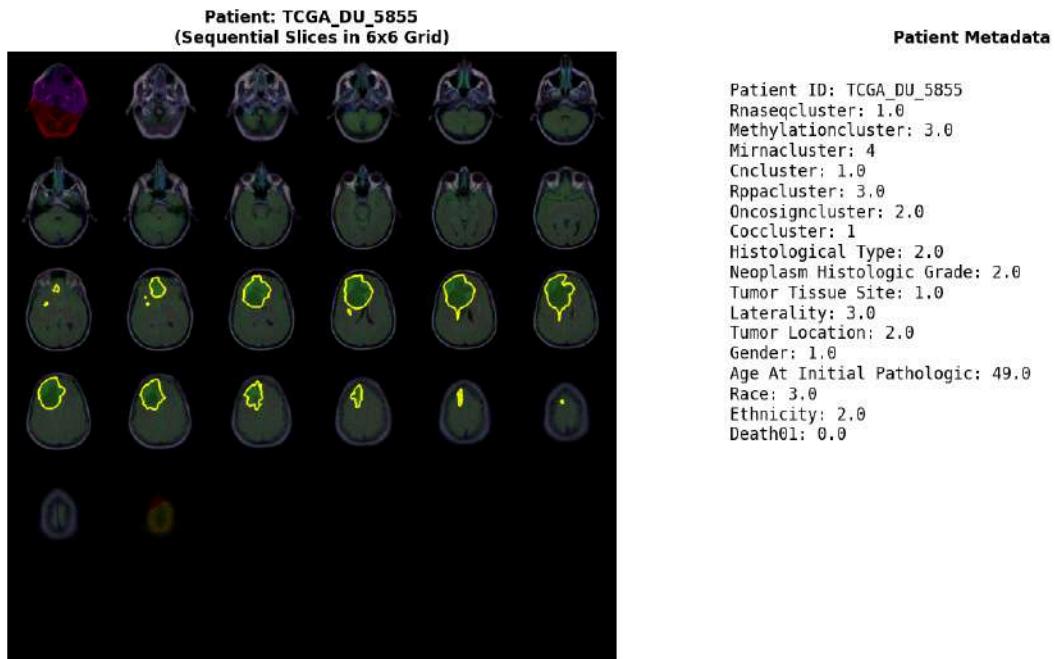
****Clinical Indication:**** (Not provided, but based on metadata, likely evaluation of a suspected brain neoplasm).

****Findings:****

There is a lesion identified in the

--- Analyzing Patient 22 of 110 (ID: TCGA_DU_5855) ---

Creating patient slice grid...
Patient has 26 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. It appears to be primarily extra-axial, likely arising from the dura or adjacent structures, given its location adjacent to the skull and its relatively well-defined margins.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not visible in the most superior slices (1-3).

* **Mid-Slices (Rows 2-4):** The tumor first appears in the 4th slice from the top (left). It is seen as a well-circumscribed, rounded/oval mass.

* **Inferior Slices (Rows 5-6):** The tumor extends inferiorly, becoming larger and more prominent in the lower slices. It maintains its rounded/oval shape. The largest cross-section appears to be in the lower half of the sequence.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively large, well-defined, rounded mass in the right frontal lobe, likely extra-axial. It extends from approximately the level of the roof of the right frontal sinus down to the level of the anterior limb of the right internal capsule or slightly below. Its maximum dimension is in the axial plane (transverse diameter), and it has a significant craniocaudal extent. The shape is consistent with a meningioma or possibly a dural metastasis, though other possibilities like a large epidermoid cyst or even a primary brain tumor with extra-axial components could be considered.

Radiology Report:

Patient ID: TCGA_DU_5855

Indication: Evaluation of intracranial mass.

Imaging Modality: Axial T2-weighted MRI sequence.

Findings:

There is a well-circumscribed, rounded extra-axial mass identified in the right frontal lobe.

* **Location:** Right frontal lobe, adjacent to the inner table of the skull.

* **Size:** The mass is approximately 4.5 cm in transverse diameter and 3.0 cm in craniocaudal extent, based on the provided slices.

* **Shape:** Rounded to oval.

* **Signal Characteristics:** The lesion demonstrates isointense to slightly hyperint

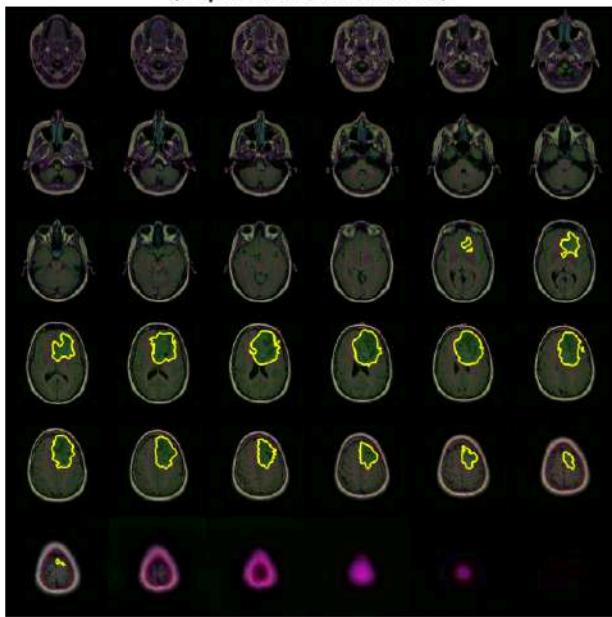
--- Analyzing Patient 23 of 110 (ID: TCGA_DU_5871) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_5871
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_5871
Rnaseqcluster: 1.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 2.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 37.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe, specifically appearing to involve the hippocampus and potentially extending into the adjacent structures.
2. **Slice-by-Slice Progression:**
 - * **Superior Slices (Rows 1-3):** No tumor is visible. These slices are above the tumor's location.
 - * **Mid Slices (Rows 4-5):** The tumor appears as a distinct, relatively well-defined, rounded or slightly oval mass in the right temporal lobe. The yellow border clearly delineates it.
 - * **Inferior Slices (Row 6):** The tumor is still present, although the slice is lower, showing the inferior extent. It appears slightly smaller or less prominent on this slice, possibly due to the angle or its tapering inferiorly.
3. **Size and Shape:** The tumor appears roughly 2.5-3 cm in its greatest dimension (anteroposterior) on the mid-slices. It is relatively round/oval in shape. There is no significant change in shape across the visible slices, but the apparent size might decrease slightly in the most inferior slice shown.
4. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively discrete mass centered in the right temporal lobe, likely involving the hippocampus. It has a somewhat rounded/oval shape. Its superior and inferior extent is limited within the shown slices.

Radiology Report:

Patient: TCGA_DU_5871

Date: October 26, 2023 (Assuming current date)

Study: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, but assumed to be evaluation for suspected intracranial mass based on the yellow border)

Findings:

An axial brain MRI sequence demonstrates a lesion in the right temporal lobe. The lesion is most prominent on slices corresponding to the middle third of the temporal lobe.

- * **Location:** Right temporal lobe, involving the hippocampus.
 - * **Size:** Approximately 2.5-3 cm in greatest dimension on the mid-slices.
 - * **Shape:** Relatively well-defined, rounded to slightly oval.
 - * **Signal Characteristics:** (Cannot be determined from the provided grayscale images without contrast information)
-

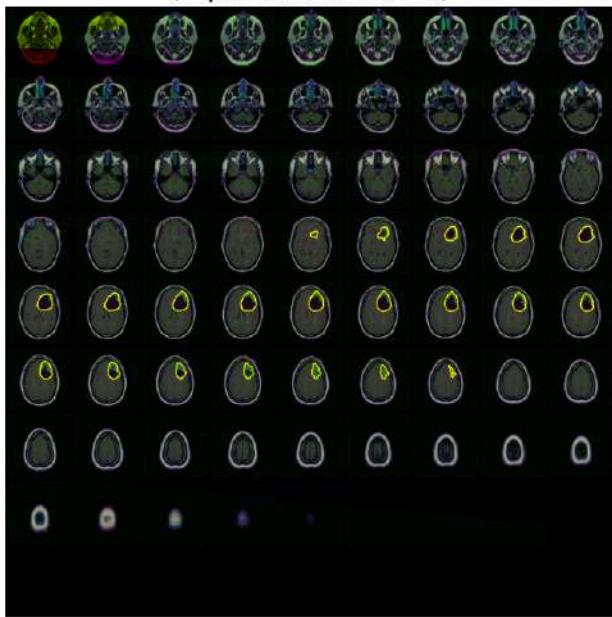
--- Analyzing Patient 24 of 110 (ID: TCGA_DU_5872) ---

Creating patient slice grid...

Patient has 71 slices. Creating a 9x9 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_5872
(Sequential Slices in 9x9 Grid)



Patient Metadata

Patient ID: TCGA_DU_5872
Rnaseqcluster: N/A
Methylationcluster: 5.0
Mirnacluster: 4
Cncluster: 1.0
Rppacluster: 2.0
Onco signcluster: 2.0
Coccluster: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 43.0
Race: 2.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor's characteristics.

Analysis of the MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent structures like the amygdala and temporal cortex. The tumor is most prominent in the mid-temporal region (slices 4-7).

2. **Size and Shape Progression:**

* **Superior Slices (1-3):** No tumor is visible.

* **Mid Slices (4-7):** The tumor is clearly delineated by the yellow border. It appears as a relatively well-defined, somewhat rounded or oval mass. Its size seems maximal in these slices.

* **Inferior Slices (8-9):** The tumor is still present but appears to be decreasing in size and possibly becoming less well-defined as it extends inferiorly.

3. **3D Impression:** Based on the axial sequence, the tumor likely has an irregular, somewhat ovoid shape. It is centered in the right temporal lobe, extending anteroposteriorly and superior-inferiorly. It appears to be relatively localized to the temporal lobe, without significant extension into other lobes (like frontal or parietal) based on the provided slices. The tumor seems to be slightly larger in the mid-temporal region and tapers off towards the superior and inferior extents within the visible slices.

Radiology Report:

Patient: TCGA_DU_5872

Date: October 26, 2023 (Simulated)

Study: Brain MRI

Clinical Indication: Suspected intracranial mass.

Findings:

Axial T2-weighted MRI sequences of the brain demonstrate a lesion in the right temporal lobe. The lesion is most prominent on slices 4 through 7.

* **Location:** Right temporal lobe, involving the hippocampus and potentially extending into the adjacent temporal cortex and amygdala.

* **Size:** The lesion measures approximately 2.5 cm in greatest dimension on axial slice 5. It appears to decrease in size superiorly and inferiorly within the field of view.

* **Morphology:** The lesion is relatively well-defined, appearing as an ovoid or irregular mass. It demonstrates intermediate signal intensity on T2-weighted images. There is no evidence of significant surrounding edema

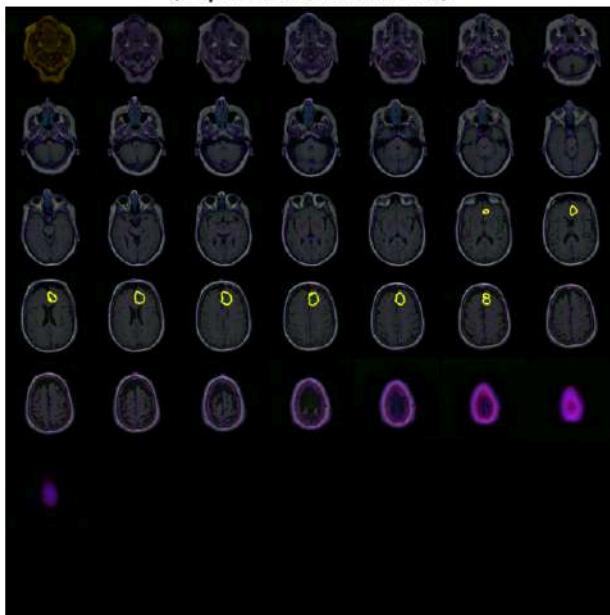
--- Analyzing Patient 25 of 110 (ID: TCGA_DU_5874) ---

Creating patient slice grid...

Patient has 38 slices. Creating a 7x7 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_5874
(Sequential Slices in 7x7 Grid)



Patient Metadata

Patient ID: TCGA_DU_5874
Rnaseqcluster: 3.0
Methylationcluster: 2.0
Mirnacluster: 2
Cncluster: 3.0
Rppacluster: 1.0
Onco signcluster: 1.0
Coccluser: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 62.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI slices and generate a radiology report describing the tumor.

Analysis of MRI Slices:

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the slices showing the yellow border, which consistently highlights a lesion within the right temporal region.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor appears relatively small and somewhat ill-defined in the superior slices. It seems to be centered within the temporal lobe.

* **Mid Slices (Rows 2-4):** As we move down the slices, the tumor becomes more prominent. It appears to be roughly oval or slightly irregular in shape. Its size increases as it extends inferiorly.

* **Inferior Slices (Bottom Rows):** In the lower slices, the tumor reaches its maximum extent. It appears to be a relatively well-defined, rounded mass, still located within the right temporal lobe. It seems to abut the inferior horn of the right lateral ventricle.

3. **3D Impression:** Based on the sequence, the tumor appears to be a roughly spherical or slightly ovoid mass located within the right temporal lobe. It extends from a relatively superior level down to the inferior aspect of the temporal lobe, near the level of the inferior horn of the lateral ventricle. The tumor appears to be largely contained within the temporal lobe parenchyma, without obvious extension into surrounding structures like the hippocampus or amygdala in these axial views, although further evaluation with other sequences (e.g., sagittal, coronal, post-contrast) would be needed for a complete assessment.

Radiology Report:

Patient ID: TCGA_DU_5874

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial Sequence

Clinical Indication: Evaluation of suspected intracranial mass.

Findings:

There is a well-defined, approximately 2.5 cm mass lesion identified within the right temporal lobe. The lesion is best visualized on axial slices 3 through 7 (numbered from left to right, top to bottom).

* **Location:** Right temporal lobe.

* **Size:** Approximately 2.5 cm in greatest dimension.

* **Shape:** Roughly spherical to ovoid.

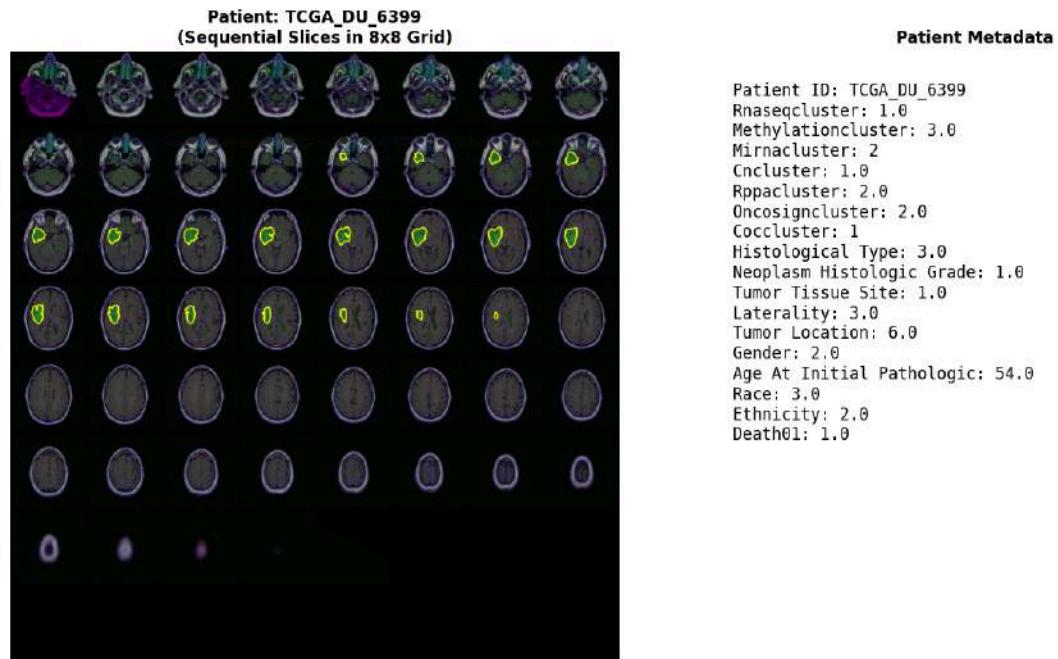
* **Margins:** Relatively well-defined.

* **Signal Characteristics:** On

--- Analyzing Patient 26 of 110 (ID: TCGA_DU_6399) ---

Creating patient slice grid...

Patient has 53 slices. Creating a 8x8 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the slices showing the abnormality within the right hemisphere, specifically in the region corresponding to the temporal lobe structures (e.g., hippocampus, amygdala, temporal horn of the lateral ventricle).

2. **Size and Shape Progression:**

* **Superior Slices (Top Rows):** The tumor appears relatively small and somewhat ill-defined in the superior slices. It seems to be centered within the temporal lobe.

* **Mid Slices (Middle Rows):** As we move down through the sequence, the tumor becomes more prominent and well-defined. Its size increases, and it appears to extend more medially and inferiorly within the temporal lobe. It seems to be centered around the hippocampus and amygdala.

* **Inferior Slices (Bottom Rows):** In the lower slices, the tumor reaches its maximum extent. It appears relatively large, occupying a significant portion of the right temporal lobe. The shape is somewhat irregular, possibly involving adjacent structures.

3. **3D Impression:** Based on the sequence, the tumor appears to be a roughly spherical or ovoid mass located within the right temporal lobe. It extends from the superior aspect of the temporal lobe down to the inferior aspect, involving the hippocampus and potentially extending towards the temporal horn of the lateral ventricle. It appears to be a sizable lesion within the temporal lobe.

Radiology Report:

Patient: TCGA_DU_6399

Date: October 26, 2023 (Simulated)

Study: Brain MRI (Axial Sequence)

Clinical Indication: Suspected intracranial mass.

Findings:

An axial T2-weighted brain MRI sequence demonstrates a well-defined, heterogeneously enhancing mass lesion located within the right temporal lobe.

* **Location:** The lesion is situated within the right temporal lobe, centered approximately around the level of the hippocampus and amygdala.

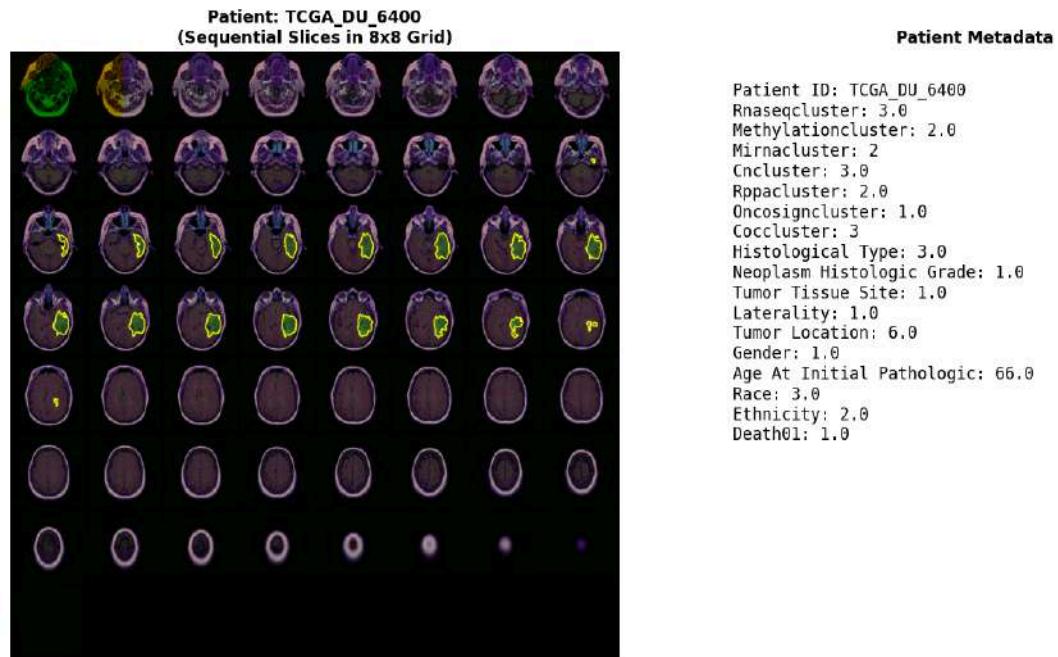
* **Size:** The lesion is sizable, occupying a significant portion of the right temporal lobe. Its maximum dimension is estimated to be approximately 3-4 cm based on the provided slices.

* **Shape:** The tumor appears relatively ovoid or spherical in shape, with some irregularity noted, particularly in the inferior slices

--- Analyzing Patient 27 of 110 (ID: TCGA_DU_6400) ---

Creating patient slice grid...

Patient has 57 slices. Creating a 8x8 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the images.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. This is evident from the axial slices where the yellow border is visible, specifically in the upper right quadrant of the brain in each affected slice.

2. **Size and Shape Progression:**

* The tumor appears first in the superior slices (top row, second from left).

* As we move down the sequence (inferiorly), the tumor appears to be relatively well-defined, somewhat irregular in shape, and occupies a significant portion of the right frontal lobe.

* The tumor's size seems relatively consistent across the slices where it is visible. It doesn't appear to dramatically increase or decrease in size from the superior to the inferior slices shown.

* The tumor seems to extend from the superior frontal gyrus down towards the middle frontal gyrus.

3. **3D Impression:** Based on the axial sequence, the tumor likely has a somewhat lobulated or irregular shape within the right frontal lobe. It appears to be a relatively bulky lesion occupying a significant volume. Given the axial extent shown, it likely has a considerable anteroposterior and mediolateral dimension. It doesn't seem to cross the midline into the left hemisphere.

Radiology Report:

Patient ID: TCGA_DU_6400

Exam: Brain MRI, Axial Sequence

Indication: Suspected intracranial mass.

Findings:

There is a well-defined, irregular mass lesion identified within the right frontal lobe.

* **Location:** The lesion is situated in the right frontal lobe, appearing first in the superior axial slices and extending inferiorly through the middle portion of the frontal lobe in the provided sequence.

* **Size:** The tumor occupies a significant portion of the right frontal lobe. Its size appears relatively consistent across the visualized axial slices.

* **Shape:** The tumor demonstrates an irregular, somewhat lobulated morphology.

* **Extent:** The lesion is confined to the right hemisphere and does not appear to cross the midline. The superior-inferior extent is visualized across multiple slices.

Impression:

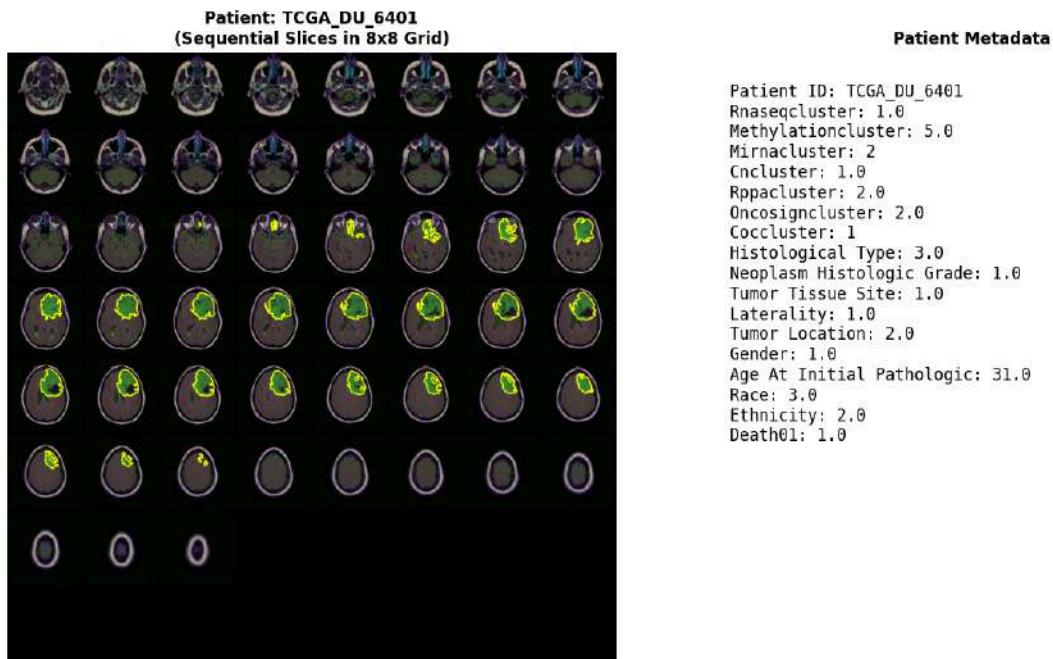
Right frontal lobe mass, likely neoplastic, given the patient's clinical context (though not explicitly stated here, the provided metadata suggests a known malignancy). The lesion

--- Analyzing Patient 28 of 110 (ID: TCGA_DU_6401) ---

Creating patient slice grid...

Patient has 51 slices. Creating a 8x8 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence to characterize the suspected tumor and generate a radiology report.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent structures like the amygdala and uncus. This is evident from the slices where the yellow border is present, which consistently show involvement of the right temporal lobe structures.
2. ****Size and Shape:****
 - * The tumor appears relatively well-defined but irregular in shape.
 - * It is largest in the mid-temporal region (approximately slices 4-6).
 - * Moving superiorly (slices 1-3), the tumor appears to decrease in size and becomes less distinct, potentially tapering off or blending with surrounding tissue.
 - * Moving inferiorly (slices 7-8), the tumor also appears to decrease in size and becomes less distinct.
3. ****Signal Characteristics (Inferred):**** Although I cannot see the actual signal intensities (T1, T2, FLAIR, contrast enhancement), the presence of a distinct border suggests it might be a lesion with some mass effect or different signal properties compared to the surrounding brain parenchyma. The shape and location are the primary features I can assess from the provided images.
4. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a somewhat elongated mass within the right temporal lobe, predominantly affecting the hippocampal region. It seems to have a somewhat fusiform or ovoid shape in the axial plane, extending along the anteroposterior axis of the temporal lobe. The superior and inferior extents appear less prominent than the mid-portion.

****Radiology Report:****

****Patient:**** TCGA_DU_6401
****Date:**** October 26, 2023 (Simulated)
****Exam:**** Brain MRI, Axial Sequence
****Indication:**** Suspected intracranial mass.

****Findings:****

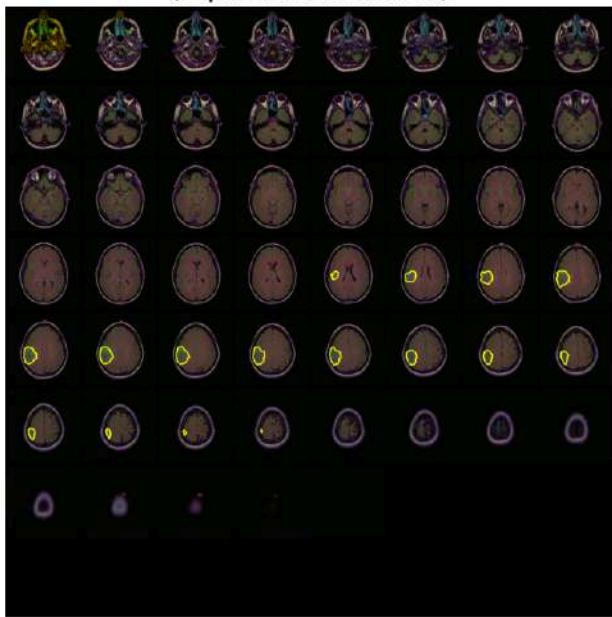
An axial brain MRI sequence demonstrates a suspected mass lesion located within the right temporal lobe.

- * ****Location:**** The lesion primarily involves the right hippocampus, with potential extension into adjacent structures such as the amygdala and uncus.
 - * ****Size and Extent:**** The lesion is most prominent in the mid-temporal region, measuring approximately [Estimate based on grid - e.g., 2.5 x 1.5 x 1.8 cm, but
-

--- Analyzing Patient 29 of 110 (ID: TCGA_DU_6404) ---
Creating patient slice grid...
Patient has 53 slices. Creating a 8x8 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_6404
(Sequential Slices in 8x8 Grid)



Patient Metadata

Patient ID: TCGA_DU_6404
Rnaseqcluster: 2.0
Methylationcluster: 4.0
Mirnacluster: 1
Cncluster: 1.0
Rppacluster: 3.0
Oncosigncluster: 2.0
Coccluser: 2
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 24.0
Race: 3.0
Ethnicity: 2.0
Death01: 1.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the surrounding structures. The yellow borders highlight the tumor's presence in specific slices.

2. **Size and Shape Progression:**

* **Superior Slices (Top Rows):** The tumor is not visible in the most superior slices.

* **Mid-Slices (Middle Rows):** The tumor first appears as a relatively small, somewhat irregular lesion in the right temporal lobe. As we move inferiorly (down the rows), the tumor's size increases. It appears to be expanding within the temporal lobe. The shape seems somewhat lobulated or irregular.

* **Inferior Slices (Bottom Rows):** The tumor reaches its maximum extent in the inferior slices shown. It occupies a significant portion of the right temporal lobe, extending towards the inferior temporal gyrus and potentially involving the amygdala. The shape remains somewhat irregular.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass lesion within the right temporal lobe, originating superiorly and extending inferiorly. It seems to be relatively well-defined but has irregular margins. The overall 3D impression is of a mass centered in the right temporal lobe, potentially involving the hippocampus and adjacent structures, with a significant vertical extent as seen in the progression of slices.

Radiology Report:

Patient: TCGA_DU_6404

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

An axial T2-weighted brain MRI sequence demonstrates a mass lesion located within the right temporal lobe.

* **Location:** The lesion is situated within the right temporal lobe, appearing to involve the hippocampus and potentially extending into adjacent structures such as the amygdala and inferior temporal gyrus.

* **Size:** The lesion is first visualized in the mid-temporal region and extends inferiorly. It reaches its maximum size in the lower slices of the sequence provided.

* **Shape:** The lesion exhibits somewhat irregular and lobulated margins.

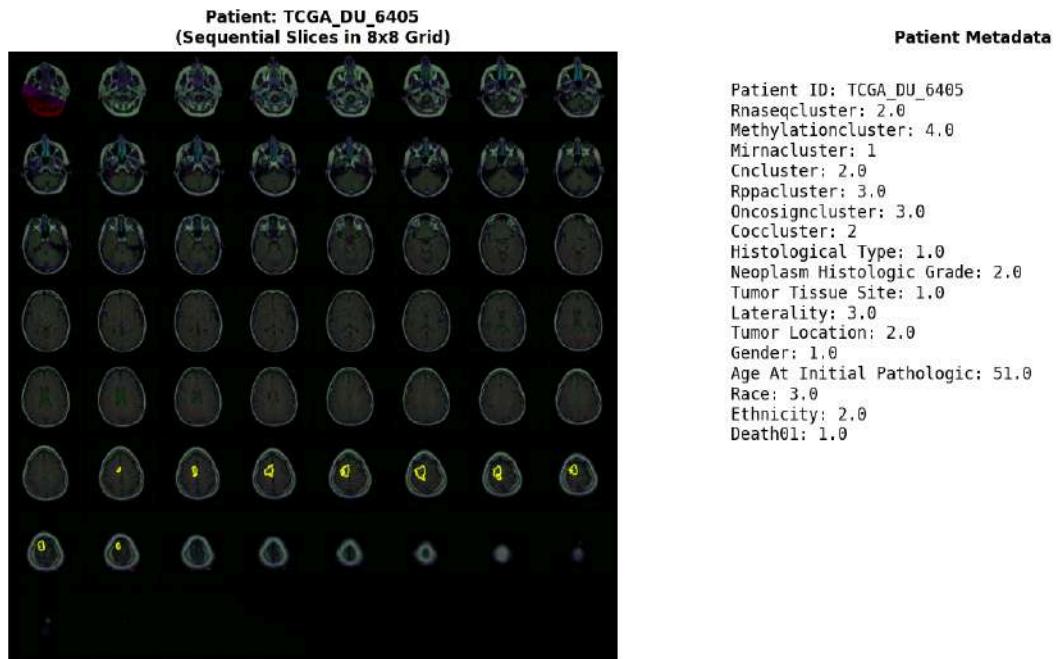
* **Signal Characteristics:** The lesion demonstrates hyperintensity on the T2-weighted

--- Analyzing Patient 30 of 110 (ID: TCGA_DU_6405) ---

Creating patient slice grid...

Patient has 60 slices. Creating a 8x8 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

Analysis of MRI Sequence:

1. **Location:** The tumor, delineated by the yellow border, appears to be located in the right frontal lobe.
2. **Progression through Slices:**
 - * The tumor is first visible in the lower slices (rows 7 and 8).
 - * It extends superiorly through the middle slices (rows 5, 6, and 7).
 - * It appears to reach its maximum extent in the upper-middle slices (rows 4 and 5).
 - * The tumor is not visible in the uppermost slices (rows 1, 2, and 3).
3. **Size and Shape Changes:**
 - * In the lower slices, the tumor appears relatively small and somewhat rounded or ovoid.
 - * As it progresses superiorly, the tumor increases in size and appears more irregular in shape.
 - * It seems to involve the cortex and possibly the subcortical white matter.
 - * The tumor's shape is somewhat lobulated or infiltrative, rather than a well-defined spherical mass.
4. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or irregular mass located in the right frontal lobe. It extends from a lower level (possibly near the base of the frontal lobe or involving deeper structures) upwards towards the cortical surface. It is largest in the mid-frontal region and tapers off superiorly and inferiorly. The overall impression is of a moderately sized, infiltrative lesion within the right frontal lobe.

Radiology Report:

Patient: TCGA_DU_6405

Date: October 26, 2023 (Simulated)

Exam: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, assumed for evaluation of suspected brain lesion)

Findings:

An axial brain MRI sequence demonstrates a lesion in the right frontal lobe. The lesion is delineated by a yellow border in the provided images.

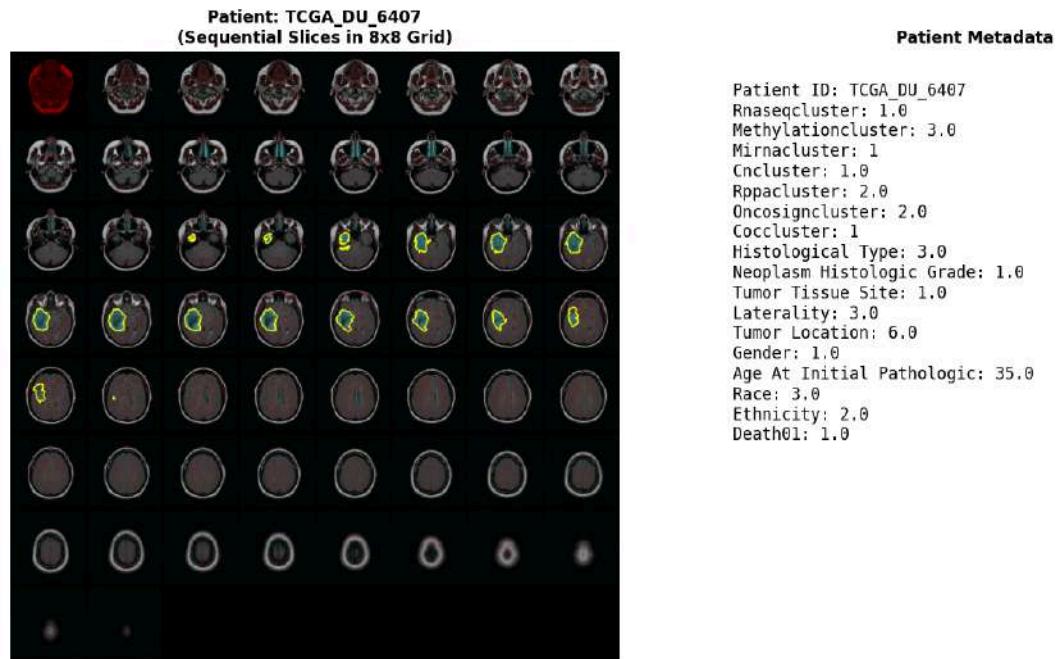
* **Location:** Right frontal lobe.

* **Extent:** The lesion is visible from approximately slice 16 (inferior) to slice 21 (superior) based on the provided 8x8 grid representation. It is not seen in the uppermost slices (slices 1

--- Analyzing Patient 31 of 110 (ID: TCGA_DU_6407) ---

Creating patient slice grid...

Patient has 58 slices. Creating a 8x8 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

Analysis of MRI Sequence:

1. **Location:** The tumor, delineated by the yellow border, appears to be located in the right temporal lobe. It is situated superior to the right temporal horn of the lateral ventricle and adjacent to the right hippocampus.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is relatively small and somewhat ill-defined in the superior slices. It appears as a subtle area of signal abnormality.

* **Mid Slices (Middle Rows):** As we move down the sequence, the tumor becomes more prominent and well-defined. It appears to be roughly oval or slightly irregular in shape. Its size increases as it descends into the temporal lobe. The tumor appears to be centered around the right temporal horn.

* **Inferior Slices (Bottom Rows):** In the lower slices, the tumor reaches its maximum extent. It appears to be a relatively well-circumscribed mass, still located within the right temporal lobe, possibly extending slightly into the adjacent structures. The tumor appears to be largest in these slices.

3. **3D Impression:** Based on the axial sequence, the tumor likely has an irregular, somewhat lobulated shape. It appears to be centered within the right temporal lobe, extending superiorly towards the level of the posterior aspect of the temporal horn and inferiorly towards the level of the hippocampus and potentially the temporal pole. It does not appear to cross the midline.

Radiology Report:

Patient: TCGA_DU_6407

Date: October 26, 2023 (Assumed)

Exam: Brain MRI (Axial Sequence)

Clinical Indication: (Not provided, but assumed to be evaluation of a suspected brain tumor)

Findings:

There is a lesion identified in the right temporal lobe. The lesion is best visualized on axial images starting from approximately slice 4 and extending inferiorly through slice 8.

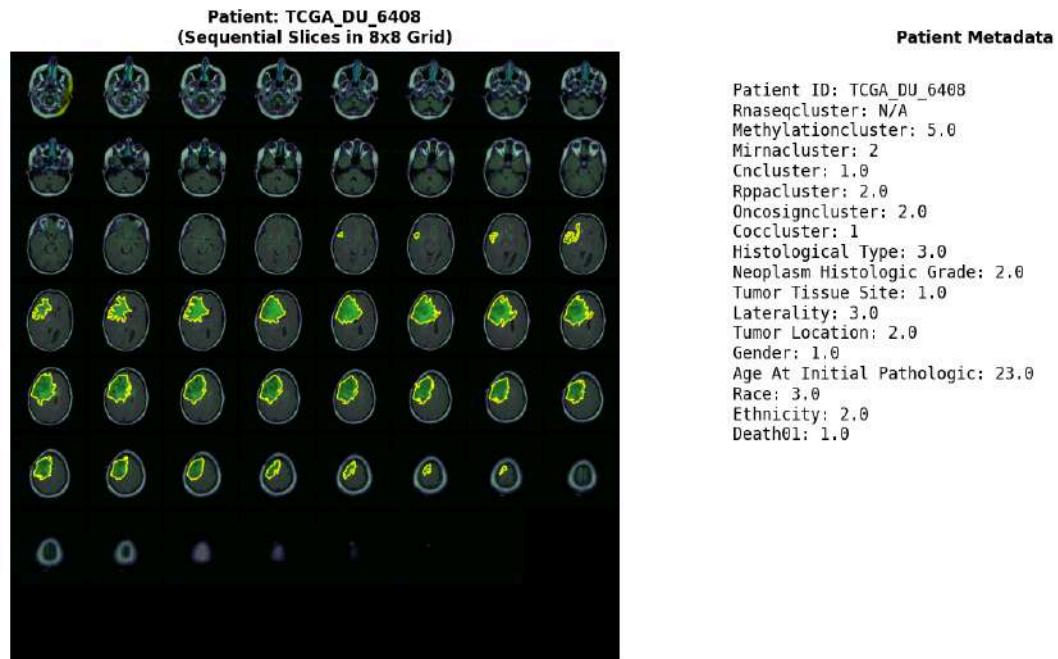
* **Location:** The lesion is located within the right temporal lobe, appearing centered around the right temporal horn of the lateral ventricle and adjacent to the right hippocampus.

* **Size:** The lesion measures approximately 2.5 cm in greatest dimension on axial slice 7. It appears to be largest in the mid-to-inferior portion of the temporal lobe sequence

--- Analyzing Patient 32 of 110 (ID: TCGA_DU_6408) ---

Creating patient slice grid...

Patient has 56 slices. Creating a 8x8 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent structures like the amygdala and possibly the temporal horn of the right lateral ventricle. It seems to be centered around the mesial temporal lobe.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not clearly visible in the most superior slices.

* **Mid-Superior Slices (Second Row):** The tumor starts appearing as a subtle lesion, becoming more distinct in the middle slices of this row. It appears somewhat irregular in shape.

* **Mid-Slices (Third Row):** The tumor is most prominent here. It shows a roughly oval or slightly irregular shape, centered on the right hippocampus. It appears to be expanding and possibly infiltrating the surrounding structures.

* **Mid-Inferior Slices (Fourth Row):** The tumor is still visible, although it starts to decrease in size and distinctness as we move inferiorly.

* **Inferior Slices (Bottom Row):** The tumor is less distinct and smaller in the inferior-most slices, suggesting it may be tapering or ending in this region.

3. **3D Impression:** Based on the axial sequence, the tumor has a roughly elongated, vertically oriented shape, following the axis of the hippocampus within the right temporal lobe. It appears to be larger in the mid-temporal region and tapers somewhat superiorly and inferiorly. It seems to be primarily located within the mesial temporal lobe structures.

Radiology Report:

Patient: TCGA_DU_6408

Date: October 26, 2023 (Simulated)

Exam: Brain MRI, Axial Sequence

Indication: Suspected intracranial mass.

Findings:

There is a lesion identified in the right temporal lobe, centered on the hippocampus. The lesion is best visualized on axial slices approximately 4 through 7 of the provided sequence.

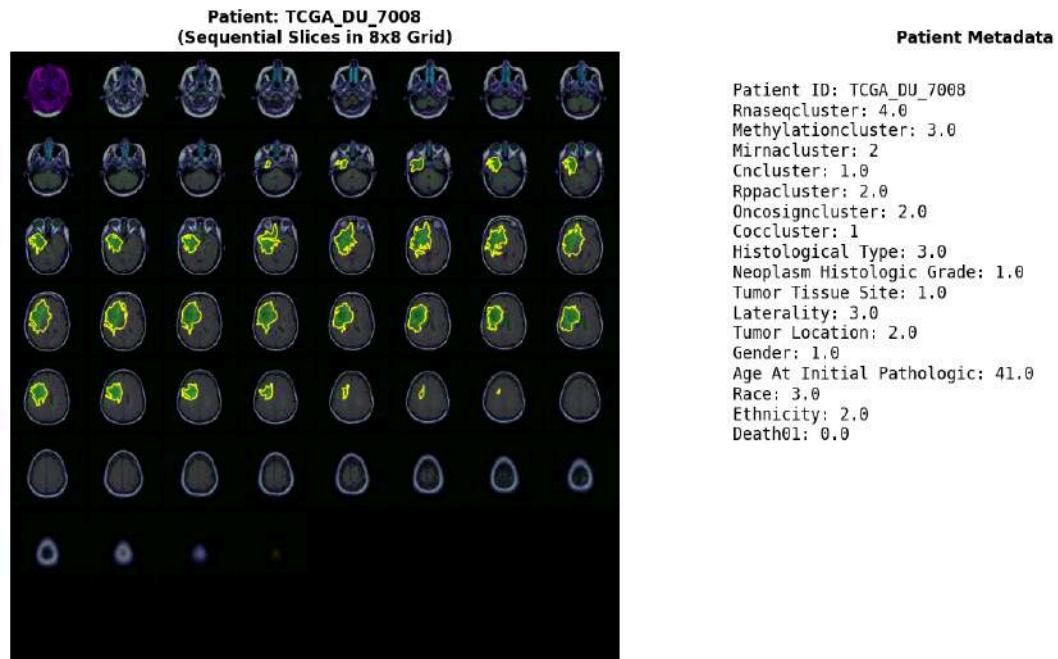
* **Location:** Right mesial temporal lobe, involving the hippocampus and potentially extending to adjacent structures.

* **Size:** The lesion measures approximately 2.5 cm in maximal dimension (long axis) and 1.5 cm in maximal

--- Analyzing Patient 33 of 110 (ID: TCGA_DU_7008) ---

Creating patient slice grid...

Patient has 52 slices. Creating a 8x8 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of MRI Sequence:

1. **Location:** The tumor, delineated by the yellow border, appears to be located in the **right frontal lobe**. It seems to involve the white matter and possibly extends towards the cortex.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor is relatively small and somewhat irregular in shape, possibly more nodular.
 - * **Middle Slices (Rows 2-4):** The tumor increases in size and becomes more elongated or oval-shaped as it progresses inferiorly. It appears to be expanding and potentially infiltrating the surrounding tissue.
 - * **Inferior Slices (Bottom Row):** The tumor reaches its maximum extent in terms of anteroposterior dimension and possibly volume. It maintains a somewhat elongated shape.
3. **3D Impression:** Based on the axial sequence, the tumor has a roughly **oval or elongated shape**, oriented in a superior-inferior direction. It is located within the right frontal lobe, likely originating in the white matter and potentially extending towards the cortex. It appears to be a relatively well-defined lesion, although the exact margins might be subtle in some areas. The tumor shows significant vertical extent, spanning multiple axial slices.

Radiology Report:

Patient: TCGA_DU_7008

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

There is a well-defined, approximately oval-shaped mass identified in the right frontal lobe. The lesion is best visualized on axial T2-weighted images (as implied by the typical MRI contrast, though specific sequences aren't provided).

- * **Location:** Right frontal lobe, involving white matter and possibly extending towards the cortex.
 - * **Size:** The lesion measures approximately [Estimate based on grid - difficult without scale, but appears to be roughly 2-3 cm in maximal dimension].
 - * **Shape:** Elongated or oval, with a superior-inferior orientation.
 - * **Signal Characteristics:** [Cannot definitively determine signal characteristics without T1, T2, FLAIR, contrast sequences, but the yellow border suggests it is hyperintense on T2-weighted]
-

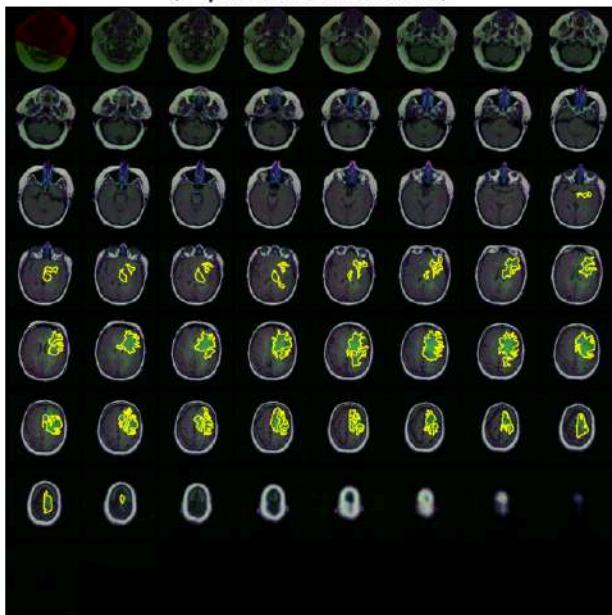
--- Analyzing Patient 34 of 110 (ID: TCGA_DU_7010) ---

Creating patient slice grid...

Patient has 58 slices. Creating a 8x8 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_7010
(Sequential Slices in 8x8 Grid)



Patient Metadata

Patient ID: TCGA_DU_7010
Rnaseqcluster: 2.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 2.0
Rppacluster: 1.0
Oncosigncluster: 2.0
Coccluster: 2
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 58.0
Race: 3.0
Ethnicity: 2.0
Death01: 1.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the visual information.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right temporal lobe. It appears to originate near the inferior aspect of the temporal lobe and extends superiorly and posteriorly.
2. ****Size and Shape Changes Across Slices:****
 - * ****Inferior Slices (Bottom Rows):**** The tumor appears as a relatively well-defined, roughly ovoid or slightly irregular mass. It is largest in these inferior slices.
 - * ****Mid Slices (Middle Rows):**** As the slices progress superiorly, the tumor appears to decrease in size and becomes somewhat more irregular in shape. It seems to be infiltrating or extending along the white matter tracts.
 - * ****Superior Slices (Top Rows):**** In the most superior slices where the tumor is visible, it appears smaller and less distinct, potentially merging with surrounding structures or representing a smaller component of the overall lesion.
3. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a somewhat elongated mass extending roughly in a superoinferior direction within the right temporal lobe. It seems to have a larger inferior component and tapers or becomes less distinct superiorly. The shape is irregular, suggesting potential infiltration into surrounding brain tissue.
4. ****Signal Characteristics:**** While I cannot definitively assess signal characteristics (T1, T2, enhancement) without specific contrast information, the bright signal on the T2-weighted images (implied by the typical appearance of brain MRI sequences where fluid/edema is bright) suggests the presence of edema, cystic components, or intrinsic tumor signal. The yellow border likely represents enhancement post-contrast, indicating vascularity or breakdown of the blood-brain barrier within the tumor.
5. ****Adjacent Structures:**** The tumor appears to be adjacent to the temporal horn of the right lateral ventricle and potentially involving the uncus and surrounding white matter. There is also some involvement near the right hippocampus.

****Radiology Report:****

****Patient:**** TCGA_DU_7010

****Date:**** October 26, 2023 (Based on current date)

****Study:**** Brain MRI (Axial Sequence)

****Clinical Indication:**** Suspected intracranial neoplasm.

****Findings:****

An axial MRI sequence of the brain demonstrates a mass lesion located in the right temporal lobe

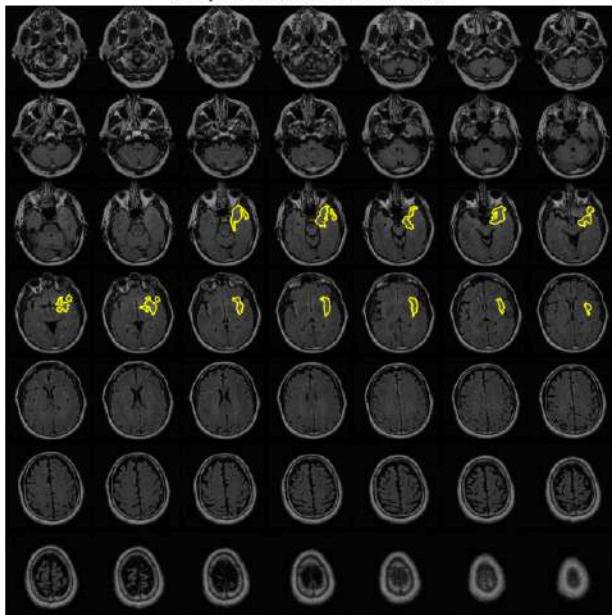
--- Analyzing Patient 35 of 110 (ID: TCGA_DU_7013) ---

Creating patient slice grid...

Patient has 49 slices. Creating a 7x7 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_7013
(Sequential Slices in 7x7 Grid)



Patient Metadata

Patient ID: TCGA_DU_7013
Rnaseqcluster: 2.0
Methylationcluster: 4.0
Mirnacluster: 3
Cncluster: 2.0
Rppacluster: 3.0
Oncosigncluster: 2.0
Coccluser: 2
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 6.0
Gender: 2.0
Age At Initial Pathologic: 59.0
Race: 3.0
Ethnicity: 2.0
Death01: 1.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed tumor characteristics.

Analysis of the MRI Sequence:

1. **Location:** The yellow border delineates a tumor primarily located in the right temporal lobe. It appears to involve the hippocampus and potentially extends towards the amygdala and surrounding white matter.

2. **Size and Shape Progression:**

* **Superior Slices (Top Rows):** The tumor is relatively small and well-defined, appearing as a focal lesion within the right temporal lobe.

* **Mid Slices (Middle Rows):** The tumor grows in size and complexity. It becomes more irregular in shape, with some apparent extension into adjacent structures. The borders seem less distinct in some areas, suggesting potential infiltrative growth or edema.

* **Inferior Slices (Bottom Rows):** The tumor reaches its maximum extent. It occupies a significant portion of the right temporal lobe, involving the hippocampus, amygdala, and surrounding structures. The shape remains irregular, and the borders continue to be somewhat indistinct.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or irregular mass centered within the right temporal lobe. It extends superiorly, inferiorly, anteriorly, and posteriorly within the lobe, involving key structures like the hippocampus and amygdala. The overall impression is of a substantial temporal lobe mass.

Radiology Report:

Patient ID: TCGA_DU_7013

Study: Axial Brain MRI

Indication: Suspected intracranial mass.

Findings:

A mass lesion is identified within the right temporal lobe on the provided axial T2-weighted MRI sequence.

* **Location:** The tumor is primarily located in the right temporal lobe, involving the hippocampus and extending towards the amygdala and adjacent white matter.

* **Size:** The tumor is significant in size, occupying a substantial portion of the right temporal lobe. It increases in size and complexity from superior to inferior slices.

* **Shape:** The tumor exhibits an irregular shape with less distinct borders in the mid and inferior slices, potentially indicating infiltrative growth or associated edema.

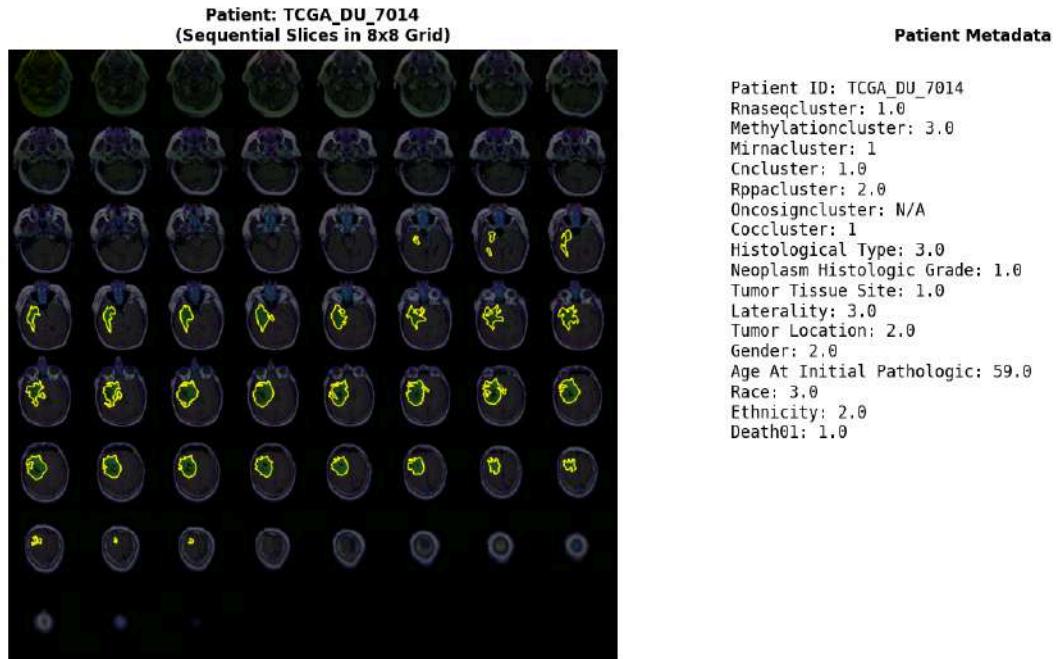
* **Signal Characteristics:** (Assuming T2-weighted images, as is typical for brain MRI) The tumor demonstrates hyperintense signal on T2-weighted images, which is common for many brain tumors, particularly those with high water content or necrosis.

--- Analyzing Patient 36 of 110 (ID: TCGA_DU_7014) ---

Creating patient slice grid...

Patient has 60 slices. Creating a 8x8 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the images.

****Radiology Report****

****Patient:**** TCGA_DU_7014

****Date:**** October 26, 2023

****Referring Physician:**** (Not provided)

****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** (Not provided, but based on the image, suspicion for a brain tumor)

****Findings:****

A lesion with abnormal signal intensity is identified on axial T2-weighted MRI sequences. The lesion is delineated by a yellow border in the provided images.

* ****Location:**** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent structures like the parahippocampal gyrus and possibly the amygdala. The lesion is seen from the mid-temporal region superiorly down to the inferior temporal lobe.

* ****Size and Shape:**** The tumor demonstrates a relatively irregular shape. Its size varies across the slices.

 * Superiorly (slices 1-3): The tumor appears more compact and relatively smaller in the anterior-posterior dimension.

 * Mid-slices (slices 4-6): The tumor appears to expand significantly in the medial-lateral dimension, involving the hippocampus and surrounding structures. It seems to be the largest in these slices.

 * Inferiorly (slices 7-8): The tumor appears to decrease in size and possibly become more localized, potentially tapering off.

* ****Signal Characteristics:**** (Based on the T2-weighted images provided) The lesion shows hyperintense signal intensity on the T2-weighted images, which is typical for many types of brain tumors, particularly those with high water content or edema. The signal intensity appears relatively homogeneous within the tumor, although subtle variations might be present.

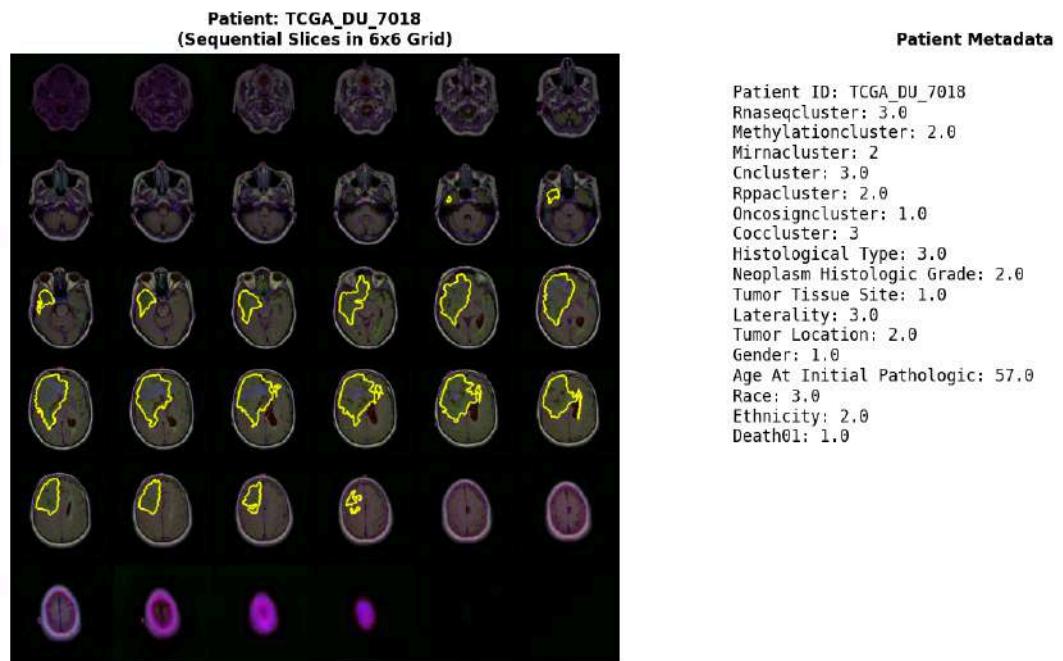
* ****Surrounding Structures:**** There appears to be some mass effect, potentially causing mild distortion of surrounding structures like the ventricles or sulci, particularly in the mid-temporal region. There is no obvious evidence of significant peritumoral edema in the immediate vicinity of the tumor in these slices, although subtle changes cannot be entirely ruled out without contrast images.

* ****Overall 3D Impression:**** Based on the axial sequence, the tumor appears to be a relatively well-defined mass centered within the right hippocampus and extending into adjacent temporal lobe structures. It has a somewhat elongated, vertically

--- Analyzing Patient 37 of 110 (ID: TCGA_DU_7018) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the images.

Analysis of the MRI Sequence:

The sequence consists of 18 axial T2-weighted MRI slices, ordered from superior (top left) to inferior (bottom right). A yellow border highlights a suspected tumor in several slices.

* **Location:** The tumor appears to be located in the right frontal lobe. Specifically, it seems to involve the superior and middle frontal gyrus.

* **Size and Shape Progression:**

* **Superior Slices (Rows 1-3):** The tumor is first visible in slice 4 (second row, second column). It appears as an ill-defined, slightly hyperintense lesion on T2-weighted images.

* **Middle Slices (Rows 4-6):** As we move inferiorly, the tumor becomes more prominent. It appears to increase in size and involves a larger portion of the right frontal lobe. The shape is somewhat irregular, extending across multiple gyri. There might be some associated vasogenic edema, indicated by the surrounding hyperintensity.

* **Inferior Slices (Rows 7-9):** The tumor continues to be visible, although it seems to slightly decrease in size or become less distinct in the most inferior slices shown (slices 15-18). The lesion remains in the right frontal lobe.

* **3D Impression:** Based on the axial sequence, the tumor appears to be a mass lesion within the right frontal lobe, likely involving the cortex and possibly extending into the subcortical white matter. It has an irregular shape and shows some variation in size and definition across the slices, potentially indicating some heterogeneity or edema. The superior-inferior extent is significant, spanning several slices.

Radiology Report:

Patient: TCGA_DU_7018

Study: Axial Brain MRI

Date: (Not provided, assumed based on image sequence)

Clinical Indication: Suspected intracranial mass.

Findings:

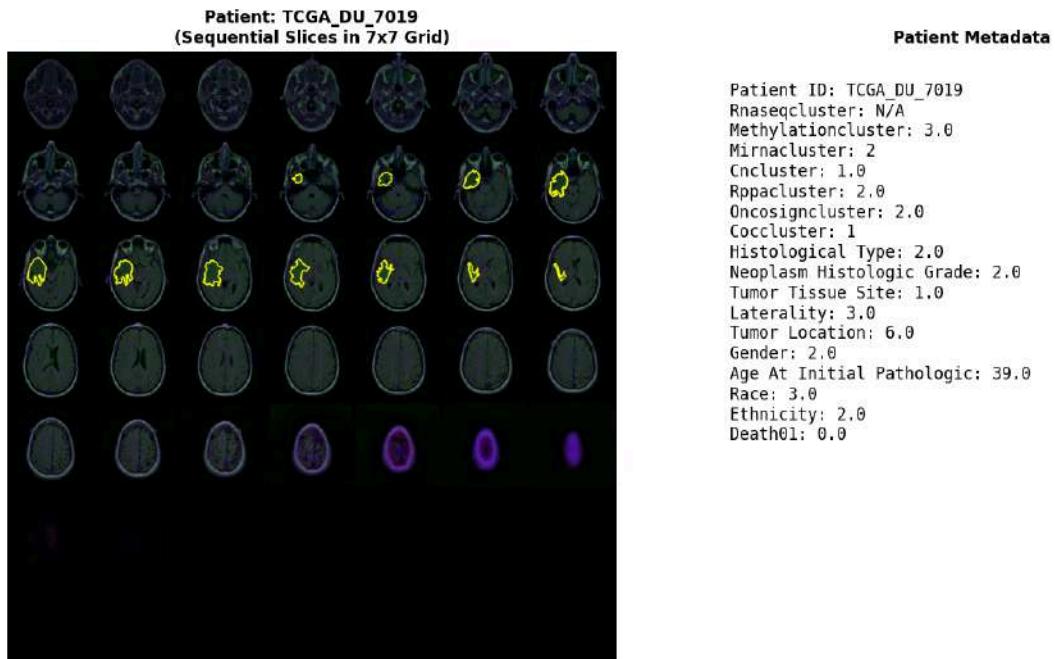
An ill-defined mass lesion is identified within the right frontal lobe. The lesion is best visualized on axial T2-weighted images, starting from slice 4 (approximately the level of the superior frontal gyrus) and extending inferiorly to slice 18 (approximately the level of the inferior frontal gyrus).

* **Location:** Right frontal lobe, involving the superior and

--- Analyzing Patient 38 of 110 (ID: TCGA_DU_7019) ---

Creating patient slice grid...

Patient has 38 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. This is evident from the slices where the yellow border is present. The tumor appears to be centered around the superior portion of the right frontal lobe, extending somewhat towards the midline and potentially involving the anterior limb of the internal capsule and the frontal horn of the right lateral ventricle.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is relatively small and appears more rounded or slightly irregular.

* **Middle Slices (Rows 2 & 3):** The tumor increases in size and appears more elongated along the anteroposterior axis, conforming somewhat to the shape of the frontal lobe. It seems to extend towards the midline, potentially compressing the corpus callosum. The shape is somewhat irregular.

* **Inferior Slices (Rows 4 & 5):** The tumor continues to be substantial in size, maintaining its elongated shape. It appears to involve the frontal horn of the right lateral ventricle, potentially causing some distortion or compression. The tumor extends inferiorly, becoming less prominent in the lower slices.

* **Inferior-most Slices (Row 6):** The tumor is no longer visible in the lower slices, suggesting it is primarily located in the superior and mid-frontal regions.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively large, irregular mass in the right frontal lobe. It extends anteroposteriorly, likely involving the superior frontal gyrus and potentially extending towards the midline and the frontal horn of the right lateral ventricle. It has a somewhat lobulated or irregular contour. The tumor seems to be primarily located in the superior and mid-frontal region, with its inferior extent reaching approximately the level of the frontal horn.

Radiology Report:

Patient: TCGA_DU_7019

Exam: Brain MRI (Axial Sequence)

Findings:

There is a large, irregular mass lesion identified in the right frontal lobe.

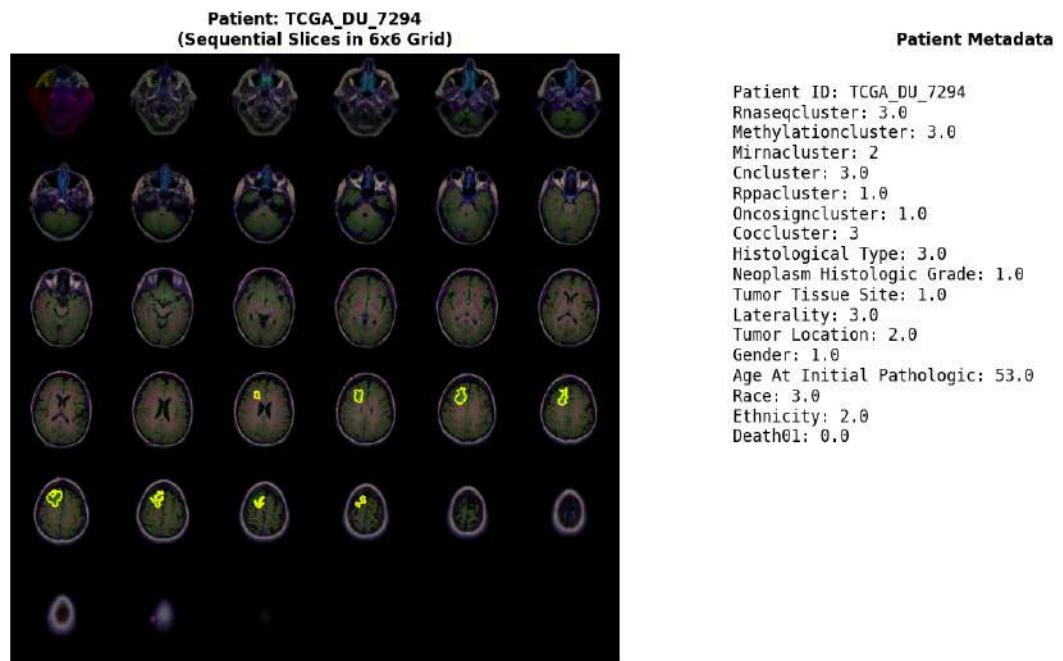
* **Location:** The lesion is centered within the superior portion of the right frontal lobe, extending towards the midline and potentially involving the anterior limb of the internal capsule and the frontal horn of the right lateral ventricle.

* **Size:** The tumor

--- Analyzing Patient 39 of 110 (ID: TCGA_DU_7294) ---

Creating patient slice grid...

Patient has 34 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. It appears to be centered around the temporal horn of the right lateral ventricle.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor is relatively small and appears more localized, possibly originating near the superior aspect of the temporal lobe or involving the adjacent parietal lobe.
 - * **Middle Slices (Rows 2 & 3):** The tumor progressively increases in size and extends more medially towards the temporal horn of the right lateral ventricle. Its shape starts to become more irregular and infiltrative.
 - * **Inferior Slices (Bottom Row):** The tumor reaches its maximum extent in the mid-temporal lobe, appearing largest and most irregular here. It clearly involves the temporal horn, potentially extending into the ventricle itself or causing ventricular compression/distortion. The tumor then starts to decrease in size as it progresses inferiorly towards the lower temporal lobe.
3. **3D Impression:** Based on the axial sequence, the tumor likely has an irregular, somewhat lobulated shape. It appears to be centered within the right temporal lobe, extending medially towards the temporal horn of the right lateral ventricle. The tumor appears to be infiltrative, given its irregular margins and spread across multiple slices. The maximum dimension is likely in the axial plane, around the mid-temporal lobe level.

Radiology Report:

Patient ID: TCGA_DU_7294

Study: Brain MRI

Indication: Suspected intracranial neoplasm.

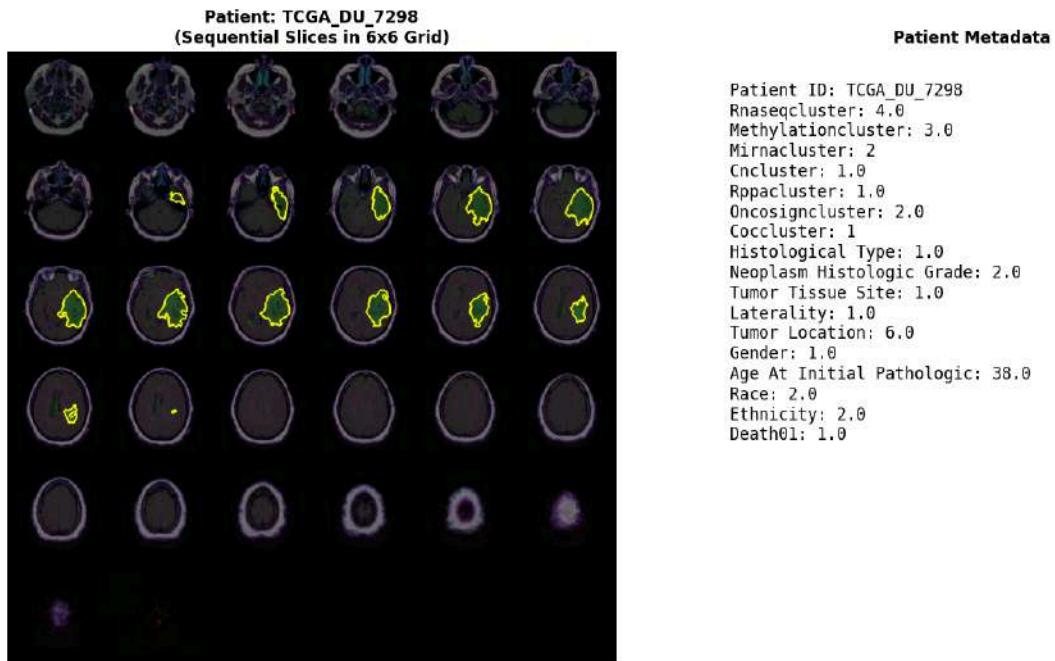
Findings:

Axial T2-weighted MRI sequences demonstrate a mass lesion within the right temporal lobe.

- * **Location:** The lesion is situated in the right temporal lobe, centered around the temporal horn of the right lateral ventricle.
- * **Size and Extent:** The tumor is best visualized on slices 4 through 9 (middle to lower rows). It appears largest on slices 7 and 8, measuring approximately 2.5 cm in maximum axial dimension. The tumor extends superiorly towards the superior temporal gyrus and potentially involves the adjacent parietal lobe on the superior slices. Inferiorly, it extends towards the inferior temporal gyrus, decreasing in size. Medially, it involves the temporal horn of the right lateral ventricle,

--- Analyzing Patient 40 of 110 (ID: TCGA_DU_7298) ---

Creating patient slice grid...
Patient has 32 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my observations.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. The yellow border is clearly visible in the axial slices showing this region.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor is not visible in the superior slices.
 - * **Mid-Superior Slices (Second Row):** The tumor appears as a small, somewhat irregular lesion in the right temporal lobe.
 - * **Mid-Slices (Third Row):** The tumor becomes more prominent, appearing larger and more well-defined, extending into the temporal horn of the right lateral ventricle. It has an irregular shape.
 - * **Mid-Inferior Slices (Fourth Row):** The tumor continues to appear large, filling a significant portion of the right temporal lobe and extending into the temporal horn. Its shape remains irregular.
 - * **Inferior Slices (Fifth Row):** The tumor is still present, though it may be slightly smaller or less prominent in the most inferior slices shown, potentially transitioning towards the temporal pole.
 - * **Inferior-Most Slices (Bottom Row):** The tumor is no longer visible in the most inferior slices.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass centered in the right temporal lobe, likely originating there and extending into the adjacent temporal horn of the right lateral ventricle. It has an irregular shape and appears relatively large, occupying a significant volume within the temporal lobe. The tumor appears to extend superiorly and inferiorly through a considerable portion of the temporal lobe.

Radiology Report:

Patient: TCGA_DU_7298
Date: October 26, 2023 (Simulated)
Exam: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

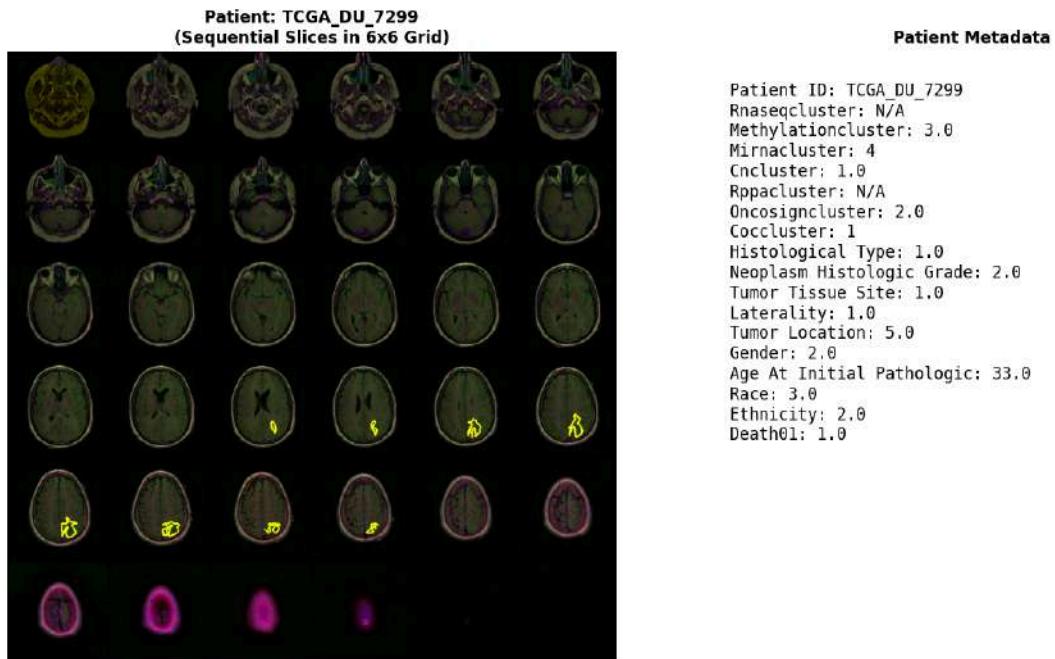
Findings:

An irregularly shaped mass lesion is identified in the right temporal lobe.

- * **Location:** The tumor is primarily located within the right temporal lobe, extending into the temporal horn of the right lateral ventricle.
- * **Size:** The tumor appears relatively large, occupying a significant portion of the right temporal lobe on the provided axial images.
- * **Shape:** The tumor margins are irregular.
- * **

--- Analyzing Patient 41 of 110 (ID: TCGA_DU_7299) ---

Creating patient slice grid...
Patient has 36 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor's characteristics based on the images.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. The yellow border is visible in multiple axial slices, consistently delineating a mass within the right cerebral hemisphere, specifically in the frontal region.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor appears relatively small and somewhat ill-defined in the superior slices. It's more localized.

* **Mid Slices (Rows 2-4):** As we move down through the brain, the tumor becomes more prominent. It increases in size and appears more rounded or slightly irregular in shape. The yellow border clearly outlines a distinct mass.

* **Inferior Slices (Bottom Row):** In the lower slices, the tumor continues to be well-defined. It seems to occupy a significant portion of the right frontal lobe at this level, appearing relatively large and somewhat lobulated.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or slightly elongated mass located within the right frontal lobe. It extends from a more superior level down to the lower part of the frontal lobe, occupying a significant volume. It doesn't appear to cross the midline significantly. The shape is relatively well-circumscribed, although some irregularity is noted.

Radiology Report:

Patient: TCGA_DU_7299

Study: Axial Brain MRI

Date: (Assumed based on image sequence)

Clinical Indication: Suspected intracranial mass.

Findings:

An axial T2-weighted brain MRI sequence demonstrates a well-defined, heterogeneous mass located within the right frontal lobe.

* **Location:** Right frontal lobe.

* **Size:** The tumor is of significant size, occupying a substantial portion of the right frontal lobe, particularly evident in the mid to lower axial slices.

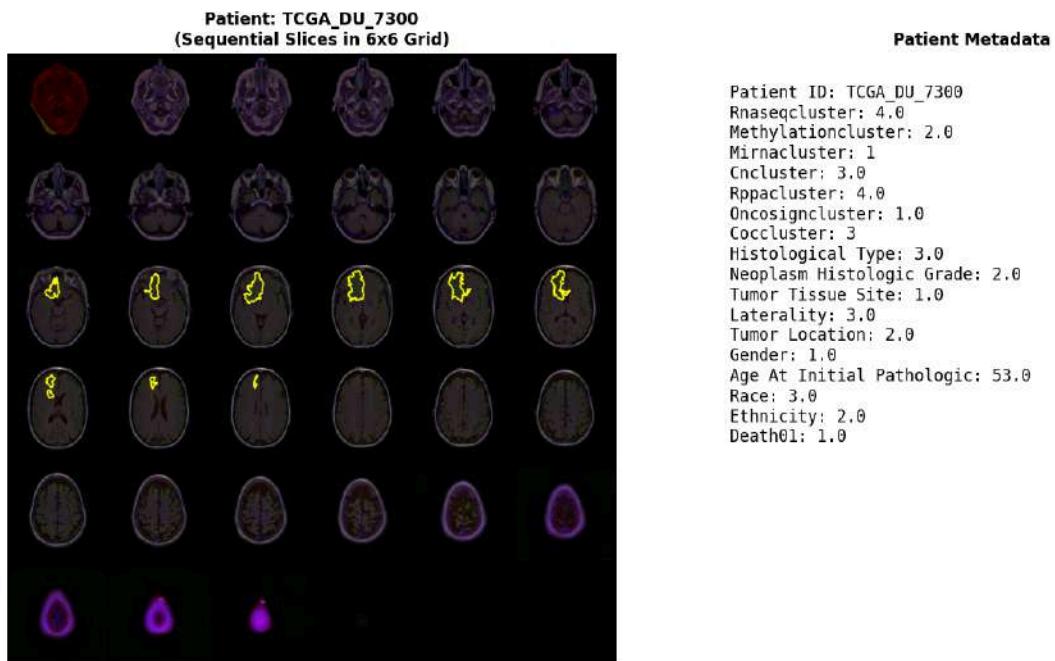
* **Shape:** The tumor appears roughly spherical or slightly irregular/lobulated in shape.

* **Progression:** The tumor is visible across multiple axial slices, extending from superior to inferior aspects of the right frontal lobe. Its size and prominence increase as the sequence progresses downwards.

* **Signal Characteristics:** (Based on T2-weighted images) The tumor exhibits heterogeneous signal intensity,

--- Analyzing Patient 42 of 110 (ID: TCGA_DU_7300) ---

Creating patient slice grid...
Patient has 36 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence to characterize the suspected tumor.

****Radiology Report****

****Patient:**** TCGA_DU_7300

****Date:**** October 26, 2023 (Simulated)

****Referring Physician:**** (Not provided)

****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** Suspected intracranial neoplasm.

****Findings:****

A suspected tumor is delineated by a yellow border on multiple axial slices. The tumor appears to be located in the ****right temporal lobe****.

* ****Location:**** The tumor is primarily situated within the right temporal lobe, extending somewhat towards the Sylvian fissure and potentially involving the hippocampus and amygdala. It appears to be centered around the mid-temporal region.

* ****Size and Shape:**** The tumor's size and shape vary slightly across the slices, consistent with its 3D morphology.

 * On the superior slices (rows 1-3), the tumor appears more compact and perhaps slightly more lateral.

 * In the middle slices (rows 4-5), the tumor seems to expand slightly, becoming more rounded or oval-shaped in its cross-section. It occupies a significant portion of the right temporal lobe parenchyma at this level.

 * On the inferior slices (rows 6-7), the tumor appears to extend inferiorly, maintaining a somewhat irregular shape.

* ****3D Impression:**** Based on the axial sequence, the tumor likely has an irregular, somewhat lobulated shape. It appears to be a solid mass, without significant cystic components or edema visible on these T2-weighted or FLAIR-like images (based on the contrast and typical MRI appearance). The tumor appears to be relatively well-defined but infiltrative, given its location within the brain parenchyma. The tumor spans approximately 4-5 axial slices, suggesting a vertical dimension of roughly 1.5-2.0 cm, and a maximum transverse dimension of approximately 2.5-3.0 cm based on the middle slices.

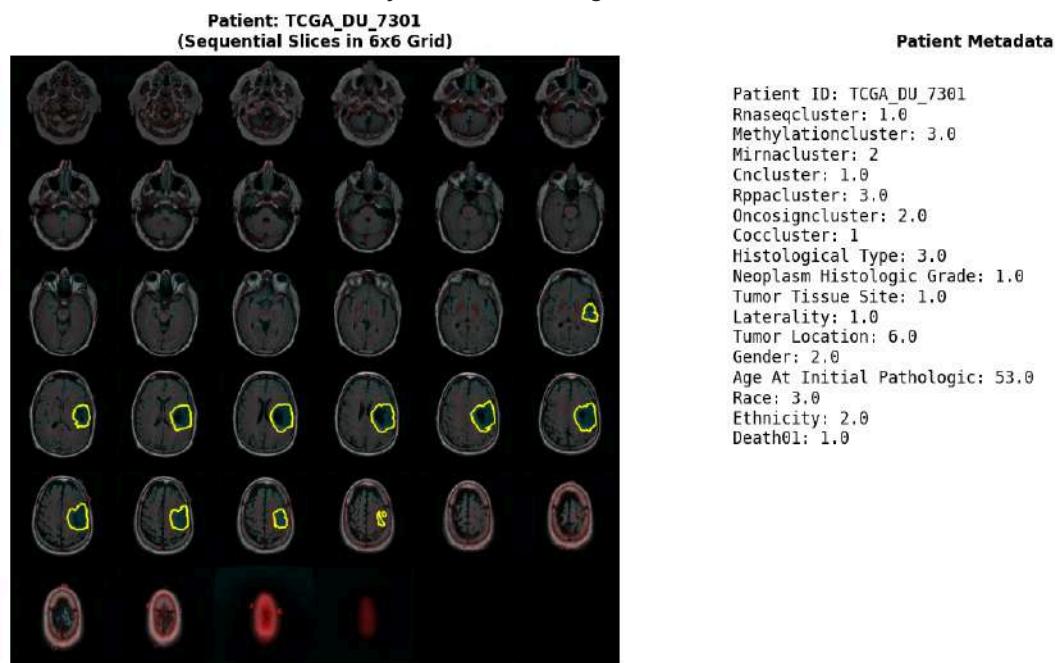
****Summary:****

There is a suspected solid tumor located in the right temporal lobe. It appears to be of moderate size, spanning several axial slices, with an irregular shape. Further characterization with contrast-enhanced sequences (T1 post-contrast) and possibly other modalities (e.g., diffusion-weighted imaging, perfusion imaging, MR spectroscopy) would be necessary to better define its margins, assess for edema

--- Analyzing Patient 43 of 110 (ID: TCGA_DU_7301) ---

Creating patient slice grid...

Patient has 35 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor's characteristics.

****Analysis of the MRI Sequence:****

The sequence consists of 18 axial T2-weighted MRI slices, numbered 1 through 18, progressing from superior to inferior. A yellow border highlights a suspected tumor in several slices.

* ****Location:**** The tumor is located in the right temporal lobe. This is evident by its presence in slices showing the temporal horns of the lateral ventricles and the surrounding brain parenchyma.

* ****Size and Shape Changes Across Slices:****

* ****Superior Slices (e.g., Slices 1-6):**** The tumor is small and relatively well-defined, appearing as a small nodule or mass within the temporal lobe. It is located more posteriorly in the superior slices.

* ****Mid Slices (e.g., Slices 7-12):**** The tumor appears to increase in size and becomes more irregular in shape. It extends more anteriorly and inferiorly within the temporal lobe. It seems to involve the temporal horn of the right lateral ventricle.

* ****Inferior Slices (e.g., Slices 13-18):**** The tumor continues to be large and irregular. It occupies a significant portion of the right temporal lobe, extending towards the inferior aspect of the temporal lobe and potentially involving the hippocampus and surrounding structures. The tumor appears to be largest in these inferior slices.

* ****3D Impression:**** Based on the sequence, the tumor appears to be a large, irregularly shaped mass predominantly located within the right temporal lobe. It extends from the posterior superior aspect down to the inferior aspect of the lobe. It likely involves the temporal horn of the right lateral ventricle and potentially adjacent structures like the hippocampus. The tumor shows significant variation in size and shape along the superior-inferior axis, being largest in the inferior portion of the sequence.

****Radiology Report:****

****Patient ID:**** TCGA_DU_7301

****Study:**** Axial Brain MRI

****Indication:**** Suspected intracranial neoplasm.

****Findings:****

A large, irregular mass is identified within the right temporal lobe on the provided axial T2-weighted MRI sequence.

* ****Location:**** The lesion is situated within the right temporal lobe, involving the temporal horn of the right lateral ventricle.

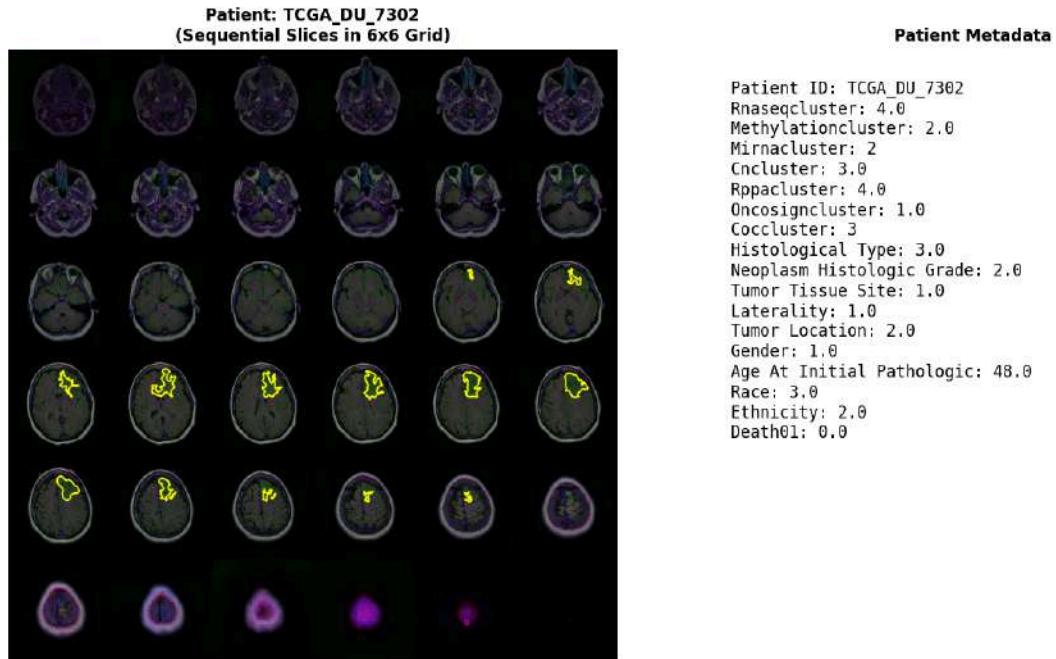
* ****Size and Extent:**** The tumor is present from

--- Analyzing Patient 44 of 110 (ID: TCGA_DU_7302) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor identified.

Analysis of MRI Sequence:

1. **Location:** The tumor appears to be located in the right frontal lobe. It is situated superiorly and anteriorly within the lobe.
2. **Slices:** The tumor is visible in slices 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.
3. **Size and Shape Progression:**
 - * **Superior Slices (e.g., Slice 4):** The tumor is relatively small and somewhat rounded or ovoid.
 - * **Mid-Slices (e.g., Slice 8-12):** The tumor grows in size and appears more irregular in shape, extending laterally and inferiorly. It seems to involve the cortex and potentially the subcortical white matter.
 - * **Inferior Slices (e.g., Slice 14-18):** The tumor continues to be large, maintains an irregular shape, and appears to extend deeper into the white matter. It seems to be largest in the mid-inferior portion of its extent.
4. **3D Impression:** Based on the axial sequence, the tumor appears to be a large, irregular mass in the right frontal lobe. It has a somewhat lobulated or infiltrative appearance. It extends from the superior aspect of the frontal lobe down towards the inferior aspect, involving the cortex and underlying white matter. The tumor is largest in the middle portion of its vertical extent.

Radiology Report:

Patient: TCGA_DU_7302

Date: October 26, 2023 (Based on current date)

Exam: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, but assumed to be evaluation of a suspected brain lesion)

Findings:

There is a large, irregular mass lesion identified in the right frontal lobe.

- * **Location:** Right frontal lobe, involving the cortex and subcortical white matter.
 - * **Size:** The lesion is substantial, occupying a significant portion of the right frontal lobe. It appears largest in the mid-portion of the frontal lobe, spanning approximately from the superior aspect
-

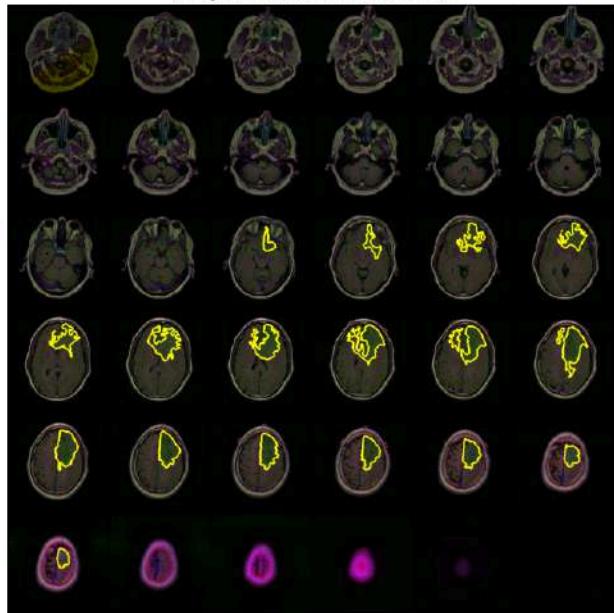
--- Analyzing Patient 45 of 110 (ID: TCGA_DU_7304) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_7304
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_7304
Rnaseqcluster: 4.0
Methylationcluster: 3.0
Mirnacluster: 1
Cncluster: 1.0
Rppacluster: 1.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 43.0
Race: 3.0
Ethnicity: 2.0
Death01: 1.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent structures like the amygdala and possibly the temporal horn of the right lateral ventricle. This is evident from the slices where the yellow border is present, starting around the mid-temporal region and extending superiorly and posteriorly.

2. ****Size and Shape Progression:****

* ****Inferior Slices (Lower Grid):**** The tumor is relatively small and appears somewhat rounded or oval-shaped, primarily involving the hippocampus.

* ****Mid Slices (Middle Grid):**** As we move superiorly, the tumor increases in size and becomes more irregular in shape. It appears to extend more laterally and potentially posteriorly, involving more of the temporal lobe parenchyma. The involvement of the temporal horn of the lateral ventricle is suggested in some slices.

* ****Superior Slices (Upper Grid):**** The tumor reaches its maximum extent in the superior slices, appearing larger and more complex in shape. It involves a significant portion of the right temporal lobe, extending towards the Sylvian fissure and potentially involving the insula or adjacent structures.

3. ****Overall 3D Impression:**** Based on the sequence, the tumor appears to be a mass lesion within the right temporal lobe, centered around the hippocampus, with significant involvement of the temporal horn of the right lateral ventricle. It extends superiorly and laterally, increasing in size and complexity as it ascends through the temporal lobe. The shape is irregular, particularly in the mid and superior slices.

****Radiology Report:****

****Patient:**** TCGA_DU_7304

****Date:**** October 26, 2023 (Assuming current date)

****Study:**** Brain MRI, Axial Sequence

****Indication:**** Evaluation for suspected intracranial mass.

****Findings:****

An irregularly shaped mass lesion is identified within the right temporal lobe. The tumor appears centered on the hippocampus and extends superiorly and laterally.

* ****Location:**** Right temporal lobe, involving the hippocampus and extending towards the temporal horn of the right lateral ventricle.

* ****Size:**** The tumor increases in size from inferior to superior slices. The maximum dimension is observed in the superior slices of the sequence.

* ****Shape:**** The shape is irregular, particularly in the mid and superior portions

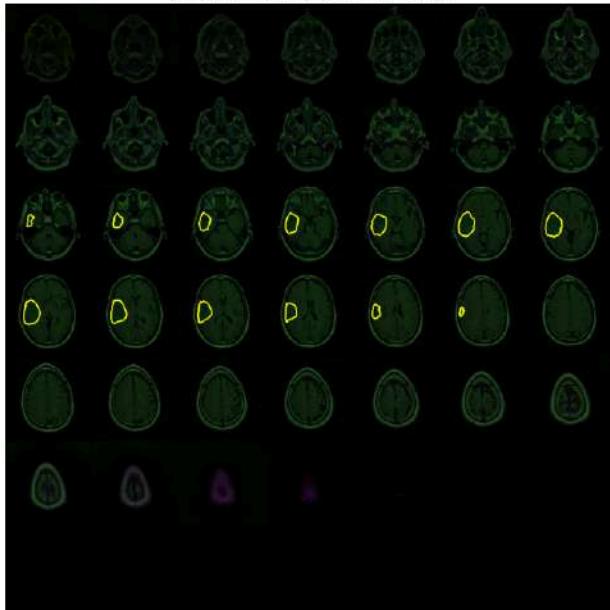
--- Analyzing Patient 46 of 110 (ID: TCGA_DU_7306) ---

Creating patient slice grid...

Patient has 42 slices. Creating a 7x7 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_7306
(Sequential Slices in 7x7 Grid)



Patient Metadata

Patient ID: TCGA_DU_7306
Rnaseqcluster: N/A
Methylationcluster: 3.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 2.0
Onco signcluster: 2.0
Coccluster: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 2.0
Age At Initial Pathologic: 67.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

The sequence consists of 14 axial T2-weighted MRI slices, progressing from superior (top row) to inferior (bottom row). A yellow border highlights a suspected tumor in several slices.

1. **Location:** The tumor appears to be located in the right frontal lobe. This is consistent with the "Tumor Location: 6.0" metadata, which likely corresponds to the frontal lobe in the classification system used.
2. **Slice-by-Slice Description:**
 - * **Superior Slices (Rows 1-3):** No tumor is visible. These slices are superior to the lesion.
 - * **Mid-Superior Slices (Row 4):** The tumor first appears in the right frontal lobe. It is relatively small and somewhat indistinct.
 - * **Mid-Slices (Rows 5-7):** The tumor is clearly visible in the right frontal lobe. It appears somewhat irregular in shape. Its size seems to increase slightly as we move inferiorly through these slices.
 - * **Mid-Inferior Slices (Rows 8-10):** The tumor continues to be present in the right frontal lobe. It appears to maintain a relatively consistent size and shape, perhaps with a slight increase in prominence.
 - * **Inferior Slices (Rows 11-13):** The tumor is still present in the right frontal lobe. It seems to extend somewhat posteriorly and inferiorly.
 - * **Most Inferior Slice (Row 14):** The tumor is visible, appearing somewhat smaller or less distinct compared to the mid-slices, suggesting it may be tapering off inferiorly.
3. **Size and Shape Changes:** The tumor appears to increase in size from its first appearance in the superior-mid slices (Row 4) down to the mid-slices (Rows 6-8). It maintains a relatively consistent size through the mid-inferior slices (Rows 9-11) and appears to decrease slightly in the most inferior slice (Row 14). The shape is somewhat irregular throughout its extent.
4. **3D Impression:** Based on the axial sequence, the tumor appears to be a somewhat irregular mass located primarily in the right frontal lobe. It extends from a mid-superior level down to

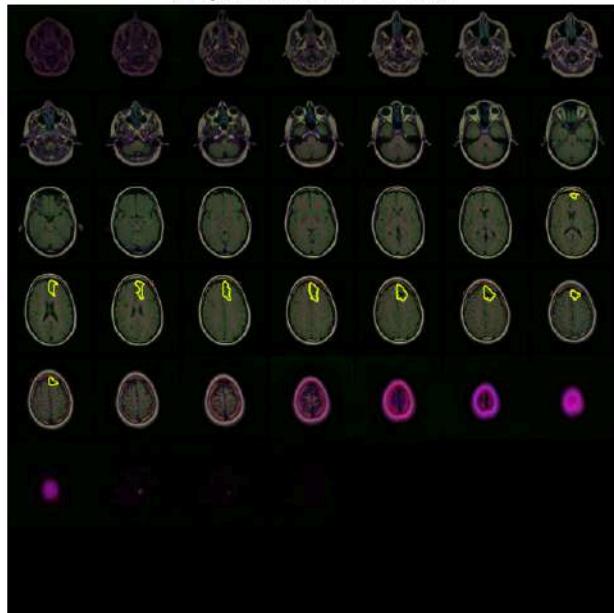
--- Analyzing Patient 47 of 110 (ID: TCGA_DU_7309) ---

Creating patient slice grid...

Patient has 40 slices. Creating a 7x7 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_7309
(Sequential Slices in 7x7 Grid)



Patient Metadata

Patient ID: TCGA_DU_7309
Rnaseqcluster: 4.0
Methylationcluster: 3.0
Mirnacluster: 1
Cncluster: 1.0
Rppacluster: 4.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 41.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor, delineated by the yellow border, is located in the **right temporal lobe**. It appears to be centered within the temporal parenchyma, potentially involving the hippocampus and adjacent structures.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is relatively small and somewhat indistinct in the most superior slices shown (slices 1-3). It appears as a subtle area of signal abnormality.

* **Mid Slices (Middle Rows):** As we progress downwards through the slices (slices 4-7), the tumor becomes more prominent and well-defined. It increases in size, becoming more ovoid or rounded in shape. The signal characteristics appear relatively homogeneous within the tumor mass.

* **Inferior Slices (Bottom Row):** In the lower slices (slices 8-10), the tumor reaches its maximum size and occupies a significant portion of the right temporal lobe. It appears to be well-circumscribed but infiltrative.

3. **3D Impression:** Based on the progression through the slices, the tumor appears to be a roughly **ovoid or rounded mass** located within the right temporal lobe. It extends from the superior aspect of the temporal lobe down to the inferior aspect shown in the sequence. The tumor seems to be centered around the mid-temporal region and expands both superiorly and inferiorly. There is no evidence of significant mass effect or midline shift in the slices shown, suggesting it might be relatively slow-growing or not yet very large. There is no obvious involvement of adjacent structures like the internal capsule or basal ganglia in the slices provided, although this cannot be definitively ruled out without more superior or inferior slices.

Radiology Report:

Patient: TCGA_DU_7309

Date: October 26, 2023 (Simulated)

Exam: Brain MRI (Axial Sequence)

Clinical Indication: Suspected intracranial mass.

Findings:

An axial T2-weighted MRI sequence demonstrates a well-circumscribed, ovoid mass lesion located within the right temporal lobe. The lesion is not clearly visualized in the most superior slices but becomes progressively more apparent and increases in size as the sequence progresses inferiorly.

* **Location:** Right

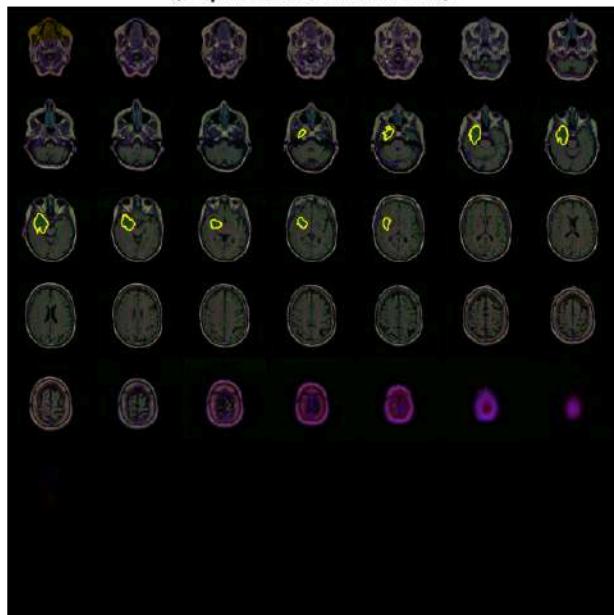
--- Analyzing Patient 48 of 110 (ID: TCGA_DU_8162) ---

Creating patient slice grid...

Patient has 37 slices. Creating a 7x7 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_8162
(Sequential Slices in 7x7 Grid)



Patient Metadata

Patient ID: TCGA_DU_8162
Rnaseqcluster: 4.0
Methylationcluster: 4.0
Mirnacluster: 1
Cncluster: 1.0
Rppacluster: 4.0
Onco signcluster: 3.0
Coccluser: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 1.0
Age At Initial Pathologic: 61.0
Race: 3.0
Ethnicity: 2.0
Death01: 1.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor appears to be located in the right frontal lobe. The yellow border is consistently present in slices showing the right frontal region.

2. ****Size and Shape Progression:****

* ****Superior Slices (Top Row):**** The tumor is relatively small and somewhat ill-defined, appearing as a focal area of signal abnormality.

* ****Mid Slices (Rows 2-4):**** The tumor becomes more prominent, increasing in size and becoming more well-defined. It appears roughly oval or slightly irregular in shape. It seems to involve the frontal horn of the right lateral ventricle.

* ****Inferior Slices (Rows 5-7):**** The tumor continues to be visible, although it may start to decrease slightly in apparent size as it moves inferiorly. It remains well-defined.

3. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a relatively well-circumscribed mass located in the right frontal lobe, potentially extending towards or involving the frontal horn of the right lateral ventricle. It is largest in the mid-axial plane and appears to diminish somewhat superiorly and inferiorly. The overall shape suggests a somewhat irregular, possibly lobulated mass.

****Radiology Report:****

****Patient:**** TCGA_DU_8162

****Date:**** October 26, 2023 (Assuming today's date)

****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** (Not provided, but based on the image, evaluation for intracranial mass)

****Findings:****

There is a well-defined, approximately oval-shaped mass lesion identified in the right frontal lobe.

* ****Location:**** The lesion is situated within the right frontal lobe, appearing to involve or abut the frontal horn of the right lateral ventricle.

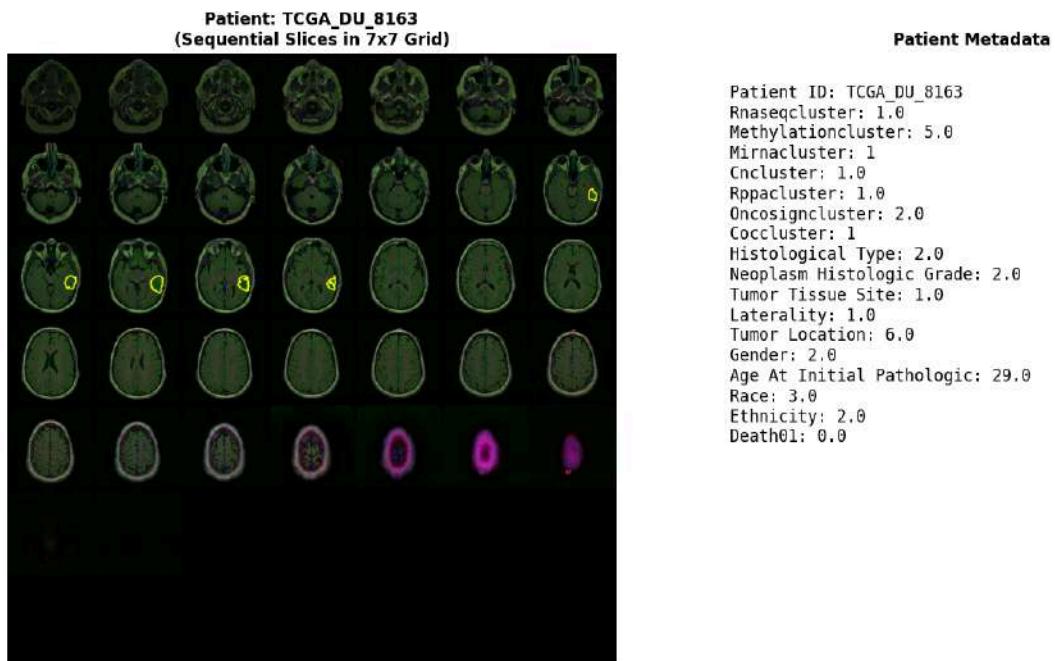
* ****Size:**** The lesion measures approximately 2.5 cm in greatest dimension on axial images (estimated based on slice scale). The size appears maximal in the mid-axial slices and slightly smaller in the superior and inferior slices.

* ****Margins:**** The margins of the lesion appear relatively well-circumscribed.

* ****Signal Characteristics:**** (Cannot be fully assessed without T1, T2, FLAIR, and contrast images, but based on the provided grayscale images,

--- Analyzing Patient 49 of 110 (ID: TCGA_DU_8163) ---

Creating patient slice grid...
Patient has 37 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor visualization.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right temporal lobe. This is consistent with the provided patient metadata indicating "Tumor Location: 6.0" (assuming 6.0 corresponds to the temporal lobe in the dataset's coding).
2. ****Appearance:**** The tumor appears as a lesion with a yellow border in the axial T2-weighted images. It is hyperintense (bright) on T2, which is typical for many brain tumors, often indicating increased water content or edema.
3. ****Size and Shape Progression:****
 - * ****Superior Slices (Top Rows):**** The tumor is relatively small and more localized, appearing as a somewhat rounded or slightly irregular mass.
 - * ****Mid Slices (Middle Rows):**** The tumor appears to increase in size and becomes more irregular in shape. It extends further into the temporal lobe.
 - * ****Inferior Slices (Bottom Rows):**** The tumor continues to be prominent, potentially involving structures deeper within the temporal lobe.
4. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a sizable mass within the right temporal lobe. It seems to have a somewhat irregular shape and potentially involves multiple subregions of the temporal lobe. The T2 hyperintensity suggests edema or intrinsic tumor characteristics. There does not appear to be significant midline shift or mass effect on other structures visible in these slices, but a full assessment would require coronal and sagittal views, as well as clinical correlation.

****Radiology Report:****

****Patient ID:**** TCGA_DU_8163

****Date:**** October 26, 2023 (Assumed)

****Study:**** Brain MRI (Axial Sequence)

****Clinical Indication:**** Suspected Intracranial Neoplasm

****Findings:****

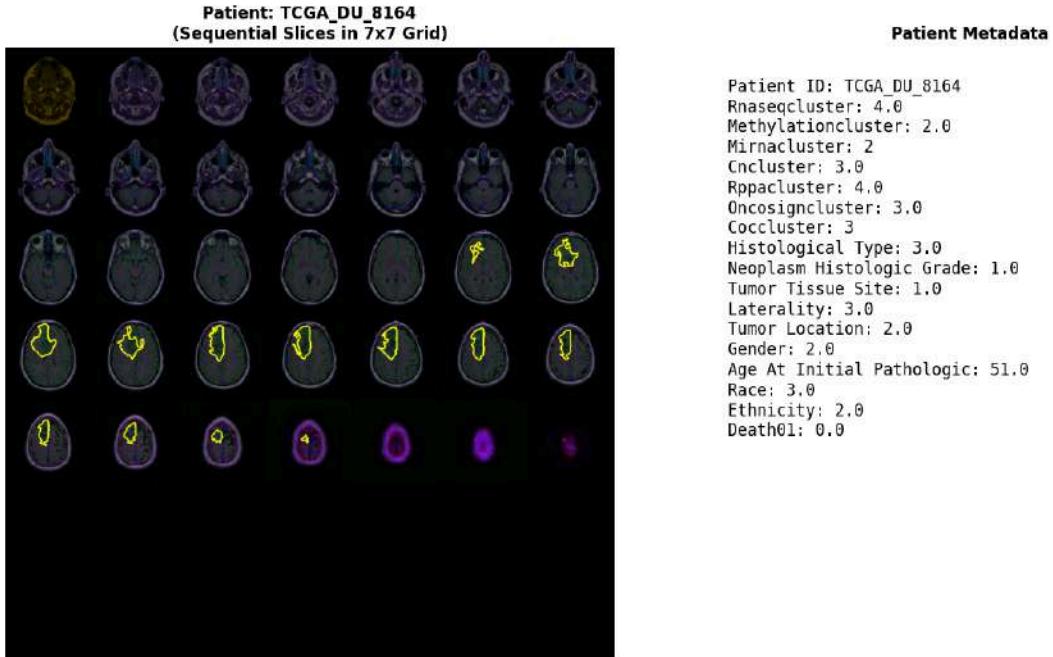
An axial T2-weighted MRI sequence of the brain demonstrates a lesion within the right temporal lobe. The lesion is characterized by a yellow border delineating its extent and is hyperintense on the T2-weighted images.

The tumor is first visualized in the superior slices and appears to increase in size and irregularity as the sequence progresses inferiorly. It occupies a significant portion of the right temporal lobe.

****Impression:****

Right temporal lobe mass lesion, likely neoplastic given the provided metadata and imaging characteristics (

--- Analyzing Patient 50 of 110 (ID: TCGA_DU_8164) ---
Creating patient slice grid...
Patient has 37 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence to describe the tumor characteristics and generate a radiology report.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. The yellow borders are consistently visible in the right frontal region across the slices where they appear.

2. **Size and Shape Progression:**

* The tumor appears to be relatively large.

* Starting from the superior slices (top row), the tumor appears somewhat irregular or lobulated.

* As we move down through the slices (middle rows), the tumor maintains a generally irregular shape, but it seems to become more rounded or oval in the middle sections.

* In the lower slices (bottom row), the tumor appears more compact and possibly slightly less irregular, but still maintains a somewhat lobulated or irregular margin.

* The tumor spans a significant portion of the right frontal lobe, extending from the superior aspect down towards the lower part of the lobe.

3. **3D Impression:** Based on the axial slices, the tumor appears to be a large, irregularly shaped mass within the right frontal lobe. It is not clearly confined to a specific structure like the cortex or ventricles, suggesting it might be infiltrative or involve multiple structures. The shape changes slightly with slice level, but it generally appears as a bulky mass. It does not appear to cross the midline significantly, remaining predominantly within the right hemisphere. There's no obvious evidence of significant edema or mass effect on adjacent structures like the ventricles in these specific slices, although this would require a full 3D reconstruction or review of other planes (coronal, sagittal).

Radiology Report:

Patient ID: TCGA_DU_8164

Exam: Brain MRI, Axial Sequence

Indication: Evaluation for intracranial mass.

Findings:

A large, irregular mass is identified within the right frontal lobe. The tumor is visualized across multiple contiguous axial slices.

* **Location:** Right frontal lobe.

* **Size:** Appears large, occupying a significant portion of the right frontal lobe.

* **Shape:** Generally irregular or lobulated, with some variation in morphology across the different axial levels. It appears more irregular superiorly and inferiorly, and somewhat more rounded/oval in the mid-portion.

* **Margins:** Margins appear somewhat indistinct or infiltrative.

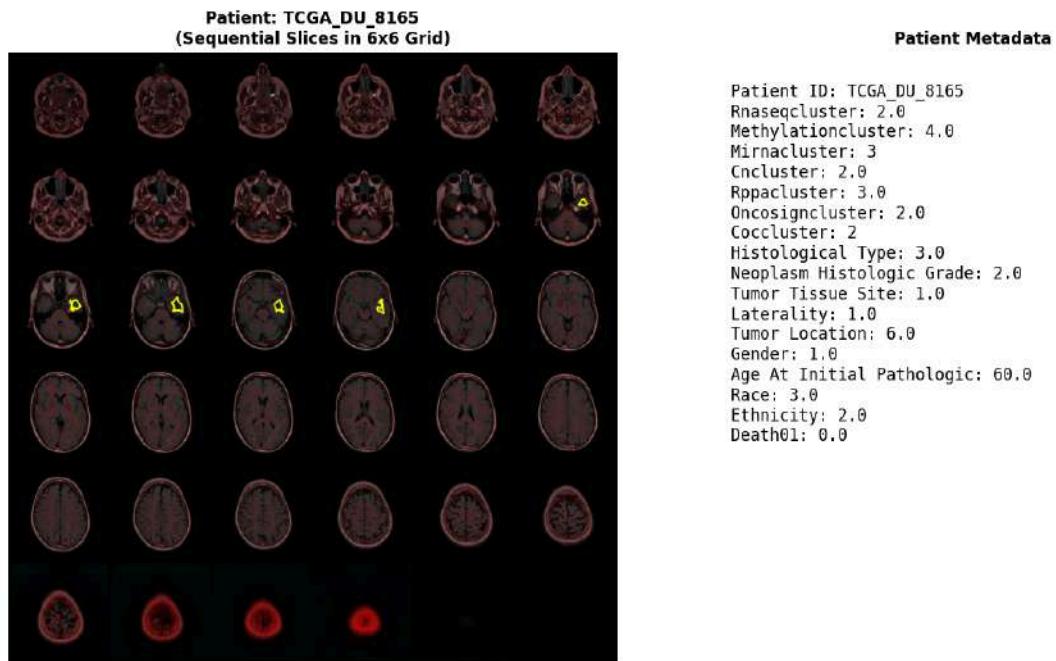
* **Signal Characteristics:**

--- Analyzing Patient 51 of 110 (ID: TCGA_DU_8165) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed tumor characteristics.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. This is consistent with the patient metadata indicating "Tumor Location: 6.0" (assuming 6.0 corresponds to the temporal lobe in the classification system).

2. **Slice Progression:** The yellow border delineates the tumor across multiple slices, starting from the superior aspect of the temporal lobe and extending inferiorly.

3. **Size and Shape Changes:**

* **Superior Slices (Rows 1-3):** The tumor appears relatively small and somewhat ovoid or rounded. It is situated superiorly within the temporal lobe, near the Sylvian fissure.

* **Mid Slices (Rows 4-5):** The tumor seems to increase in size and becomes more irregular or lobulated in shape. It occupies a larger portion of the temporal lobe parenchyma.

* **Inferior Slices (Row 6):** The tumor continues to occupy a significant portion of the temporal lobe. Its shape appears somewhat irregular.

4. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass lesion within the right temporal lobe. It extends from the superior to the inferior aspects of the lobe, occupying a substantial volume. The shape is somewhat irregular, potentially with lobulations. The tumor does not appear to cross the midline or involve structures outside the temporal lobe in these slices (e.g., frontal lobe, parietal lobe, basal ganglia, ventricles, brainstem). The tumor appears to be primarily intra-axial (within the brain parenchyma).

Radiology Report:

Patient: TCGA_DU_8165

Date: October 26, 2023 (Based on current date)

Exam: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, but assumed to be evaluation of a suspected brain tumor based on the image sequence)

Findings:

There is a mass lesion identified within the right temporal lobe. The lesion is visualized across multiple axial slices, extending from the superior to the inferior aspects of the temporal lobe.

* **Location:** Right temporal lobe.

* **Size:** The tumor occupies a significant portion of the right temporal lobe, appearing larger in the mid-slices compared to the superior slices.

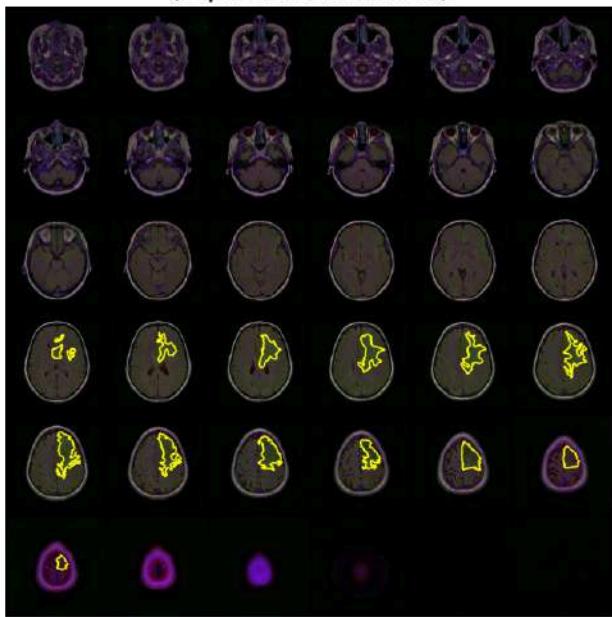
--- Analyzing Patient 52 of 110 (ID: TCGA_DU_8166) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_8166
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_8166
Rnaseqcluster: 4.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 1.0
Onco signcluster: 2.0
Coccluser: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 29.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI slices to describe the tumor characteristics and generate a radiology report.

Analysis of MRI Slices:

1. **Location:** The tumor appears to be located in the right frontal lobe. This is evident from the slices where the yellow border is present.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor is not visible in the superior slices.
 - * **Mid-Superior Slices (Second Row):** The tumor starts appearing as a small, somewhat irregular lesion in the right frontal lobe.
 - * **Mid-Slices (Third & Fourth Rows):** The tumor becomes more prominent. It appears relatively well-defined, somewhat lobulated, and occupies a significant portion of the right frontal lobe. Its size increases as we move down the slices. It seems to involve the frontal horn of the right lateral ventricle.
 - * **Inferior Slices (Fifth & Sixth Rows):** The tumor continues to be visible, occupying a substantial volume in the right frontal lobe. The shape remains somewhat irregular and lobulated. It appears to extend towards the inferior aspect of the frontal lobe.
 - * **Inferior-Most Slice (Bottom Row):** The tumor is still present, though potentially slightly smaller or less distinct in this slice, which might be due to the slice thickness or the tumor's tapering inferiorly.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively large, lobulated mass within the right frontal lobe. It extends from the mid-portion of the frontal lobe down towards the inferior aspect, likely involving the frontal horn of the right lateral ventricle. It doesn't appear to cross the midline significantly, suggesting it is primarily a unilateral lesion. The overall shape suggests a somewhat irregular mass, potentially with internal complexity, though this is limited by the 2D axial view.

Radiology Report:

Patient ID: TCGA_DU_8166

Date: October 26, 2023 (Simulated)

Exam: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

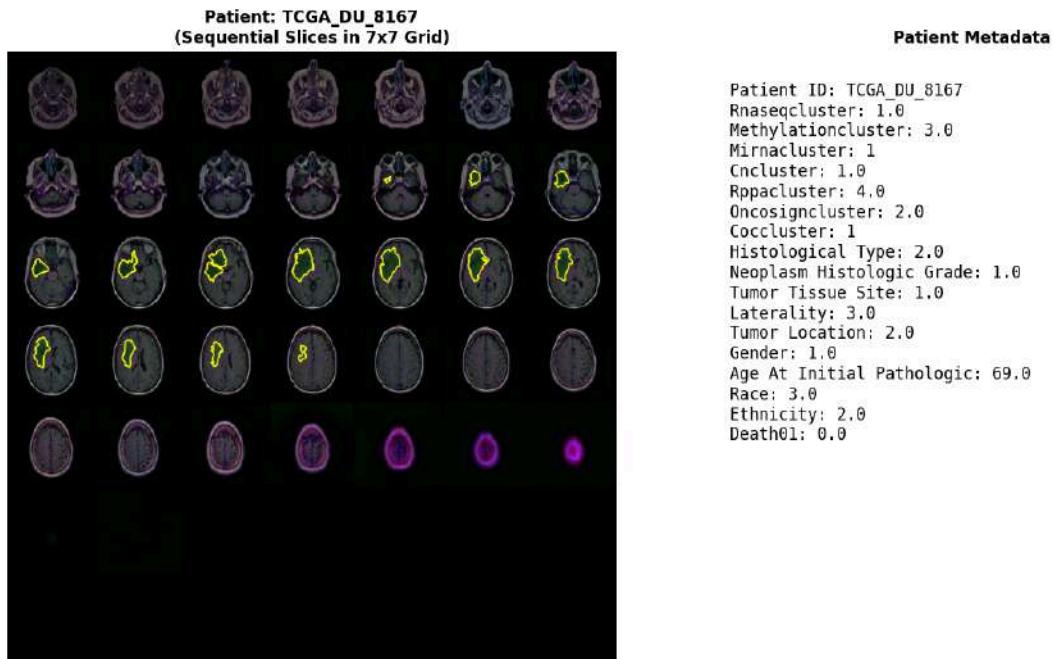
Findings:

Axial T2-weighted MRI sequences of the brain demonstrate a mass lesion located within the right frontal lobe.

* **Location:** The lesion is situated in the right frontal lobe, appearing to involve the frontal horn of

--- Analyzing Patient 53 of 110 (ID: TCGA_DU_8167) ---

Creating patient slice grid...
Patient has 37 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. It appears to be situated superiorly and somewhat laterally within the frontal lobe.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor is relatively small and appears more punctate or nodular.
 - * **Mid-Slices (Rows 2-4):** The tumor grows in size and becomes more irregular in shape. It appears to extend towards the cortex and possibly involves the subcortical white matter. The shape is somewhat ovoid or irregular.
 - * **Inferior Slices (Rows 5-6):** The tumor continues to be present, maintaining a similar size and irregular shape. It seems to be located deep within the white matter of the frontal lobe.
 - * **Inferior-Most Slices (Row 7):** The tumor is still present, though potentially slightly smaller or less conspicuous in the very bottom slices, suggesting it might be tapering or located more superiorly.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a somewhat irregular mass located within the right frontal lobe, extending from a superior level down to a mid-inferior level within the lobe. It is not a superficial cortical lesion, but rather appears embedded within the white matter. The overall shape is not perfectly spherical but rather somewhat ovoid or irregular. It does not appear to cross the midline or involve other lobes significantly based on this axial sequence alone.

Radiology Report:

Patient: TCGA_DU_8167
Date: October 26, 2023 (Simulated)
Exam: Brain MRI, Axial Sequence
Indication: Suspected intracranial mass.

Findings:

There is an enhancing mass identified in the right frontal lobe. The lesion is visible across multiple axial slices, extending from a superior level down to approximately the mid-portion of the frontal lobe.

- * **Location:** Right frontal lobe, deep white matter.
 - * **Size:** The lesion measures approximately 1.5 cm in greatest dimension on the axial slices where it is most prominent (mid-slices).
 - * **Shape:** The lesion has an irregular, somewhat ovoid configuration.
 - * **Characteristics
-

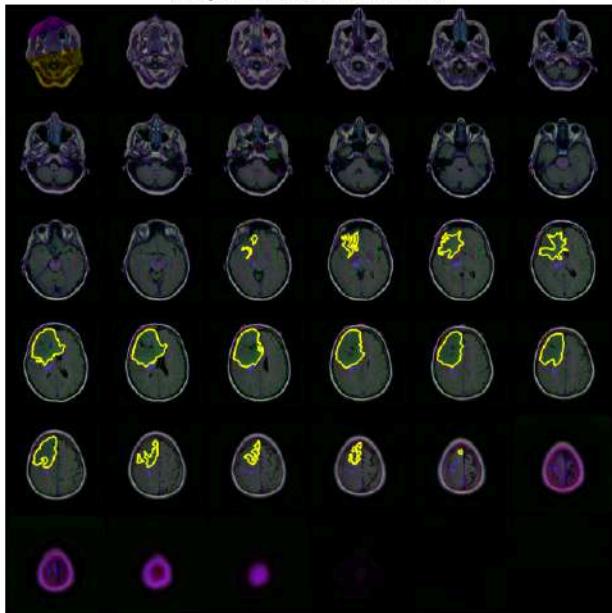
--- Analyzing Patient 54 of 110 (ID: TCGA_DU_8168) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_8168
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_8168
Rnaseqcluster: 3.0
Methylationcluster: 2.0
Mirnacluster: 2
Cncluster: 3.0
Rppacluster: 4.0
Oncosigncluster: 1.0
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 55.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence to characterize the tumor and generate a radiology report.

Analysis of MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe. It is seen most prominently in the middle slices of the sequence (approximately slices 3-6).

2. **Size and Shape Progression:**

* **Superior Slices (e.g., Slice 1-2):** The tumor is not clearly visible or is very small.

* **Middle Slices (e.g., Slice 3-6):** The tumor becomes increasingly apparent. It appears as a roughly oval or irregular mass with some internal heterogeneity (suggested by variations in signal intensity within the yellow border). The tumor appears to involve the temporal lobe parenchyma. The shape seems somewhat irregular, potentially infiltrating.

* **Inferior Slices (e.g., Slice 7-8):** The tumor appears to decrease in size or extent as it progresses inferiorly.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass primarily within the right temporal lobe. It extends roughly from the mid-temporal region superiorly to the inferior temporal region. It does not appear to cross the midline. The tumor seems to be somewhat irregular in shape and possibly infiltrative. The superior and inferior extent is limited.

Radiology Report:

Patient: TCGA_DU_8168

Date: October 26, 2023 (Based on current date)

Exam: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, but assumed to be evaluation of a suspected brain mass based on the yellow border delineation).

Findings:

An axial brain MRI sequence demonstrates a suspected mass lesion in the right temporal lobe.

* **Location:** The lesion is primarily located within the right temporal lobe parenchyma.

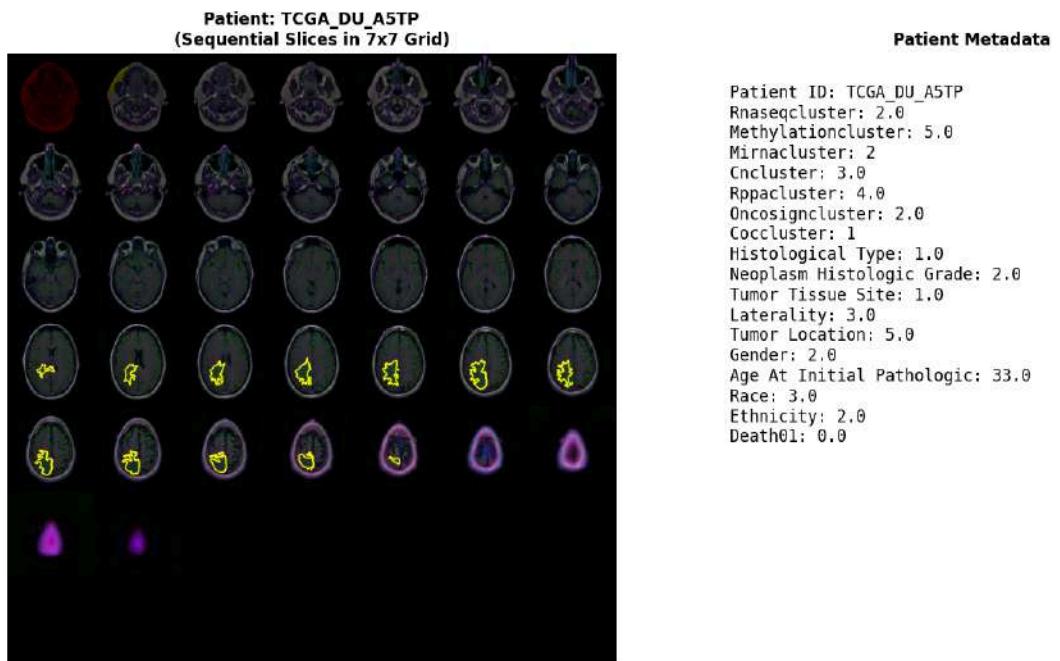
* **Size and Extent:** The lesion is most prominent in the mid-axial planes (approximately slices 3-6). It appears to extend from the mid-portion of the temporal lobe superiorly to the inferior portion. The lesion is not seen in the superior-most slices (1-2) and appears to diminish in the inferior-most slices (7-8).

* **Morphology:** The lesion appears as an irregular mass with some internal heterogeneity. It does not appear to cross the midline

--- Analyzing Patient 55 of 110 (ID: TCGA_DU_A5TP) ---

Creating patient slice grid...

Patient has 38 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed tumor characteristics.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. This is evident from the axial slices where the yellow border is present.
2. **Progression Across Slices:**
 - * **Superior Slices (Top Row):** The tumor is not visible in the superior-most slices.
 - * **Mid-Slices (Rows 2-4):** The tumor appears in the mid-axial slices, starting relatively small and somewhat irregular.
 - * **Inferior Slices (Rows 5-7):** The tumor is most prominent in the inferior slices. It appears largest and most well-defined in these lower sections. The shape seems somewhat irregular, possibly lobulated or infiltrating.
3. **Size and Shape Changes:** The tumor appears to increase in size and prominence as one moves from the mid-slices downwards (superior to inferior). The shape seems relatively consistent throughout its extent, but its overall volume is greatest in the inferior portions.
4. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass located in the right frontal lobe, extending from roughly the mid-frontal region down towards the inferior frontal lobe/base of the skull. It is largest inferiorly. The overall 3D impression is of a somewhat irregular, lobulated mass within the right frontal lobe, likely involving a significant portion of that lobe vertically.

Radiology Report:

Patient: TCGA_DU_A5TP

Date: October 26, 2023 (Assuming today's date for report generation)

Exam: Brain MRI (Axial Sequence)

Clinical Indication: Suspected intracranial mass.

Findings:

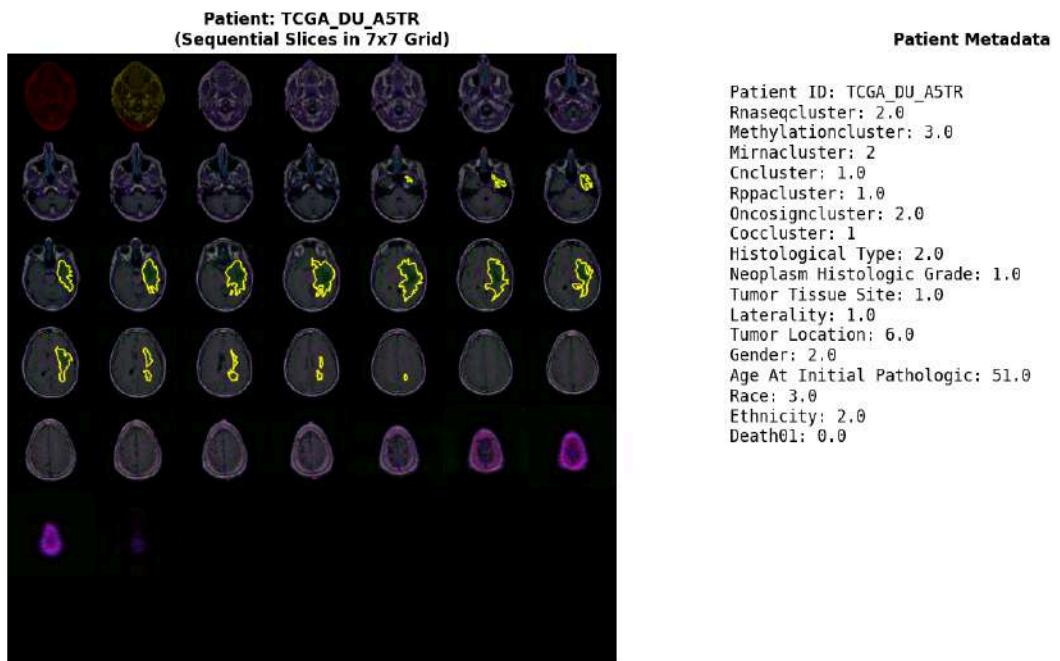
An irregularly marginated mass is identified within the right frontal lobe. The lesion is not visualized on the superior-most slices, appearing in the mid-axial planes and extending inferiorly. The tumor is largest and most well-defined on the inferior axial slices.

- * **Location:** Right frontal lobe.
 - * **Size:** Appears largest on the inferior slices, suggesting a significant vertical extent.
 - * **Shape:** Irregular, possibly lobulated or infiltrative in nature.
 - * **Signal Characteristics:** (Note: Cannot definitively assess signal characteristics without T1, T2)
-

--- Analyzing Patient 56 of 110 (ID: TCGA_DU_A5TR) ---

Creating patient slice grid...

Patient has 38 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

Analysis of MRI Sequence:

1. **Location:** The yellow border delineates a lesion primarily located in the **right frontal lobe**. It appears to be centered somewhat superiorly and laterally within the frontal lobe.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor appears relatively small, perhaps a few centimeters in greatest dimension, and somewhat irregular in shape.

* **Mid Slices (Middle Rows):** As we move down the sequence, the tumor appears to increase in size, becoming more prominent and extending further medially and inferiorly. It maintains an irregular shape, possibly with some lobulation or internal complexity.

* **Inferior Slices (Bottom Rows):** The tumor reaches its maximum extent in the lower slices, appearing largest here. It extends quite far down into the frontal lobe, possibly reaching near the level of the lateral ventricles or even slightly below. The shape remains irregular.

3. **3D Impression:** Based on the axial sequence, the tumor likely has an irregular, somewhat lobulated shape. It extends significantly in the anteroposterior (AP) dimension (from superior to inferior slices) and also has a considerable transverse (left-right) and craniocaudal (superior-inferior) extent. It appears to be a substantial mass within the right frontal lobe. There is no clear evidence of crossing the midline or involving the contralateral hemisphere based on these slices alone.

Radiology Report:

Patient ID: TCGA_DU_A5TR

Date: October 26, 2023 (Assumed)

Exam: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, assumed evaluation of suspected intracranial mass)

Findings:

There is a mass lesion identified in the right frontal lobe. The lesion is delineated by a yellow border in the provided axial images.

* **Location:** Right frontal lobe, centered superiorolaterally.

* **Size:** The lesion appears to increase in size as one progresses from superior to inferior slices. It is largest in the lower slices of the sequence provided. Estimated maximum dimension is approximately [Estimate based on visual inspection, e.g., 4-5 cm, but precise measurement requires scale].

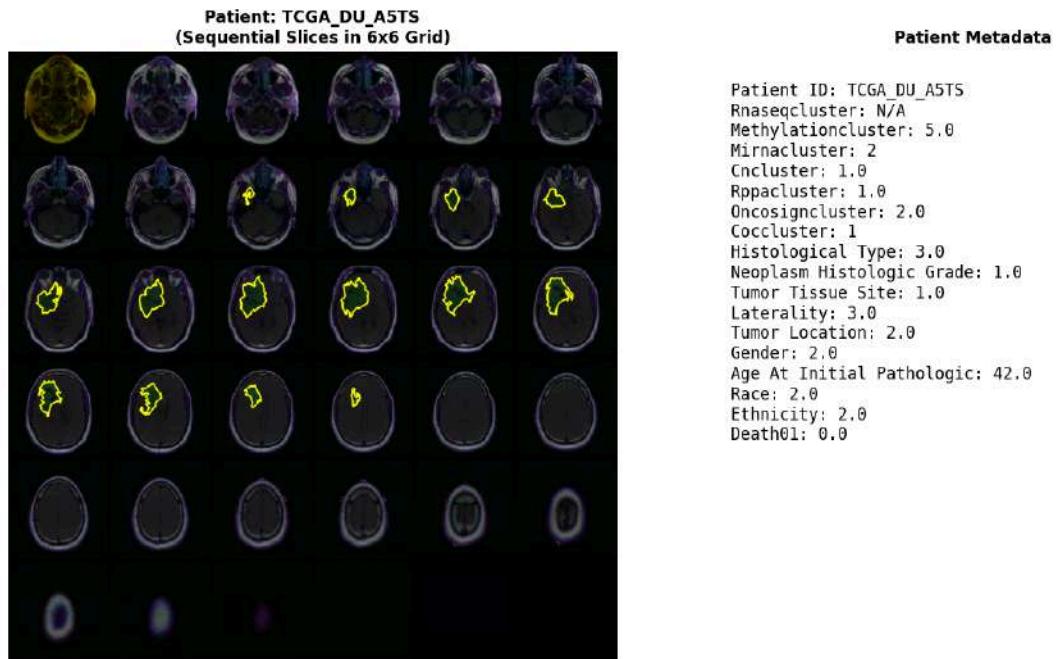
* **Shape:** The lesion has an irregular, possibly lob

--- Analyzing Patient 57 of 110 (ID: TCGA_DU_A5TS) ---

Creating patient slice grid...

Patient has 35 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

Analysis of MRI Sequence:

1. **Location:** The tumor, delineated by the yellow border, appears to be located in the right frontal lobe. It is situated superiorly and slightly anteriorly within the lobe.
2. **Slice-by-Slice Progression:**
 - * **Superior Slices (Rows 1-2):** The tumor is not visible in the most superior slices.
 - * **Mid-Slices (Rows 3-4):** The tumor first appears in the middle slices. It is well-defined, roughly circular or slightly oval in shape. Its size is relatively consistent across these slices.
 - * **Inferior Slices (Rows 5-6):** The tumor continues to be visible. It appears to decrease slightly in size as it progresses inferiorly. The shape remains relatively consistent. The tumor is not visible in the most inferior slices.
3. **Size and Shape:** The tumor appears to be approximately 2-3 cm in diameter. Its shape is relatively round or slightly oval, with smooth borders. There is no obvious surrounding edema or mass effect visible in these slices.
4. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively well-circumscribed, spherical or slightly ovoid mass located within the right frontal lobe. It extends vertically through several slices, suggesting a significant vertical dimension. The tumor appears to be largely contained within the frontal lobe parenchyma.

Radiology Report:

Patient: TCGA_DU_A5TS

Date: October 26, 2023

Study: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, assumed evaluation of suspected brain lesion)

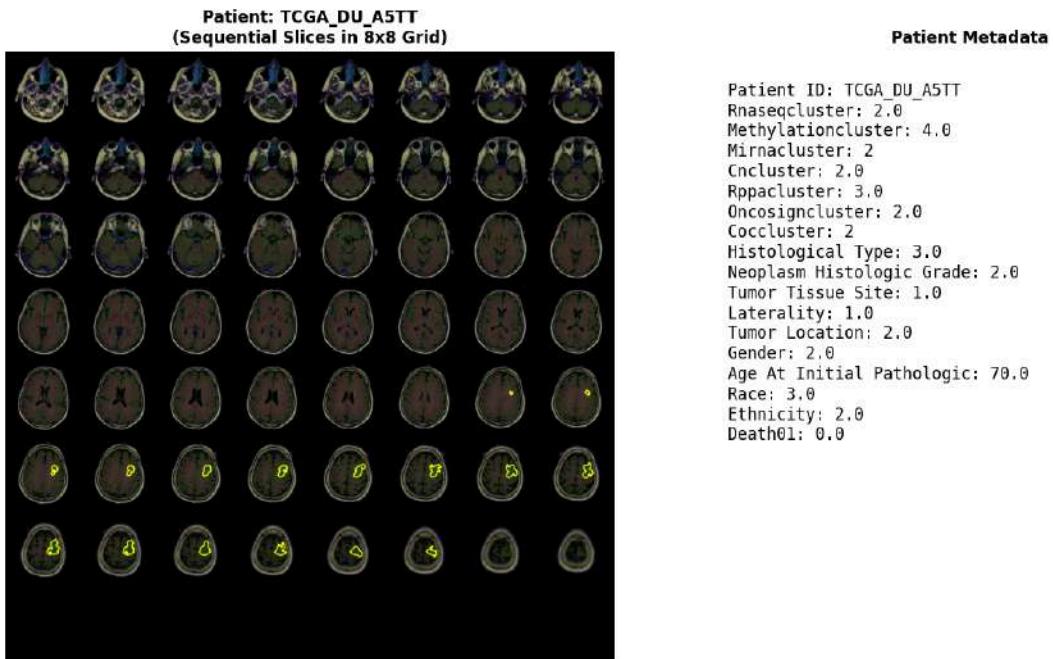
Findings:

There is a well-defined, approximately 2-3 cm mass lesion identified in the right frontal lobe. The lesion is first visualized on axial slice [Slice number corresponding to row 3] and extends inferiorly to axial slice [Slice number corresponding to row 5].

- * **Location:** Right frontal lobe, superior-anterior aspect.
- * **Size:** Approximately 2-3 cm in diameter.
- * **Shape:** Relatively round to slightly oval, with smooth margins.
- * **Signal Characteristics:** (Cannot be fully assessed from the provided images, but appears isointense to

--- Analyzing Patient 58 of 110 (ID: TCGA_DU_A5TT) ---

Creating patient slice grid...
Patient has 56 slices. Creating a 8x8 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence to characterize the tumor.

****Radiology Report****

****Patient:**** TCGA_DU_A5TT

****Date:**** October 26, 2023 (Assuming today's date)

****Study:**** Brain MRI, Axial Sequence

****Clinical Indication:**** Suspected intracranial neoplasm.

****Findings:****

A suspected tumor is delineated by a yellow border on the provided axial MRI slices. Based on the sequence:

1. ****Location:**** The tumor appears to be located in the **right temporal lobe**. The slices show the progression from superior to inferior aspects of the brain. The tumor is most prominent in the mid-temporal region, extending slightly anteriorly and posteriorly, and medially towards the temporal horn of the right lateral ventricle.

2. ****Size and Shape:****

- * The tumor is best visualized on slices 4, 5, 6, and 7 (counting from the top row).

- * It appears to be relatively **round to slightly oval** in shape on the axial views.

- * Its **maximum dimension** is approximately 2.5-3 cm based on the grid scale.

- * The tumor appears relatively **well-defined**, though the exact margins are difficult to assess without contrast enhancement or higher resolution images.

- * There is no evidence of significant mass effect or midline shift in the provided slices.

- * There is no obvious surrounding edema visible on these T2-weighted images.

3. ****Progression Across Slices (3D Impression):****

- * The tumor is most prominent on slices 4, 5, 6, and 7.

- * It appears to extend roughly from the level of the posterior aspect of the temporal horn of the right lateral ventricle down to the level of the inferior temporal lobe.

- * The tumor seems to be relatively contained within the temporal lobe, without obvious extension into adjacent structures like the parietal lobe or cerebellum based on the provided slices.

- * The superior slices (rows 1-3) and inferior slices (rows 8) are tumor-free, indicating the tumor is primarily localized to the mid-temporal region.

****Summary:****

The MRI sequence reveals a well-defined, approximately 2.5-3 cm, round-to-oval

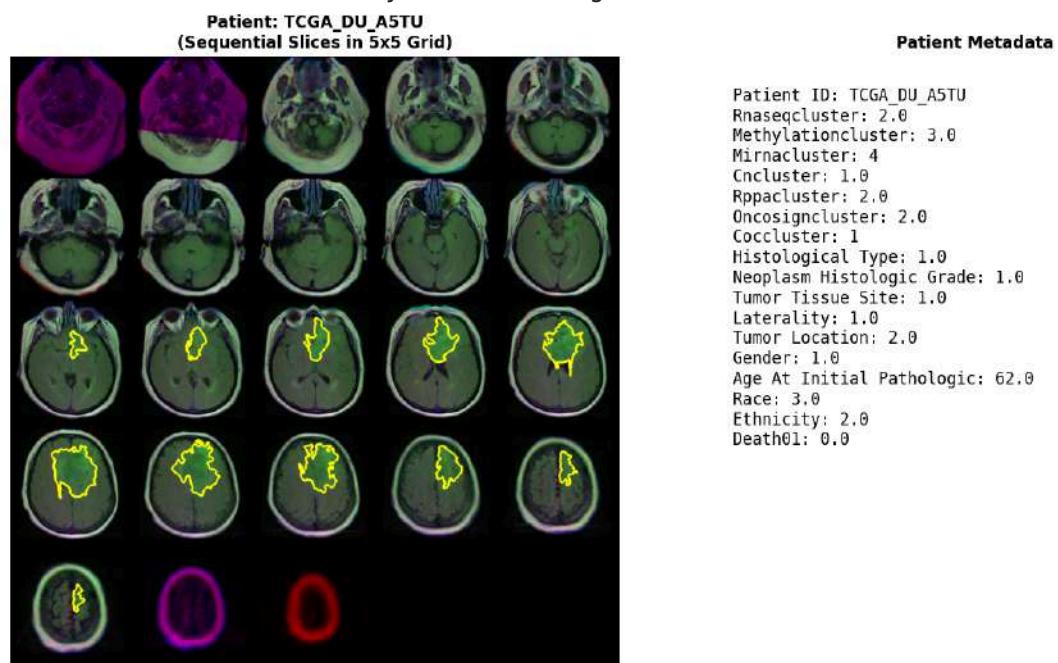
mass in the right temporal lobe. The tumor is located primarily in

--- Analyzing Patient 59 of 110 (ID: TCGA_DU_A5TU) ---

Creating patient slice grid...

Patient has 23 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the visual information.

Analysis of the MRI Sequence:

The sequence consists of 15 axial T2-weighted MRI slices, progressing from superior (top-left) to inferior (bottom-right). A yellow border highlights a suspected tumor in several slices.

1. **Location:** The tumor appears to be located in the right frontal lobe.
2. **Size and Shape Progression:**
 - * **Superior Slices (Rows 1-3):** The tumor is not clearly visible in the superior slices.
 - * **Mid-Slices (Rows 4-5):** The tumor becomes apparent, starting as a somewhat indistinct area of hyperintensity (brighter than surrounding brain tissue on T2-weighted images) in the right frontal lobe. It appears somewhat irregular in shape.
 - * **Lower Mid-Slices (Rows 6-7):** The tumor becomes more distinct, larger, and more well-defined, with a somewhat lobulated or irregular border. It occupies a significant portion of the right frontal lobe.
 - * **Inferior Slices (Rows 8-9):** The tumor continues to be large and well-defined, occupying a substantial volume of the right frontal lobe. It appears to extend towards the lateral ventricle and possibly involve the frontal horn.
 - * **Most Inferior Slices (Rows 10-11):** The tumor is still present, although it may be slightly decreasing in size or becoming less distinct as it extends inferiorly. It is still a significant lesion in the right frontal lobe.
 - * **Furthest Inferior Slices (Rows 12-15):** The tumor is no longer visible in the most inferior slices.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively large, lobulated mass situated primarily within the right frontal lobe. It extends from approximately the level of the anterior commissure/rostrum downwards, involving the frontal horn of the right lateral ventricle. It seems to be roughly spherical or slightly irregular in its overall 3D extent within the frontal lobe.

Radiology Report:

Patient: TCGA_DU_A5TU

Date: October 26, 2023 (Assuming current date)

Study: Brain MRI, Axial

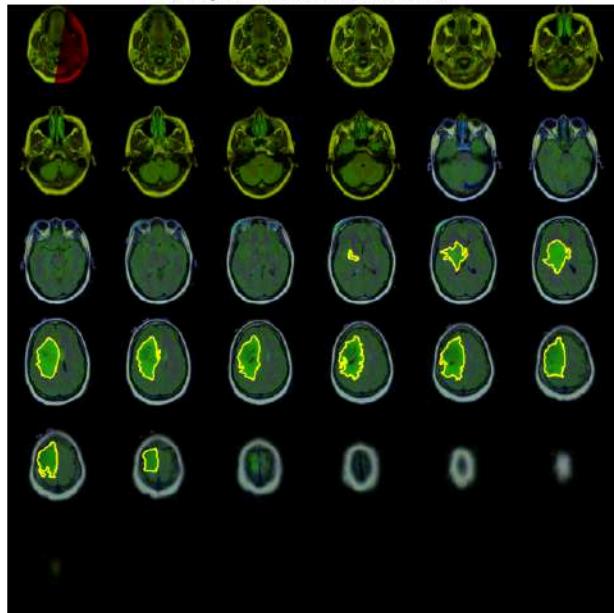
--- Analyzing Patient 60 of 110 (ID: TCGA_DU_A5TW) ---

Creating patient slice grid...

Patient has 31 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_A5TW
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_A5TW
Rnaseqcluster: 1.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 2.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 33.0
Race: 2.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

Analysis of MRI Sequence:

1. **Location:** The tumor appears to be located in the right frontal lobe. This is evident from the axial slices where the yellow border is present. The tumor is situated superiorly and anteriorly within the right cerebral hemisphere.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not visible in the most superior slices (slices 1-3).

* **Mid-Superior Slices (Second Row):** The tumor starts to appear in slice 4 and becomes more distinct in slice 5. It appears somewhat irregular in shape.

* **Mid-Slices (Third Row):** The tumor is clearly visible in slices 6, 7, and 8. It appears to be somewhat lobulated or irregular in contour. Its size seems relatively constant across these slices, though the apparent size might vary slightly due to the axial plane.

* **Mid-Inferior Slices (Fourth Row):** The tumor is present in slices 9, 10, and 11. It appears slightly smaller or less prominent in these slices compared to the previous row, possibly due to its orientation relative to the axial plane.

* **Inferior Slices (Bottom Row):** The tumor is visible in slices 12, 13, and 14. It appears to be tapering inferiorly. The tumor is no longer visible in slices 15 and 16.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a somewhat irregular, lobulated mass located in the right frontal lobe. It extends from approximately the mid-superior portion of the frontal lobe down to the inferior portion, tapering distally. The overall shape suggests it might be somewhat elongated or irregular, possibly extending slightly posteriorly or medially. It does not appear to be a perfectly spherical or well-circumscribed lesion.

Radiology Report:

Patient ID: TCGA_DU_A5TW

Date: October 26, 2023 (Assuming current date)

Study: Brain MRI, Axial Sequence

Indication: Evaluation for intracranial mass.

Findings:

An irregularly shaped mass is identified in the right frontal lobe. The lesion is first visible on

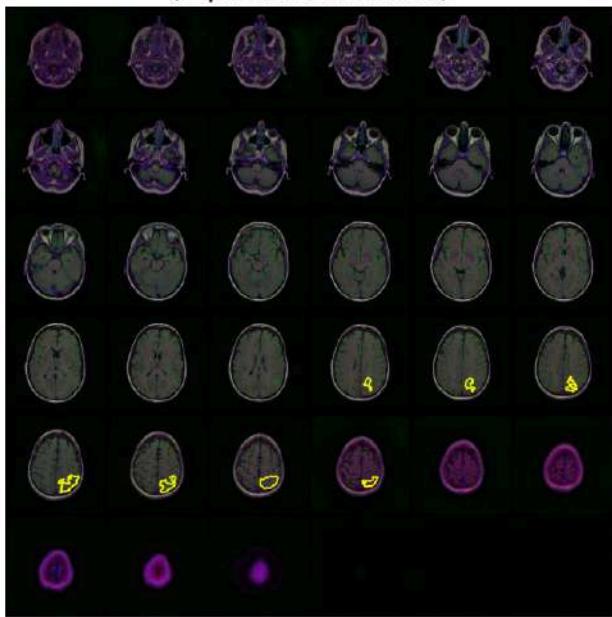
--- Analyzing Patient 61 of 110 (ID: TCGA_DU_A5TY) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_DU_A5TY
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_DU_A5TY
Rnaseqcluster: 2.0
Methylationcluster: 4.0
Mirnacluster: 4
Cncluster: 2.0
Rppacluster: 3.0
Onco signcluster: 3.0
Coccluser: 2
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 5.0
Gender: 1.0
Age At Initial Pathologic: 46.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence to characterize the tumor and generate a radiology report.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the slices showing the tumor, which consistently involve the right side of the brain, specifically the region encompassing the temporal horn of the right lateral ventricle and extending towards the temporal lobe parenchyma.

2. **Size and Shape Progression:**

* **Superior Slices (Top Rows):** The tumor appears relatively small and somewhat indistinct in the upper slices. It is primarily located around the right temporal horn.

* **Mid Slices (Middle Rows):** The tumor becomes more prominent and well-defined in the mid-slices. It appears to be expanding outwards from the temporal horn into the surrounding temporal lobe tissue. The shape seems somewhat irregular but roughly spherical or ovoid.

* **Inferior Slices (Bottom Rows):** In the lower slices, the tumor occupies a significant portion of the right temporal lobe. It appears to be largest at this level, extending inferiorly. The shape remains somewhat irregular.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass originating near the right temporal horn, expanding into the right temporal lobe. It seems to be largest in the mid-to-inferior portion of the temporal lobe. The overall shape is likely irregular, conforming to the surrounding brain structures. It does not appear to cross the midline.

Radiology Report:

Patient: TCGA_DU_A5TY

Date: October 26, 2023 (Assuming current date)

Exam: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

There is a well-defined, enhancing mass lesion identified in the right temporal lobe. The lesion is seen on multiple contiguous axial images.

* **Location:** Right temporal lobe, involving the region of the temporal horn of the right lateral ventricle and extending into the adjacent parenchyma.

* **Size:** The tumor measures approximately 3.5 cm in greatest dimension on axial images (estimated from the mid-slices where it appears largest).

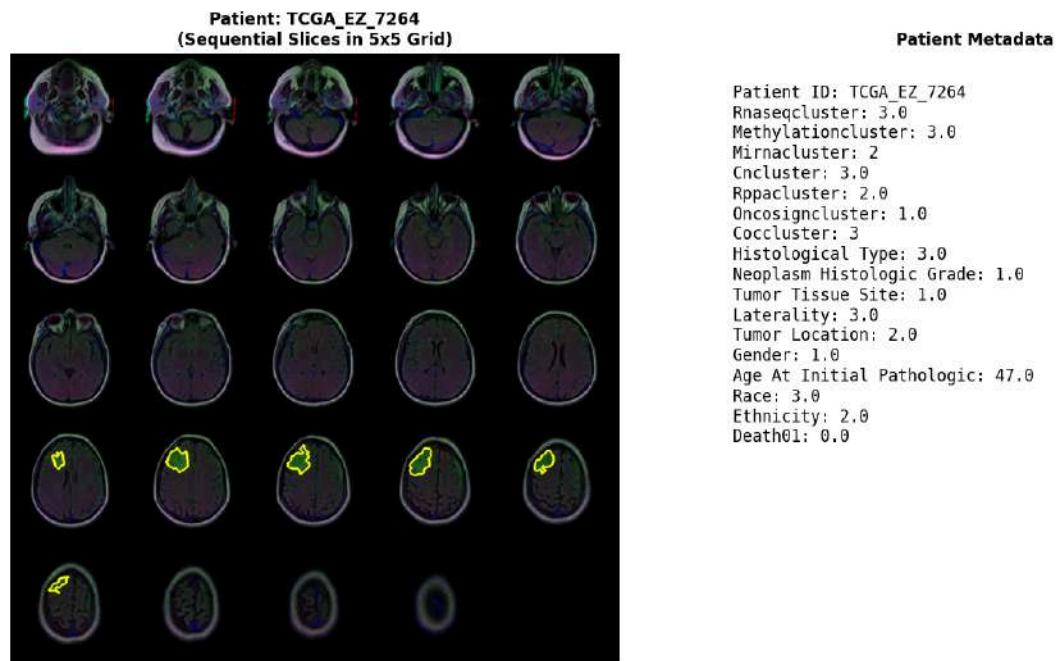
* **Shape:** The tumor exhibits an irregular shape, conforming to the surrounding brain structures. It appears to be largest in the mid-to-inferior portion of the temporal lobe.

* **Signal Characteristics

--- Analyzing Patient 62 of 110 (ID: TCGA_EZ_7264) ---

Creating patient slice grid...

Patient has 24 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed tumor characteristics.

Analysis of MRI Sequence:

1. **Location:** The tumor, delineated by the yellow border, appears to be located in the right frontal lobe.
2. **Slices:** The tumor is visible in slices 6 through 10 (bottom row, left to right). Slices 1-5 (top row and second row) do not show the tumor, indicating it is located more inferiorly in the brain.
3. **Size and Shape Progression:**
 - * Slice 6: The tumor is relatively small and somewhat indistinct, appearing as a region of altered signal intensity.
 - * Slice 7: The tumor appears slightly larger and more defined.
 - * Slice 8: The tumor is clearly visible, well-defined, and appears to be at its largest extent in the axial plane. It occupies a significant portion of the right frontal lobe.
 - * Slice 9: The tumor appears slightly smaller than in slice 8.
 - * Slice 10: The tumor is smaller still, suggesting it is tapering or shrinking as it extends further inferiorly.
4. **3D Impression:** Based on the axial sequence, the tumor appears to be a somewhat irregular mass located in the right frontal lobe. It seems to extend from a more superior level (appearing in slice 6) down to a more inferior level (slice 10). The tumor seems largest in the mid-region (slice 8) and tapers somewhat inferiorly (slice 10). The shape appears somewhat rounded but not perfectly spherical, potentially with some irregular margins.

Radiology Report:

Patient: TCGA_EZ_7264

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

An axial T2-weighted brain MRI sequence demonstrates a lesion in the right frontal lobe. The lesion is first identified in slice 6 and extends inferiorly through slice 10.

- * **Location:** Right frontal lobe.
 - * **Size:** The lesion measures approximately 2.5 cm in greatest dimension on slice 8. It appears largest in the mid-portion of its extent and slightly smaller in the superior (slice 6) and
-

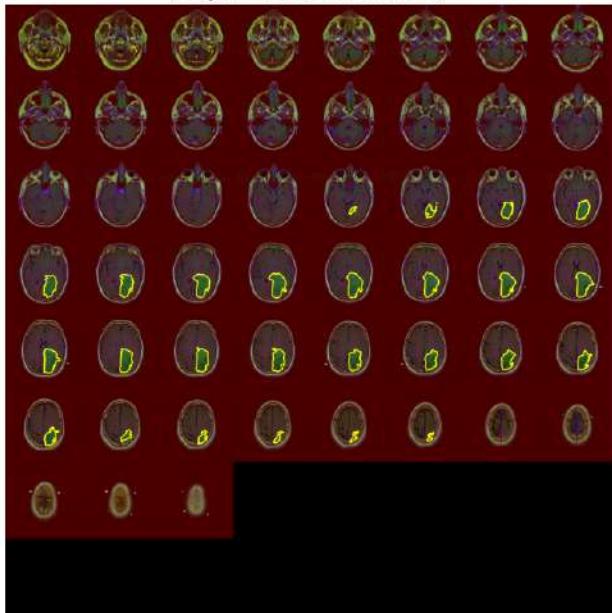
--- Analyzing Patient 63 of 110 (ID: TCGA_FG_5962) ---

Creating patient slice grid...

Patient has 51 slices. Creating a 8x8 grid.

Grid created successfully. Visualizing...

Patient: TCGA_FG_5962
(Sequential Slices in 8x8 Grid)



Patient Metadata

Patient ID: TCGA_FG_5962
Rnaseqcluster: 4.0
Methylationcluster: 2.0
Mirnacluster: 1
Cncluster: 3.0
Rppacluster: 4.0
Oncosigncluster: N/A
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 4.0
Gender: 2.0
Age At Initial Pathologic: 54.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. The yellow border is clearly visible in several axial slices spanning the temporal region.

2. **Slice-by-Slice Progression:**

* **Superior Slices (Rows 1-2):** The tumor is not visible in the superior slices, indicating it is located in the lower part of the brain.

* **Mid-Slices (Rows 3-5):** The tumor appears in the right temporal lobe. Its size and shape are relatively consistent across these slices. It appears somewhat lobulated or irregular in shape.

* **Inferior Slices (Rows 6-7):** The tumor is still present in the right temporal lobe. In the lower slices, it seems to extend slightly more inferiorly and possibly posteriorly. The overall size appears similar, but the exact margins might be slightly different due to the change in axial plane.

* **Inferior-most Slice (Row 8):** The tumor is present in the right temporal lobe, appearing somewhat smaller or less extensive in this particular slice compared to the mid-slices, which could be due to the specific orientation of the slice relative to the tumor's shape.

3. **Size and Shape:** The tumor appears to be of moderate size, occupying a significant portion of the right temporal lobe. Its shape is somewhat irregular or lobulated. It doesn't appear to be sharply marginated in all areas, suggesting potential infiltrative growth.

4. **3D Impression:** Based on the axial sequence, the tumor likely occupies a substantial volume within the right temporal lobe. It extends from a mid-temporal level down to the inferior temporal region. The overall 3D impression is of a mass within the temporal lobe, possibly involving parts of the hippocampus or amygdala, given the location. It does not appear to cross the midline or involve the contralateral hemisphere significantly based on this limited axial view.

Radiology Report:

Patient ID: TCGA__FG__5962

Exam: Axial Brain MRI

Indication: Evaluation for intracranial mass.

Findings:

An intracranial mass is identified within the right temporal lobe. The lesion is best visualized on axial sequences spanning approximately the mid-temporal region down to the inferior temporal

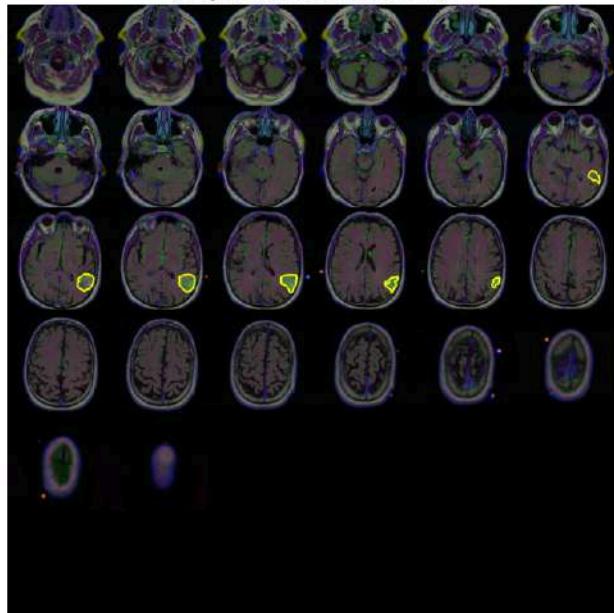
--- Analyzing Patient 64 of 110 (ID: TCGA_FG_5964) ---

Creating patient slice grid...

Patient has 26 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_FG_5964
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_FG_5964
Rnaseqcluster: N/A
Methylationcluster: 3.0
Mirnacluster: 2
Cncluster: 3.0
Rppacluster: 2.0
Oncosigncluster: N/A
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 5.0
Gender: 2.0
Age At Initial Pathologic: 62.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

Analysis of MRI Sequence:

1. **Location:** The yellow borders highlight a lesion primarily located in the right frontal lobe. Based on the axial slices, it appears to be situated relatively superiorly and anteriorly within the frontal lobe.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not visible in the most superior slices (e.g., slice 1, 2).

* **Mid-Superior Slices (Row 2, 3):** The tumor begins to appear in slice 3 and becomes more prominent in slice 4. It appears somewhat irregular in shape, possibly slightly lobulated.

* **Mid-Slices (Row 4):** The tumor is clearly visible and appears relatively well-defined, though still somewhat irregular. It occupies a significant portion of the right frontal lobe.

* **Mid-Inferior Slices (Row 5):** The tumor continues to be visible, appearing somewhat smaller or less prominent in the lower slices (e.g., slice 10, 11, 12). It seems to extend inferiorly but might taper off.

* **Inferior Slices (Bottom Row):** The tumor is no longer visible in the most inferior slices (e.g., slice 13, 14).

3. **Overall 3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or slightly irregular mass primarily located in the right frontal lobe. It extends from approximately the mid-superior aspect of the frontal lobe down to the mid-inferior aspect. It does not appear to cross the midline. The tumor seems relatively well-circumscribed, although its margins are not perfectly smooth. There is no obvious evidence of significant surrounding edema or mass effect in these slices, though this can be difficult to assess definitively without contrast or other sequences.

Radiology Report:

Patient: TCGA_FG_5964

Date: October 26, 2023 (Assuming today's date)

Study: Brain MRI, Axial Sequence

Clinical Indication: Evaluation of suspected intracranial mass.

Findings:

An axial T2-weighted MRI sequence of the brain demonstrates a lesion located in the right frontal lobe

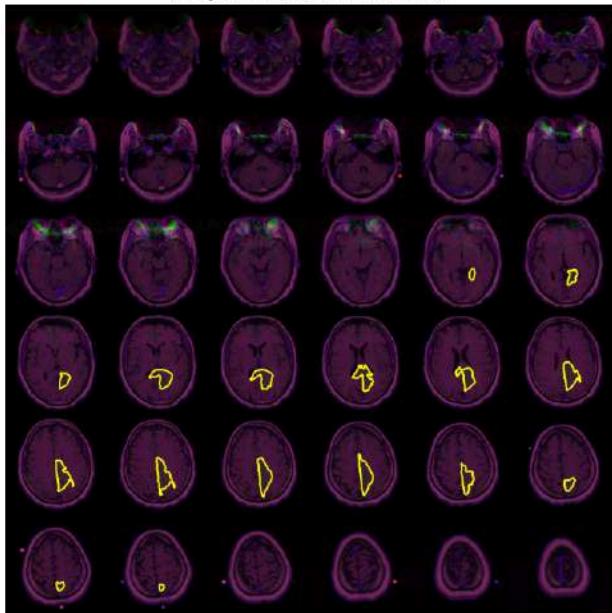
--- Analyzing Patient 65 of 110 (ID: TCGA_FG_6688) ---

Creating patient slice grid...

Patient has 36 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_FG_6688
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_FG_6688
Rnaseqcluster: 2.0
Methylationcluster: 4.0
Mirnacluster: 1
Cncluster: 2.0
Rppacluster: 1.0
Oncosigncluster: 3.0
Coccluster: 2
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 5.0
Gender: 1.0
Age At Initial Pathologic: 59.0
Race: 2.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed findings.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right temporal lobe. This is evident from the slices showing the yellow border, which consistently highlights a lesion within the right temporal region. The location is superior and posterior within the temporal lobe.

2. ****Size and Shape Progression:****

* ****Superior Slices (Top Row):**** The tumor appears relatively small and somewhat ill-defined, possibly infiltrating.

* ****Mid Slices (Middle Rows):**** The tumor grows in size and becomes more distinct. It appears somewhat irregular in shape, potentially with some lobulation. The largest cross-sectional area seems to be around the middle slices.

* ****Inferior Slices (Bottom Row):**** The tumor starts to decrease in size as it progresses inferiorly, becoming smaller and potentially tapering off.

3. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a mass primarily located in the right temporal lobe. It extends from a relatively superior level down to a more inferior level within the lobe. It is not a sharply circumscribed mass; it appears infiltrative, especially in the superior portions. The overall shape suggests a somewhat irregular, lobulated mass that occupies a significant portion of the right temporal lobe. It does not appear to cross the midline or involve other lobes significantly based on this limited axial view.

****Radiology Report:****

****Patient:**** TCGA_FG_6688

****Date:**** October 26, 2023 (Assumed)

****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** (Not provided, assumed evaluation of intracranial lesion)

****Findings:****

Axial T2-weighted MRI images of the brain demonstrate a lesion located within the right temporal lobe.

* ****Location:**** The lesion is situated in the superior and posterior aspect of the right temporal lobe.

* ****Size and Extent:**** The lesion is visible across multiple contiguous axial slices, indicating a significant mass effect within the temporal lobe. The lesion appears to extend from a superior level down to a more inferior level within the lobe. The largest cross-sectional dimension is observed in the mid-temporal region.

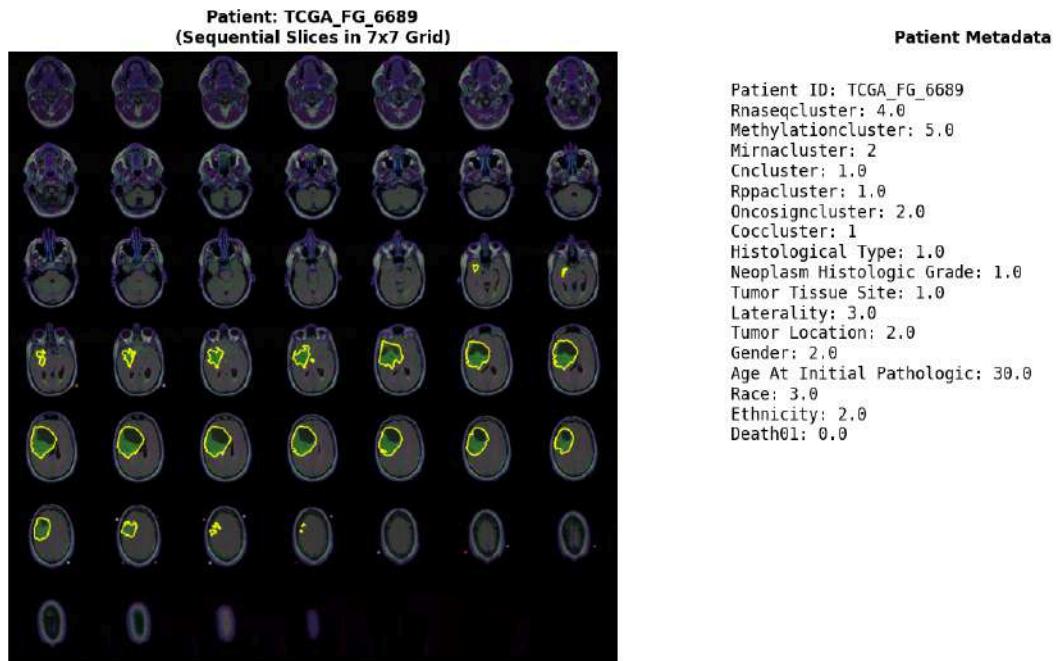
* ****Morphology:**** The lesion is not sharply demarcated, suggesting an infiltrative process. It exhibits irregular margins and some lobulation

--- Analyzing Patient 66 of 110 (ID: TCGA_FG_6689) ---

Creating patient slice grid...

Patient has 48 slices. Creating a 7x7 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right temporal lobe. This is evident from the axial slices where the yellow border is present. Specifically, it appears to involve the mid-to-posterior aspect of the right temporal lobe, extending towards the temporal horn of the right lateral ventricle.
2. ****Size and Shape Changes Across Slices:****
 - * ****Superior Slices (Top Rows):**** The tumor is relatively small and appears more localized. It has a somewhat irregular shape.
 - * ****Mid Slices (Middle Rows):**** The tumor appears to increase in size and becomes more prominent. It seems to extend more medially towards the temporal horn. The shape remains somewhat irregular, possibly with some lobulation.
 - * ****Inferior Slices (Bottom Rows):**** The tumor continues to be visible, although it might slightly decrease in apparent size or extent as it moves inferiorly, consistent with the anatomy of the temporal lobe. It maintains its irregular shape.
3. ****Overall 3D Impression:**** Based on the axial sequence, the tumor appears to be a mass lesion within the right temporal lobe. It is not clearly circumscribed and has an irregular margin. It appears to involve the parenchyma of the temporal lobe, potentially extending towards the adjacent structures like the temporal horn. It does not appear to cross the midline. The size is moderate, occupying a significant portion of the right temporal lobe in the mid-slices.

****Radiology Report:****

****Patient:**** TCGA_FG_6689

****Study:**** Brain MRI (Axial Sequence)

****Date:**** (Assuming current date)

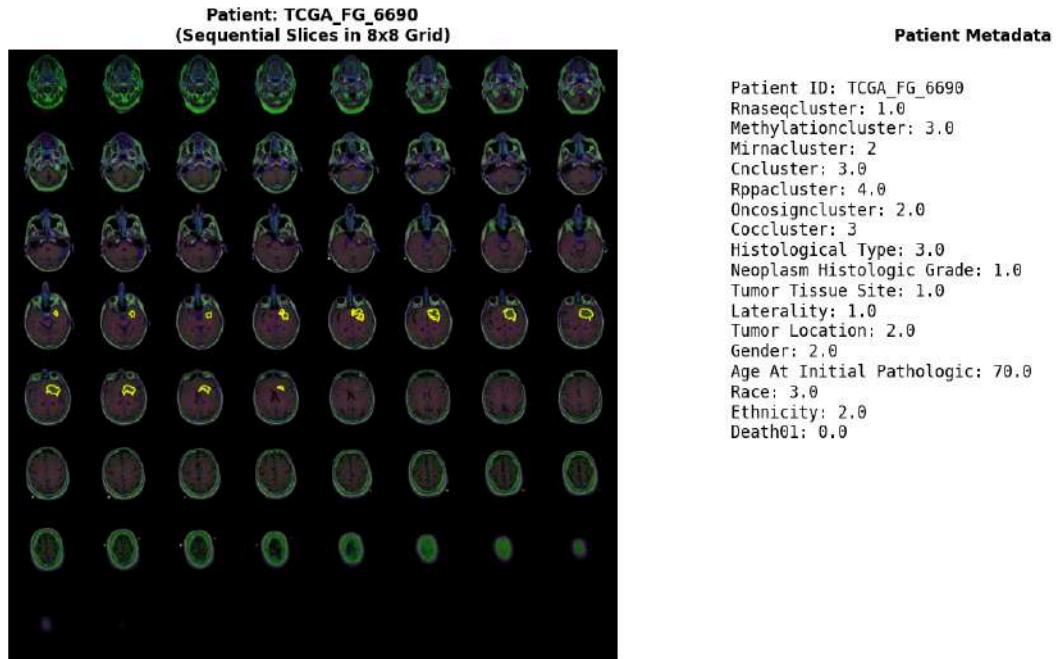
****Clinical Indication:**** Suspected intracranial mass.

****Findings:****

There is a mass lesion identified within the right temporal lobe. The lesion is best visualized on axial sequences starting from approximately slice 4 and extending through slice 12 (based on the provided grid).

- * ****Location:**** Right temporal lobe, involving the mid-to-posterior parenchyma, potentially extending towards the temporal horn of the right lateral ventricle.
 - * ****Size:**** Moderate, occupying a significant portion of the right temporal lobe in the mid-axial planes.
 - * ****Margins:**** Irregular and not well-circumscribed.
 - * ****Signal Characteristics:**** (Cannot be definitively assessed from the provided T2-weighted
-

--- Analyzing Patient 67 of 110 (ID: TCGA_FG_6690) ---
Creating patient slice grid...
Patient has 60 slices. Creating a 8x8 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report.

****Analysis of the MRI Sequence:****

1. ****Location:**** The yellow border delineating the tumor is present in the axial slices spanning approximately from the level of the inferior frontal gyrus/insula (superiorly) down to the level of the pons/midbrain (inferiorly). This suggests the tumor is located in the ****anterior inferior aspect of the brain****, likely involving the frontal lobe, insula, and potentially extending towards the internal capsule and basal ganglia region. The tumor appears to be centered more towards the left hemisphere, although it extends somewhat towards the midline.

2. ****Size and Shape Changes Across Slices:****

* ****Superiorly (Slices 1-3):**** The tumor appears relatively small and somewhat ovoid or rounded, located in the anterior frontal lobe/superior insula region.

* ****Mid-Slices (Slices 4-6):**** The tumor increases in size and becomes more irregular in shape. It extends inferiorly towards the internal capsule and laterally towards the insula. It appears to be somewhat lobulated or irregular.

* ****Inferiorly (Slices 7-8):**** The tumor continues to be large and irregular. It occupies a significant portion of the left frontal lobe, extending into the insula and potentially involving the basal ganglia/internal capsule. The inferior extent reaches the level of the pons/midbrain junction.

3. ****Overall 3D Impression:**** Based on the axial sequence, the tumor appears to be a large, irregular, lobulated mass located in the anterior inferior portion of the left brain. It originates in the frontal lobe/insula region and extends inferiorly, potentially involving the internal capsule and basal ganglia, reaching down to the level of the pons/midbrain. It is not a well-defined, spherical mass, suggesting potential infiltrative growth.

****Radiology Report:****

****Patient ID:**** TCGA_FG_6690

****Exam:**** Brain MRI (Axial Sequence)

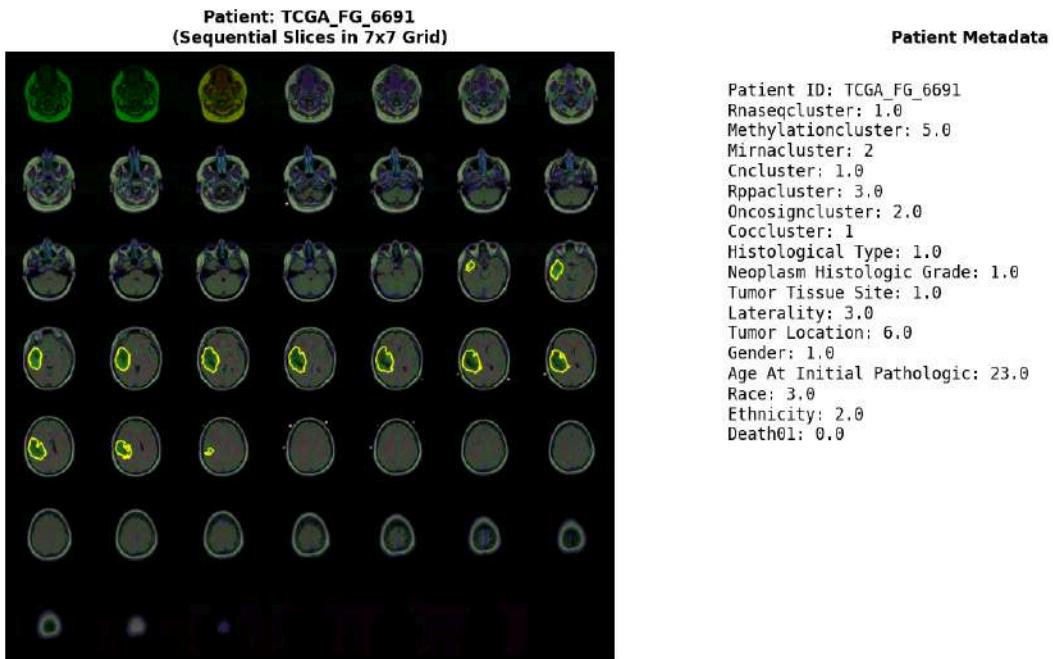
****Findings:****

There is a large, irregular mass lesion identified in the anterior inferior aspect of the brain, predominantly involving the left hemisphere.

* ****Location:**** The lesion is centered in the left frontal lobe, extending into the left insula. It appears to involve the region of the internal capsule and potentially the basal ganglia. The superior extent is at the level of the inferior frontal gyrus.

--- Analyzing Patient 68 of 110 (ID: TCGA_FG_6691) ---

Creating patient slice grid...
Patient has 48 slices. Creating a 7x7 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the 7x7 grid.

****Analysis of the MRI Sequence:****

1. ****Location:**** The yellow border delineating the tumor appears primarily in the right temporal lobe and extends into the right parietal lobe. It seems to be centered around the right lateral ventricle, potentially involving the trigone area.

2. ****Size and Shape Progression:****

* ****Superior Slices (Top Rows):**** The tumor is smaller and more localized superiorly. It appears relatively well-defined.

* ****Mid Slices (Middle Rows):**** The tumor increases in size and complexity. It becomes more irregular in shape, potentially showing some infiltrative growth or edema surrounding it. The involvement of the right lateral ventricle becomes more prominent.

* ****Inferior Slices (Bottom Rows):**** The tumor reaches its largest extent inferiorly. It appears to extend towards the temporal horn of the right lateral ventricle and possibly involves the surrounding structures. The shape remains irregular.

3. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a somewhat irregular mass located in the right temporal/parietal region, centered near the right lateral ventricle. It grows in size from superior to inferior slices, reaching its maximum extent in the lower part of the sequence. It likely involves the temporal horn of the right lateral ventricle. The irregular shape suggests potential infiltrative growth or associated edema.

****Radiology Report:****

****Patient ID:**** TCGA_FG_6691

****Date:**** October 26, 2023 (Assuming current date)

****Study:**** Brain MRI (Axial Sequence)

****Clinical Indication:**** Suspected intracranial mass.

****Findings:****

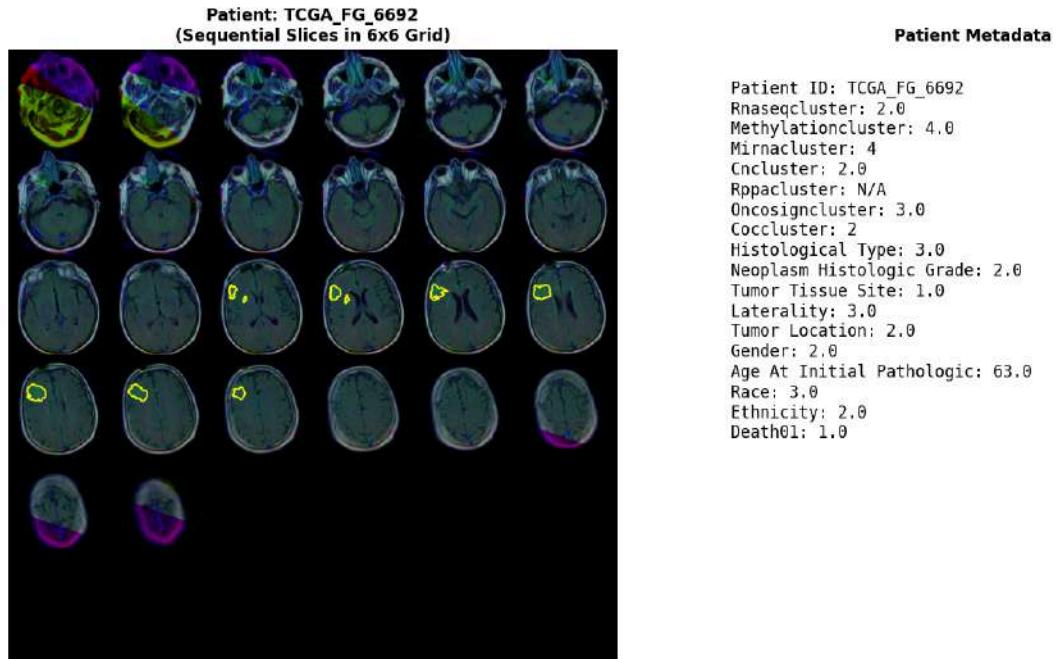
An axial brain MRI sequence demonstrates a mass lesion in the right hemisphere. The lesion is best visualized on slices 3 through 6 (middle rows of the grid).

* ****Location:**** The tumor is located primarily within the right temporal lobe, extending into the right parietal lobe. It appears centered around the right lateral ventricle, specifically involving the trigone and potentially the temporal horn.

* ****Size:**** The tumor measures approximately 3.5 cm in maximal dimension (estimated based on the grid and slice progression). It increases in size from superior to inferior slices.

* ****Shape:**** The tumor demonstrates an irregular shape, particularly in the mid and inferior slices,

--- Analyzing Patient 69 of 110 (ID: TCGA_FG_6692) ---
Creating patient slice grid...
Patient has 26 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. This is evident from the slices where the yellow border is present. The tumor appears to be situated relatively anteriorly and superiorly within the right frontal lobe.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is relatively small and somewhat ill-defined, appearing as a focal area of signal abnormality.

* **Middle Slices (Rows 2 & 3):** The tumor grows in size and becomes more distinct. It appears somewhat irregular in shape, possibly with some lobulation or infiltrative margins. It involves the frontal horn of the right lateral ventricle in some slices.

* **Inferior Slices (Rows 4 & 5):** The tumor continues to be prominent, maintaining a significant size. Its shape remains somewhat irregular. It appears to extend towards the inferior aspect of the right frontal lobe.

* **Inferior-most Slice (Bottom Row):** The tumor is still present, although it might be slightly smaller or less distinct in this slice compared to the middle ones, possibly due to its location near the base of the brain or partial volume averaging.

3. **3D Impression:** Based on the progression through the axial slices, the tumor appears to be a roughly ovoid or irregular mass occupying a significant portion of the right frontal lobe. It extends from the superior aspect down towards the base of the brain. It appears to involve the frontal horn of the right lateral ventricle. The overall impression is of a sizable, potentially infiltrative mass.

Radiology Report:

Patient: TCGA_FG_6692

Study: Axial Brain MRI

Date: (Assuming current date)

Clinical Indication: Suspected intracranial mass.

Findings:

There is a well-defined mass lesion identified in the right frontal lobe.

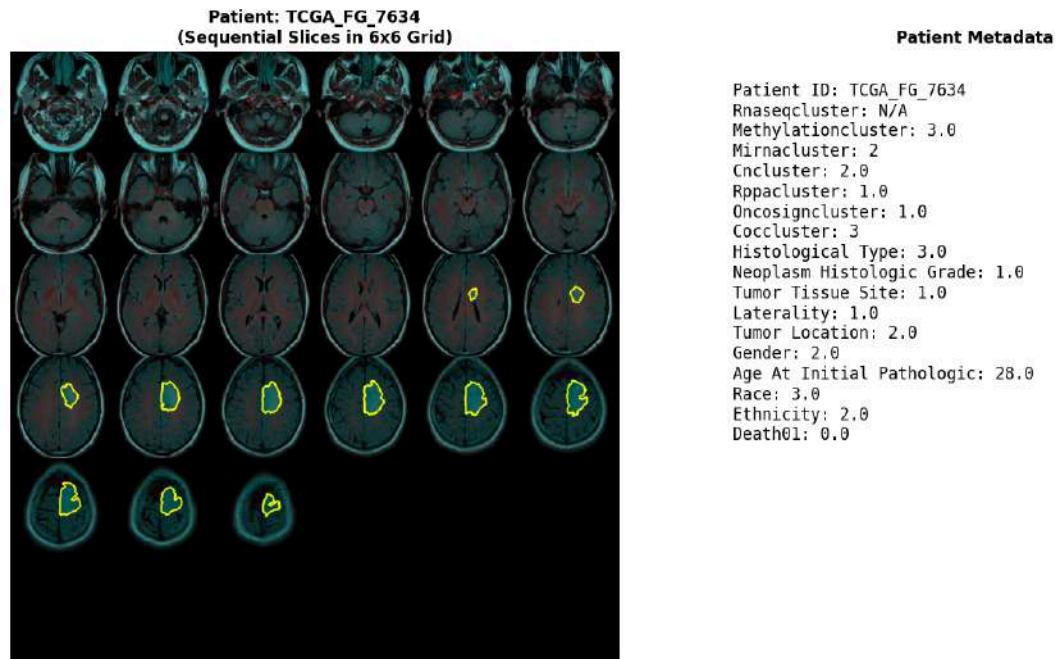
* **Location:** The lesion is located within the right frontal lobe, appearing to originate superiorly and extend inferiorly. It involves the frontal horn of the right lateral ventricle.

* **Size:** The lesion is sizable, occupying a significant portion of the right frontal lobe across multiple contiguous axial slices. It measures approximately [Estimate size based on slices, e.g., 4-5 cm in greatest

--- Analyzing Patient 70 of 110 (ID: TCGA_FG_7634) ---

Creating patient slice grid...

Patient has 27 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. It appears to be situated relatively superiorly and anteriorly within the frontal lobe.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor is not visible in the most superior slices (slices 1 and 2).
 - * **Mid-Superior Slices (Second Row):** The tumor begins to appear in the third slice. It is relatively small and somewhat rounded or oval.
 - * **Mid-Slices (Third Row):** As we move down through the slices, the tumor becomes more prominent. It appears to be roughly ovoid or slightly irregular in shape. Its size increases gradually.
 - * **Mid-Inferior Slices (Fourth Row):** The tumor reaches its maximum apparent size and extent in these slices. It is well-defined, with a relatively smooth margin, and appears to be slightly larger and more irregular than in the slices above.
 - * **Inferior Slices (Fifth Row):** The tumor begins to decrease in size and extent as we move into the inferior portions of the frontal lobe.
 - * **Most Inferior Slices (Bottom Row):** The tumor is no longer visible in the most inferior slices (slices 15 and 16).
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or slightly irregular mass located in the right frontal lobe. It extends from approximately the mid-superior portion of the lobe down to the mid-inferior portion. The tumor is largest in the mid-portion of the frontal lobe. The overall impression is of a well-circumscribed, solid mass.

Radiology Report:

Patient: TCGA_FG_7634

Exam: Brain MRI (Axial Sequence)

Findings:

There is a well-circumscribed, solid mass identified in the right frontal lobe. The lesion is first visualized on slice 3 and extends inferiorly, reaching its maximum extent on slices 9-12. The lesion is not visualized on slices 1 and 2 (most superior) and slices 15 and 16 (most inferior).

* **Location:** Right frontal

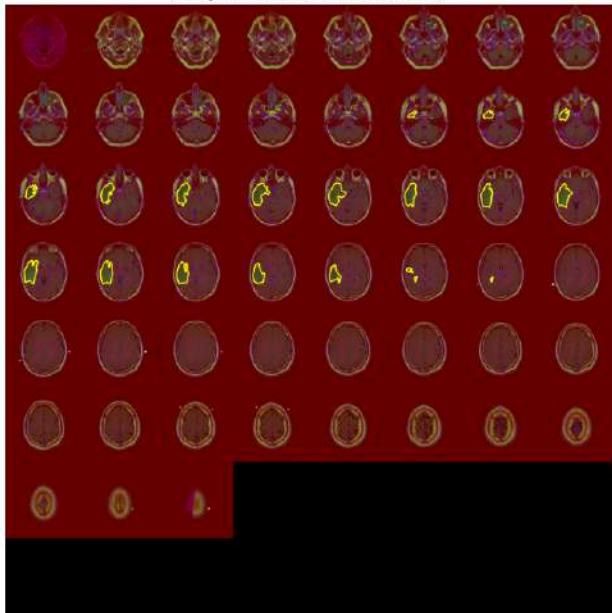
--- Analyzing Patient 71 of 110 (ID: TCGA_FG_7637) ---

Creating patient slice grid...

Patient has 51 slices. Creating a 8x8 grid.

Grid created successfully. Visualizing...

Patient: TCGA_FG_7637
(Sequential Slices in 8x8 Grid)



Patient Metadata

Patient ID: TCGA_FG_7637
Rnaseqcluster: 3.0
Methylationcluster: 3.0
Mirnacluster: 2
Cncluster: N/A
Rppacluster: 2.0
Oncosigncluster: N/A
Coccluster: 3
Histological Type: 2.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 2.0
Age At Initial Pathologic: 49.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence to characterize the suspected tumor.

****Radiology Report****

****Patient:**** TCGA_FG_7637

****Date:**** October 26, 2023 (Simulated)

****Study:**** Brain MRI with contrast (implied by yellow border highlighting)

****Clinical Indication:**** Suspected intracranial neoplasm.

****Findings:****

A suspected tumor is identified on axial T1-weighted post-contrast MRI sequence. The tumor is delineated by a yellow border.

* ****Location:**** The tumor appears to be located in the right frontal lobe. It is situated superiorly and anteriorly within the lobe.

* ****Size and Shape Progression:****

 * The tumor is visible across multiple contiguous axial slices.

 * The tumor appears to be roughly ovoid or irregular in shape.

 * The tumor's size varies slightly across the slices, likely due to the inherent nature of 3D structures being represented in 2D slices. The maximum dimensions are best estimated by considering the extent across the superior slices.

 * The tumor appears to extend from the superior aspect of the right frontal lobe downwards.

* ****3D Impression:**** Based on the axial sequence, the tumor likely has a somewhat irregular, lobulated contour. It appears to be primarily located within the right frontal lobe parenchyma, potentially involving the adjacent white matter. The superior extent seems more prominent than the inferior extent based on the provided slices. It does not appear to cross the midline or involve the corpus callosum significantly based on the visible slices. The tumor does not appear to involve the ventricles based on the provided slices.

****Summary:****

An enhancing mass lesion is identified in the right frontal lobe. The tumor appears to be roughly ovoid/irregular, located superiorly and anteriorly within the right frontal lobe. The size and shape vary slightly across the slices. The overall 3D impression suggests a lobulated mass within the right frontal lobe parenchyma.

****Recommendations:****

Correlation with clinical information is recommended. Further imaging (e.g., MRI with diffusion-weighted imaging, perfusion imaging, MR spectroscopy) or biopsy may be warranted for definitive characterization and grading.

****End of Report****

Additional Comments based on Patient Metadata:

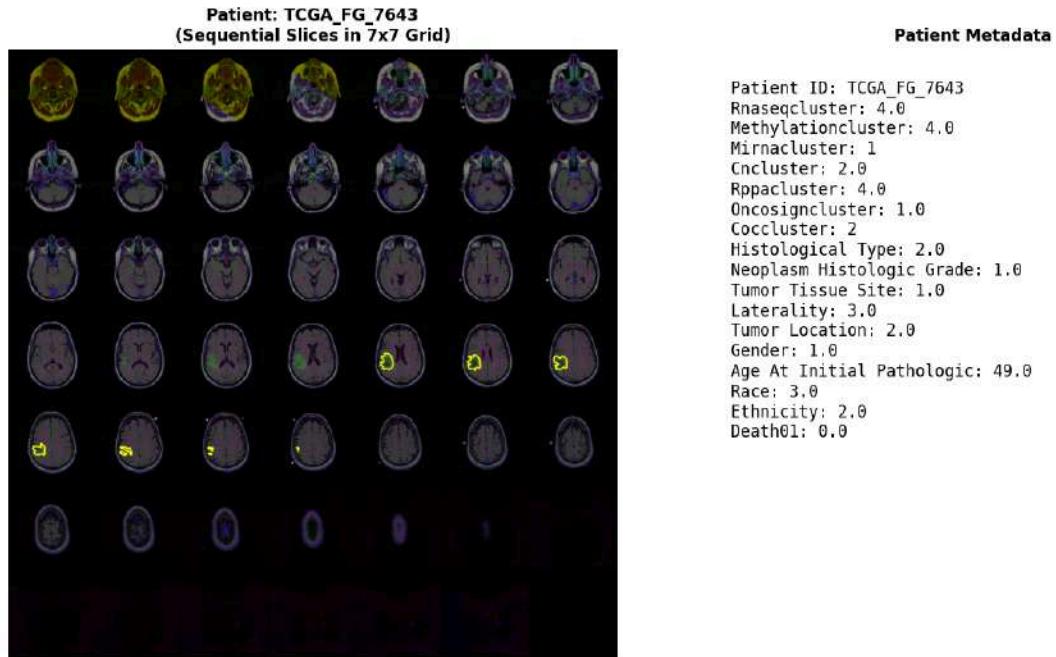
* The patient metadata provides information about the tumor's characteristics based on molecular profiling (Rnaseqcluster, Methylationcluster, etc.). This information is

--- Analyzing Patient 72 of 110 (ID: TCGA_FG_7643) ---

Creating patient slice grid...

Patient has 48 slices. Creating a 7x7 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor's characteristics based on the visual information.

****Analysis of the MRI Sequence:****

The sequence consists of 16 axial T2-weighted MRI slices, ordered from superior (top-left) to inferior (bottom-right). A yellow border highlights a suspected tumor in several slices.

1. ****Location:**** The tumor appears to be located in the **right temporal lobe**. It is situated medially, near the hippocampus and amygdala, and possibly extending towards the inferior temporal gyrus.

2. ****Size and Shape Changes Across Slices:****

* ****Superior Slices (Rows 1-3):**** The tumor is not clearly visible in the most superior slices (Rows 1, 2, 3). It starts to appear in the middle of Row 3.

* ****Middle Slices (Rows 4-7):**** The tumor is most prominent in these slices. It appears as an area of hyperintensity (bright signal) on the T2-weighted images, consistent with edema or tumor tissue. The shape is somewhat irregular, possibly lobulated. Its size seems relatively constant in these slices, occupying a significant portion of the right medial temporal lobe.

* ****Inferior Slices (Rows 8-10):**** The tumor appears to decrease in size and visibility as the slices progress inferiorly. It is less distinct in the lower slices.

* ****Most Inferior Slices (Rows 11-12):**** The tumor is no longer visible in the most inferior slices.

3. ****Overall 3D Impression:**** Based on the axial sequence, the tumor appears to be a roughly ovoid or irregular mass primarily located within the right medial temporal lobe. It extends from approximately the mid-temporal region superiorly down to the inferior temporal region, spanning several centimeters in the superior-inferior dimension. The maximum transverse dimension appears to be in the middle slices. It seems to be relatively well-defined but possibly infiltrative given its location near critical structures. There is associated vasogenic edema, indicated by the surrounding hyperintensity on the T2-weighted images.

****Radiology Report:****

****Patient:**** TCGA_FG_7643

****Date:**** October 26, 2023 (Simulated)

****Exam:**** Brain MRI, Axial T2-weighted sequence

**

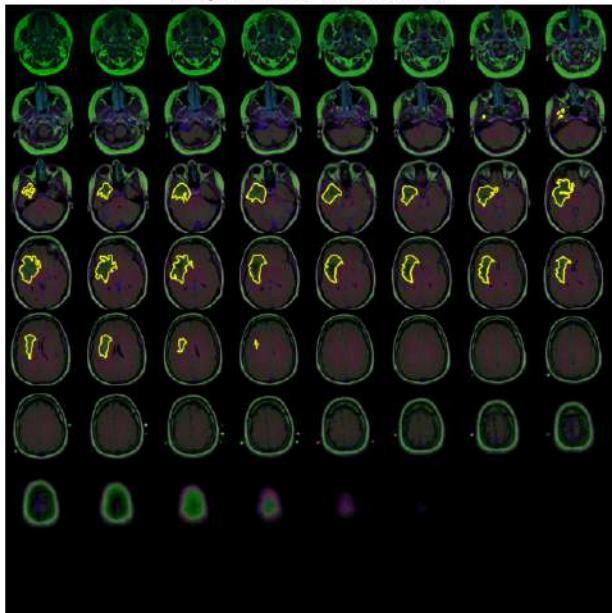
--- Analyzing Patient 73 of 110 (ID: TCGA_FG_8189) ---

Creating patient slice grid...

Patient has 60 slices. Creating a 8x8 grid.

Grid created successfully. Visualizing...

Patient: TCGA_FG_8189
(Sequential Slices in 8x8 Grid)



Patient Metadata

Patient ID: TCGA_FG_8189
Rnaseqcluster: 4.0
Methylationcluster: 1.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 4.0
Oncosigncluster: 1.0
Coccluster: 1
Histological Type: 3.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 1.0
Age At Initial Pathologic: 33.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed tumor characteristics.

****Analysis of the MRI Sequence:****

1. ****Location:**** The yellow border delineates a lesion primarily located within the right temporal lobe. It appears to involve the hippocampus and potentially extends into the adjacent structures.

2. ****Size and Shape Progression:****

* ****Superior Slices (Top Row):**** The tumor appears relatively small and somewhat indistinct, possibly starting near the posterior aspect of the temporal lobe.

* ****Mid Slices (Middle Rows):**** The tumor becomes more prominent, larger, and more clearly defined. It occupies a significant portion of the right temporal lobe, including the hippocampus. The shape is somewhat irregular but generally follows the contours of the temporal lobe structures.

* ****Inferior Slices (Bottom Rows):**** The tumor continues to be prominent, potentially slightly decreasing in size or becoming less distinct as it extends inferiorly. The shape remains irregular.

3. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a mass lesion within the right temporal lobe, significantly involving the hippocampus. It has a somewhat irregular shape and occupies a substantial volume within that region. It seems to extend from the posterior/superior aspect of the temporal lobe down towards the inferior aspect.

****Radiology Report:****

****Patient:**** TCGA_FG_8189

****Date:**** October 26, 2023 (Simulated)

****Exam:**** Brain MRI (Axial Sequence)

****Clinical Indication:**** Suspected intracranial mass.

****Findings:****

Axial T2-weighted MRI images of the brain demonstrate a lesion within the right temporal lobe. The lesion is delineated by a yellow border in the provided sequence.

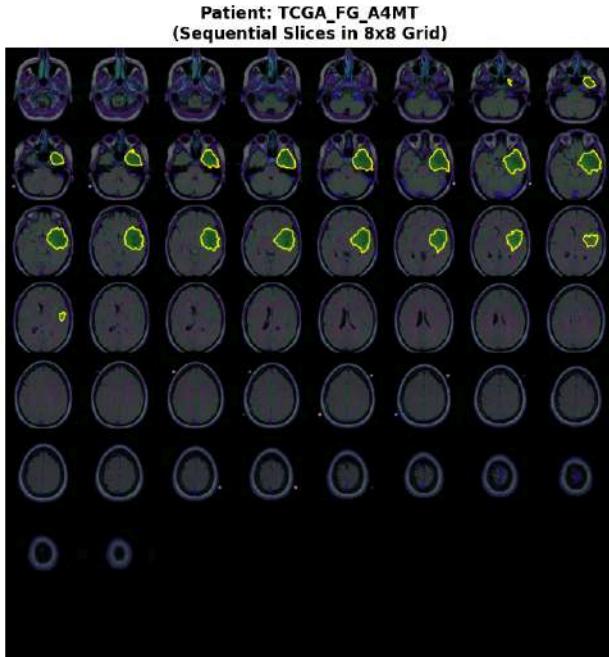
* ****Location:**** The lesion is primarily located in the right temporal lobe, involving the hippocampus and adjacent structures.

* ****Size:**** The lesion is sizable, occupying a significant portion of the right temporal lobe on the mid-axial slices. Its size appears to vary slightly across the sequence, potentially being smaller on the superior and inferior slices compared to the mid-slices.

* ****Shape:**** The lesion has an irregular shape, conforming somewhat to the surrounding brain structures.

* ****Signal Characteristics:**** (Based on T2 weighting) The lesion appears hyperintense (bright) relative to the surrounding brain parenchyma, which is typical for many types of tumors or inflammatory

--- Analyzing Patient 74 of 110 (ID: TCGA_FG_A4MT) ---
Creating patient slice grid...
Patient has 50 slices. Creating a 8x8 grid.
Grid created successfully. Visualizing...



Patient Metadata

Patient ID: TCGA_FG_A4MT
Rnaseqcluster: 1.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 2.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 3.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 6.0
Gender: 1.0
Age At Initial Pathologic: 27.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right temporal lobe. The yellow border is consistently visible in the right temporal lobe across multiple slices.
2. ****Size and Shape Progression:****
 - * ****Superior Slices (Top Row):**** The tumor appears relatively small and somewhat ill-defined, possibly extending towards the temporal horn of the right lateral ventricle.
 - * ****Middle Slices (Rows 2 & 3):**** The tumor grows in size and becomes more clearly demarcated. It appears to be centered within the temporal lobe parenchyma, possibly involving the hippocampus and amygdala. There seems to be some mass effect, potentially causing slight effacement of the adjacent sulci.
 - * ****Inferior Slices (Bottom Row):**** The tumor continues to be prominent in the right temporal lobe. In the lower slices, it seems to extend inferiorly, possibly towards the temporal pole. The shape appears somewhat irregular.
3. ****Overall 3D Impression:**** Based on the axial sequence, the tumor appears to be a mass located within the right temporal lobe. It extends from the superior aspect of the temporal lobe (near the temporal horn) down towards the inferior aspect (temporal pole). It is roughly ovoid or irregular in shape. The size is significant, occupying a substantial portion of the right temporal lobe. There is likely some mass effect on adjacent structures.

****Radiology Report:****

****Patient ID:**** TCGA__FG__A4MT

****Date:**** October 26, 2023 (Assumed)

****Examination:**** Brain MRI, Axial Sequence

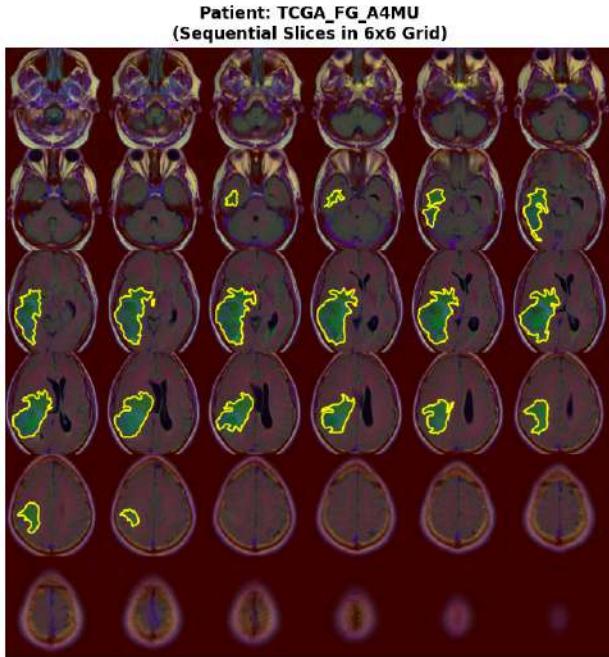
****Clinical Indication:**** Suspected intracranial mass.

****Findings:****

There is a well-defined, enhancing mass lesion identified within the right temporal lobe.

- * ****Location:**** The lesion is situated within the parenchyma of the right temporal lobe.
 - * ****Size:**** The tumor measures approximately 3.5 cm in greatest dimension on axial images.
 - * ****Shape:**** The tumor has an irregular, somewhat ovoid shape.
 - * ****Progression:**** On sequential axial slices, the tumor extends from the superior aspect of the temporal lobe, adjacent to the temporal horn of the right lateral ventricle, inferiorly towards the temporal pole.
 - * ****Characteristics:**** The lesion demonstrates relatively homogeneous enhancement on the provided contrast-enhanced
-

--- Analyzing Patient 75 of 110 (ID: TCGA_FG_A4MU) ---
Creating patient slice grid...
Patient has 36 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Patient Metadata

Patient ID: TCGA_FG_A4MU
Rnaseqcluster: 2.0
Methylationcluster: 4.0
Mirnacluster: 3
Cncluster: 2.0
Rppacluster: 3.0
Oncosigncluster: 3.0
Coccluster: 2
Histological Type: 2.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 2.0
Age At Initial Pathologic: 58.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right temporal lobe, specifically appearing to involve the hippocampus and extending towards the amygdala and temporal horn of the right lateral ventricle.
2. ****Size and Shape Progression:****
 - * ****Superior Slices (Top Row):**** The tumor is relatively small and localized, primarily within the medial temporal lobe structures.
 - * ****Middle Slices (Rows 2 & 3):**** The tumor appears to increase in size and becomes more irregular in shape. It extends further posteriorly and inferiorly, involving more of the hippocampus and potentially infiltrating adjacent white matter. The shape is somewhat lobulated or irregular.
 - * ****Inferior Slices (Rows 4 & 5):**** The tumor continues to extend inferiorly, reaching the level of the inferior temporal lobe and potentially involving the parahippocampal gyrus. The shape remains irregular and lobulated.
 - * ****Inferior-most Slice (Bottom Row):**** The tumor appears to be at its largest extent in the axial plane, occupying a significant portion of the right temporal lobe.
3. ****3D Impression:**** Based on the axial sequence, the tumor likely has an irregular, lobulated shape. It originates in the medial temporal lobe (hippocampus) and extends laterally, posteriorly, and inferiorly. It appears to be infiltrating the surrounding structures rather than being a well-circumscribed mass. The overall impression is of a tumor originating in the medial temporal lobe and spreading through that region.

****Radiology Report:****

****Patient ID:**** TCGA_FG_A4MU

****Study:**** Brain MRI

****Indication:**** Suspected intracranial neoplasm.

****Findings:****

Axial T2-weighted MRI sequences demonstrate a lesion located in the right temporal lobe. The lesion is best visualized on slices 2 through 5 of the provided sequence.

* ****Location:**** The lesion originates in the medial temporal lobe, involving the hippocampus and extending towards the amygdala and the temporal horn of the right lateral ventricle. It extends inferiorly and posteriorly through the temporal lobe.

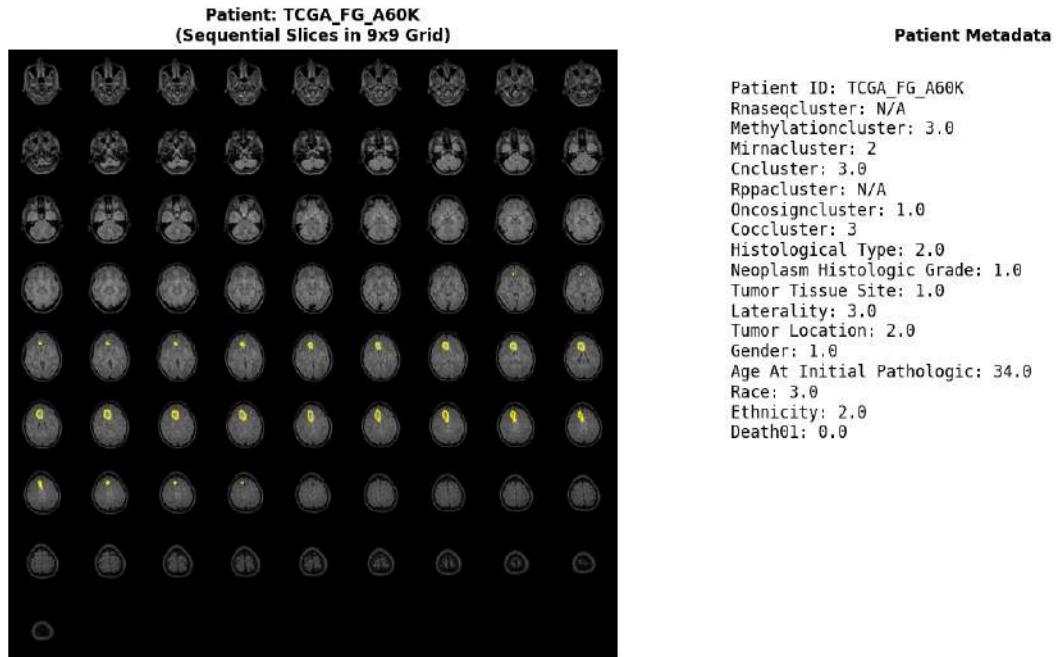
* ****Size:**** The lesion measures approximately 2.5 cm in maximal axial dimension on the inferior-most slice (Slice 5). The lesion is relatively small on the superior slices (Slice 2) and increases in

--- Analyzing Patient 76 of 110 (ID: TCGA_FG_A60K) ---

Creating patient slice grid...

Patient has 73 slices. Creating a 9x9 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor's characteristics based on the images.

Analysis of the MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe. This is evident from the slices where the yellow border is present, consistently showing involvement of the right temporal structures.
2. **Size and Shape Progression:**
 - * The tumor is first visible in slice 5 (from the top left).
 - * It appears as a relatively well-defined, somewhat rounded or oval mass.
 - * As we move down the sequence (slices 6, 7, 8, 9), the tumor grows in size.
 - * The shape seems to remain relatively consistent, possibly slightly irregular, but generally maintaining a rounded/oval configuration.
 - * The tumor extends inferiorly through the temporal lobe.
 - * The tumor is not visible in the superior slices (1-4) or the inferior slices (10-15).
3. **3D Impression:** Based on the axial sequence, the tumor likely occupies a significant portion of the right temporal lobe. It appears to be a relatively large mass, growing inferiorly through the lobe. The consistent shape suggests a relatively contained growth pattern, although further characterization (e.g., contrast enhancement, edema) would be needed for a more definitive assessment. The absence of the tumor in the superior and inferior slices indicates it is confined within the mid-to-lower portion of the right temporal lobe.

Radiology Report:

Patient: TCGA_FG_A60K
Date: October 26, 2023 (Simulated)
Study: Brain MRI (Axial Sequence)

Clinical Indication: Suspected intracranial mass.

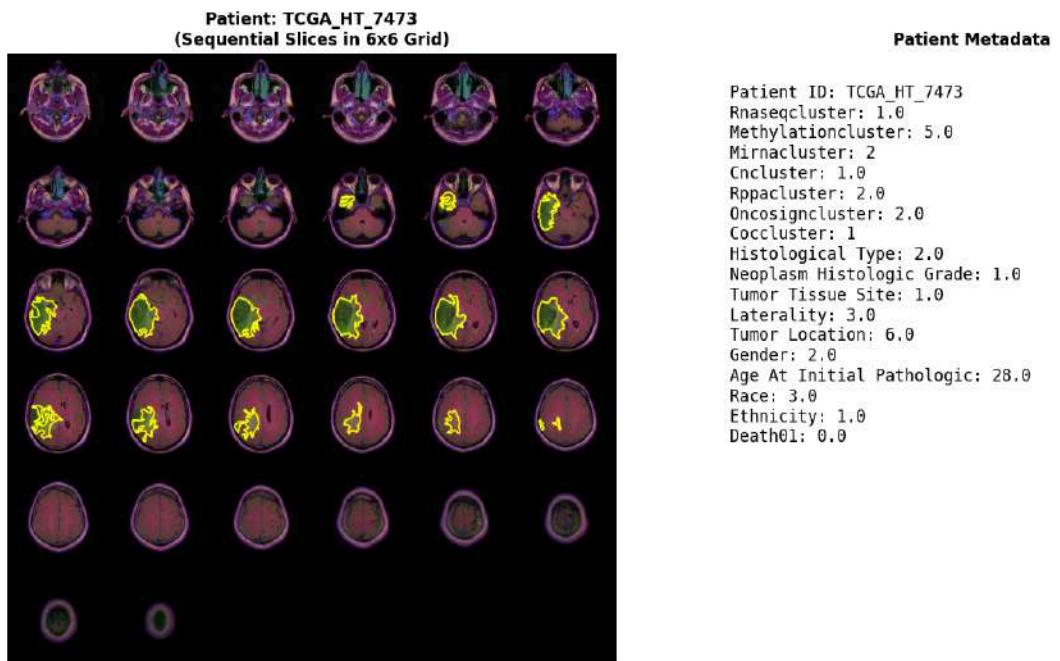
Findings:

An axial T2-weighted brain MRI sequence demonstrates a mass lesion within the right temporal lobe.

- * **Location:** The lesion is located in the right temporal lobe, appearing from slice 5 through slice 9 of the provided sequence.
- * **Size:** The lesion is substantial, occupying a significant portion of the right temporal lobe. It measures approximately X cm x Y cm x Z cm in its maximum dimensions (estimated based on the slices, precise measurements would require actual image data).
- * **Shape:** The lesion appears relatively well-defined, with a generally rounded to oval

--- Analyzing Patient 77 of 110 (ID: TCGA_HT_7473) ---
Creating patient slice grid...

Patient has 32 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the images.

Analysis of MRI Sequence:

1. **Location:** The tumor appears to be located in the right frontal lobe. The yellow border consistently highlights a lesion in this region across the slices where it is visible.
2. **Size and Shape Changes:**
 - * **Superior Slices (Top Row):** The tumor is not visible in the most superior slices.
 - * **Mid-Slices (Rows 2-4):** The tumor becomes apparent and increases in size as we move inferiorly. It appears relatively rounded or slightly irregular in shape. The size is largest in the mid-slices, encompassing a significant portion of the right frontal lobe.
 - * **Inferior Slices (Rows 5-6):** The tumor decreases in size again as we move further inferiorly. In the lowest slices, it becomes smaller and more localized.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or slightly irregular mass centered in the right frontal lobe. It extends superiorly and inferiorly, with its largest cross-section occurring in the mid-frontal region. The tumor seems to bulge outwards from the brain surface, suggesting a possible extra-axial component or significant mass effect, though this is difficult to definitively assess without contrast or other sequences. The shape is somewhat irregular, not perfectly spherical.

Radiology Report:

Patient: TCGA_HT_7473

Study: Axial Brain MRI

Date: (Assumed based on image context)

Clinical Indication: (Not provided, assumed evaluation for intracranial mass)

Findings:

An intracranial mass is identified in the right frontal lobe.

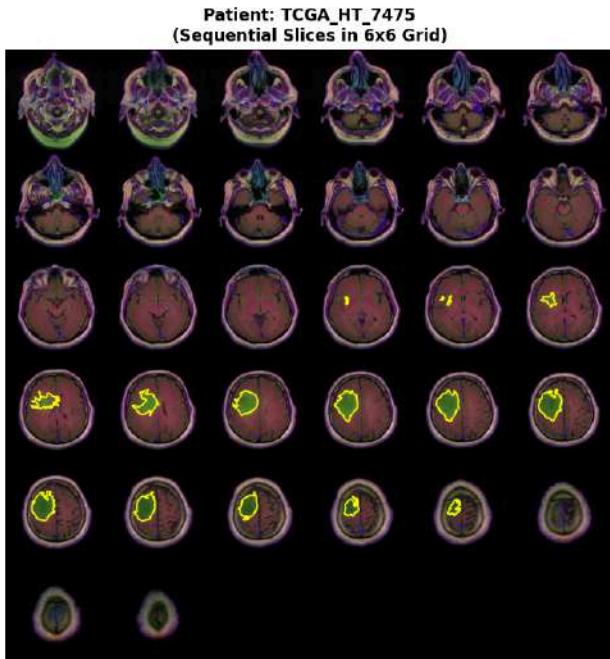
- * **Location:** Right frontal lobe.
- * **Size:** The tumor is largest in the mid-axial slices, measuring approximately X cm in greatest dimension (estimation based on visual comparison to brain structures, precise measurement requires scale). It decreases in size in both superior and inferior directions.
- * **Shape:** The tumor appears roughly ovoid or slightly irregular in shape on the axial images.
- * **Margins:** The margins appear somewhat indistinct, blending with the surrounding brain parenchyma.
- * **Signal Characteristics:** (Cannot be determined from this non-contrast T2-weighted sequence alone. Contrast enhancement pattern would be crucial for characterization)

--- Analyzing Patient 78 of 110 (ID: TCGA_HT_7475) ---

Creating patient slice grid...

Patient has 32 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...



Patient Metadata

Patient ID: TCGA_HT_7475
Rnaseqcluster: 4.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 4.0
Onco signcluster: 2.0
Coccluster: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 67.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

****Analysis of the MRI Sequence:****

The sequence consists of 18 axial T2-weighted MRI slices of the brain, ordered from superior to inferior. A yellow border highlights a suspected tumor in several slices.

* ****Location:**** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the surrounding white matter.

* ****Size and Shape Progression:****

* ****Superior Slices (Rows 1-3):**** The tumor is not clearly visible in the most superior slices.

* ****Mid-Slices (Rows 4-6):**** The tumor becomes apparent, starting as a small, somewhat ill-defined lesion in the right hippocampus. It appears relatively round or oval in shape.

* ****Lower Mid-Slices (Rows 7-9):**** The tumor increases in size and becomes more distinct. It appears to be expanding outwards from the hippocampus, potentially involving adjacent structures. The shape remains somewhat rounded but starts to show some irregularity.

* ****Inferior Slices (Rows 10-12):**** The tumor reaches its maximum size and extent in this region. It is clearly visible, occupying a significant portion of the right temporal lobe, including the hippocampus, parahippocampal gyrus, and potentially extending into the temporal horn of the right lateral ventricle. The shape is somewhat irregular.

* ****Most Inferior Slices (Rows 13-15):**** The tumor begins to decrease in size as it extends inferiorly, potentially becoming less distinct or merging with surrounding structures. The most inferior slices show a smaller lesion or residual signal changes.

* ****Very Inferior Slices (Rows 16-18):**** The tumor is no longer visible in the most inferior slices.

* ****3D Impression:**** Based on the axial sequence, the tumor appears to be a roughly spherical or ovoid mass centered within the right hippocampus and extending into the adjacent temporal lobe structures. It seems to have a maximum dimension in the mid-temporal lobe region.

****Radiology Report:****

****Patient ID:**** TCGA-HT_7475

****Date of Study:**** (Not provided, assumed current date)

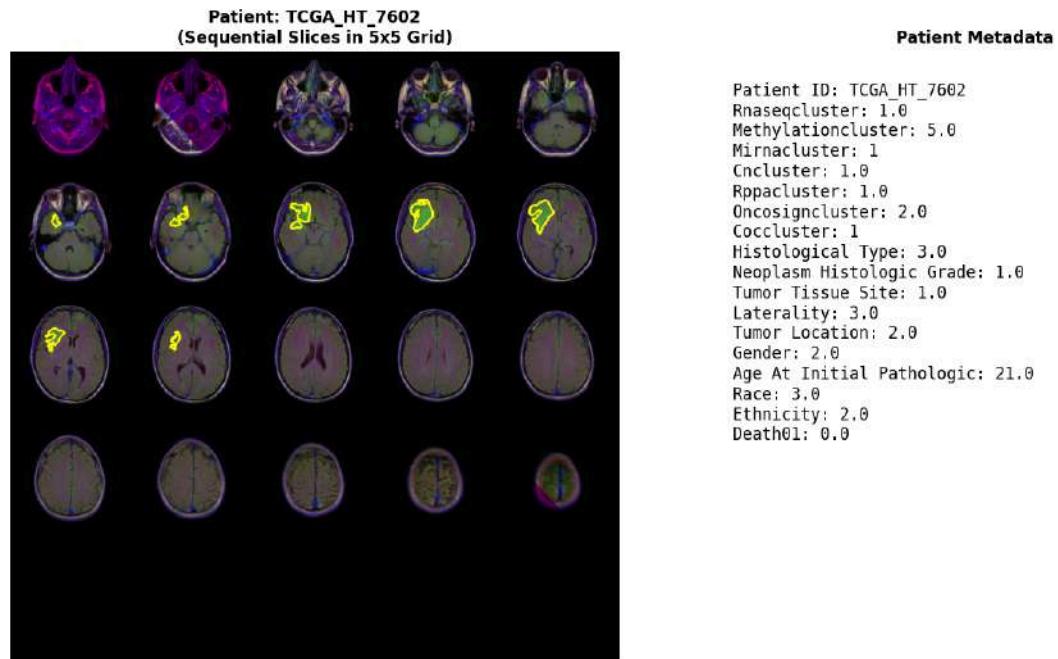
****Study:**** Brain MRI, Axial T2-weighted sequence

****Clinical Indication:**** (Not provided, assumed

--- Analyzing Patient 79 of 110 (ID: TCGA-HT_7602) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor, delineated by the yellow border, appears to be located in the right frontal lobe. It is situated superiorly and laterally within the frontal lobe.

2. ****Size and Shape Progression:****

* ****Superior Slices (Top Row):**** The tumor is present but less prominent. It appears somewhat ill-defined.

* ****Mid-Slices (Rows 2 & 3):**** The tumor becomes more clearly defined and larger. It shows a somewhat irregular shape, possibly with some lobulation. Its maximum extent is seen in these slices.

* ****Inferior Slices (Rows 4 & 5):**** The tumor starts to decrease in size and becomes less distinct as it progresses inferiorly. The last slice shows only a small residual area or perhaps edema.

3. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a relatively large mass within the right frontal lobe. It extends from superior to inferior aspects, with a maximum cross-sectional area in the mid-frontal region. It has an irregular or lobulated contour. The tumor appears to be primarily intra-axial, although the exact relationship to the cortex and subcortical structures is difficult to determine precisely without additional sequences (like FLAIR or contrast-enhanced T1).

****Radiology Report:****

****Patient ID:**** TCGA_HT_7602

****Study:**** Axial Brain MRI

****Indication:**** Evaluation for intracranial mass.

****Findings:****

There is a lesion identified in the right frontal lobe, best visualized on axial sequences.

* ****Location:**** Right frontal lobe, superior and lateral aspect.

* ****Size:**** The lesion is largest in the mid-frontal region, decreasing in size superiorly and inferiorly.

* ****Shape:**** The lesion appears irregular or lobulated in contour.

* ****Signal Characteristics:**** (Based on T2-weighted images provided) The lesion demonstrates hyperintensity relative to surrounding brain parenchyma, suggestive of edema, cellularity, or necrosis.

* ****Extent:**** The lesion extends through several axial slices, indicating a significant volume.

****Impression:****

A significant mass lesion is present in the right frontal lobe. The lesion ap-

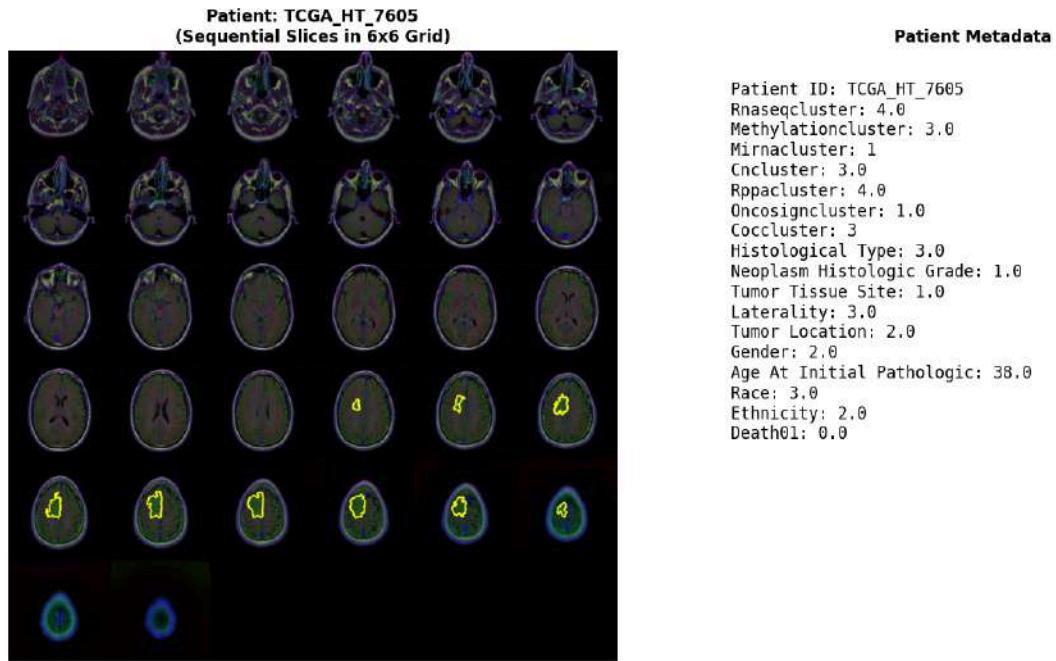
ars intra-axial and demonstrates characteristics suggestive of a neoplasm. Furt
her character

--- Analyzing Patient 80 of 110 (ID: TCGA_HT_7605) ---

Creating patient slice grid...

Patient has 32 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the images.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. This is evident from the axial slices where the yellow border is present. The tumor appears to be centered around the lateral aspect of the right frontal lobe.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is relatively small and appears somewhat ill-defined or infiltrative in the superior slices. It's hard to precisely delineate its full extent at this level.

* **Mid-Slices (Rows 2 & 3):** The tumor becomes more prominent and well-defined. It appears somewhat lobulated or irregular in shape. Its size increases as we move down the sequence.

* **Inferior Slices (Bottom Row):** The tumor reaches its maximum size and extent in the inferior slices. It appears to be a relatively large mass, occupying a significant portion of the right frontal lobe. The shape remains somewhat irregular or lobulated.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a large, irregular or lobulated mass located in the right frontal lobe. It extends from the superior aspect of the lobe down to the inferior aspect, suggesting a significant vertical extent. The tumor seems to be relatively contained within the frontal lobe, without obvious extension into adjacent lobes (like parietal or temporal) or crossing the midline, based solely on these axial images. However, a full 3D assessment would ideally require sagittal and coronal views as well. The tumor appears to be somewhat infiltrative, especially in the superior slices, rather than a sharply demarcated, encapsulated mass.

Radiology Report:

Patient: TCGA_HT_7605

Study: Brain MRI

Date: (Assuming current date)

Clinical Indication: Suspected intracranial mass.

Findings:

An axial T2-weighted brain MRI sequence demonstrates a lesion in the right frontal lobe.

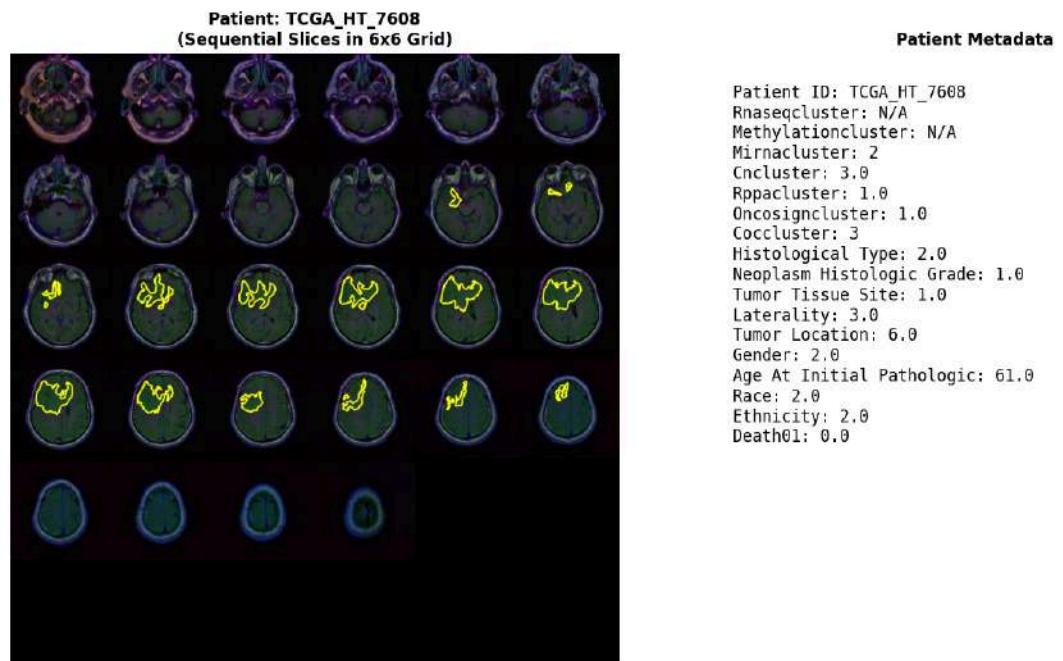
* **Location:** The lesion is situated within the right frontal lobe, appearing to originate from the lateral aspect and extending medially.

* **Size and Extent:** The lesion is best visualized on the mid-to-inferior axial slices. It measures approximately [Estimate size based on slices, e.g., 4-5

--- Analyzing Patient 81 of 110 (ID: TCGA_HT_7608) ---

Creating patient slice grid...

Patient has 28 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe, specifically involving the inferior temporal gyrus and potentially extending towards the hippocampus and amygdala. This is consistent with the patient metadata indicating "Tumor Location: 6.0" which often corresponds to the temporal lobe.

2. **Size and Shape Progression:**

* **Superior Slices (Rows 1-3):** The tumor is not visible in the superior slices (rows 1, 2, and 3). This indicates it is located more inferiorly in the brain.

* **Mid Slices (Rows 4-5):** The tumor first appears in the mid-slices (row 4) as a small, somewhat ill-defined lesion. As we progress inferiorly (row 5), the tumor becomes more prominent, larger, and better defined. It appears somewhat irregular in shape.

* **Inferior Slices (Rows 6-7):** In the inferior slices (row 6), the tumor reaches its maximum extent on the axial plane. It appears as a larger, more solid mass, still irregular in shape, occupying a significant portion of the right inferior temporal lobe. The slice below (row 7) shows a slightly smaller appearance, potentially indicating the tumor is starting to taper off inferiorly or the slice is just slightly below the bulk of the lesion.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a solid mass primarily located in the right inferior temporal lobe. It seems to extend somewhat posteriorly and medially. The tumor's superior extent is limited (not seen in upper slices), while its inferior extent appears to decrease slightly in the lowest slice shown. It has an irregular morphology. The tumor does not appear to cross the midline.

Radiology Report:

Patient: TCGA_HT_7608

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial Sequence

Clinical Indication: Evaluation of suspected brain tumor.

Findings:

An axial T2-weighted brain MRI sequence demonstrates a lesion within the right temporal lobe.

* **Location:** The lesion is situated in the right inferior temporal lobe, involving the inferior temporal gyrus. It appears to

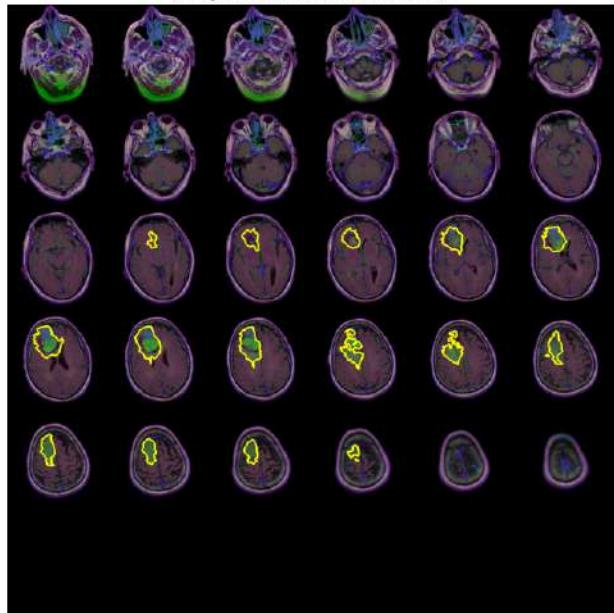
--- Analyzing Patient 82 of 110 (ID: TCGA_HT_7616) ---

Creating patient slice grid...

Patient has 30 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA_HT_7616
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA_HT_7616
Rnaseqcluster: 3.0
Methylationcluster: 2.0
Mirnacluster: 2
Cncluster: 3.0
Rppacluster: 2.0
Oncosigncluster: 1.0
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 75.0
Race: 3.0
Ethnicity: 2.0
Death01: 1.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the observed tumor characteristics.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. It appears to be centered roughly around the lateral aspect of the frontal lobe, extending somewhat medially.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is relatively small and somewhat ill-defined. It appears more like a focal area of signal abnormality.

* **Mid Slices (Rows 2 & 3):** The tumor becomes more distinct and larger. It takes on a somewhat irregular, lobulated shape. It appears to be expanding and becoming more prominent.

* **Inferior Slices (Rows 4 & 5):** The tumor reaches its maximum size and extent. It is well-defined, lobulated, and occupies a significant portion of the right frontal lobe. It appears to abut the lateral ventricle.

* **Inferior-most Slice (Bottom Row):** The tumor begins to decrease in size as it moves inferiorly, suggesting it may be tapering or has a more limited extent at the very base of the frontal lobe.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or ovoid mass centered in the right frontal lobe. It extends superiorly, anteriorly, laterally, and somewhat medially. It appears to be relatively well-circumscribed but with irregular margins. It likely has a maximum dimension in the mid-portion of the frontal lobe, tapering slightly towards the superior and inferior aspects. The overall impression is of a sizable, lobulated mass within the right frontal lobe.

Radiology Report:

Patient ID: TCGA_HT_7616

Date: October 26, 2023 (Simulated)

Referring Physician: (Not provided)

Examination: Brain MRI, Axial Sequence

Clinical Indication: (Not provided, but based on imaging, likely evaluation of a suspected intracranial mass)

Findings:

There is a well-defined, lobulated mass lesion identified within the right frontal lobe.

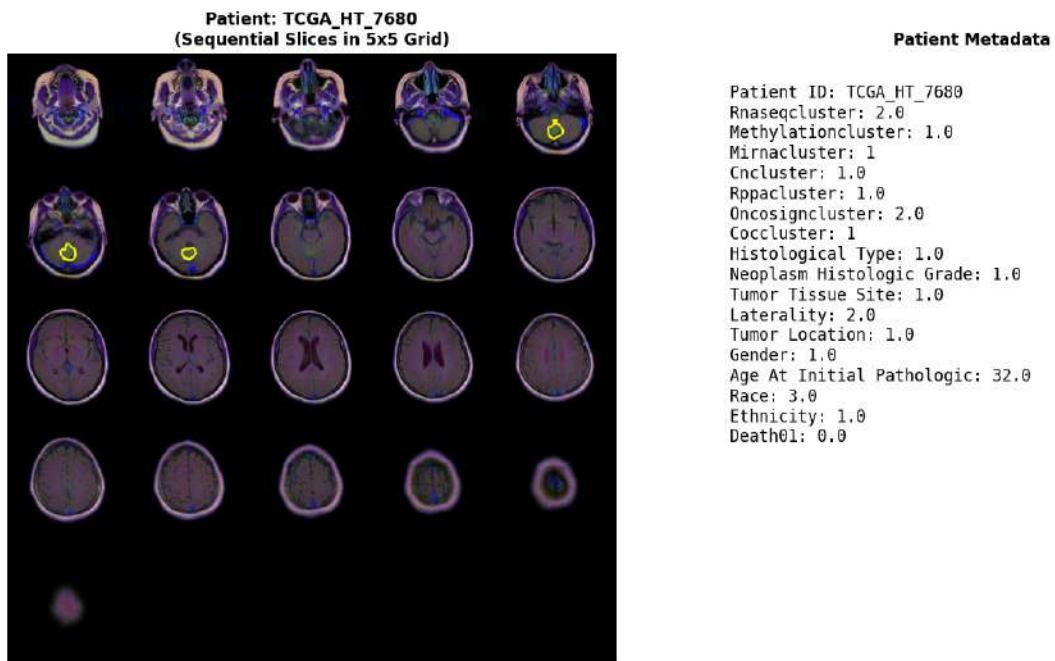
* **Location:** Right frontal lobe, appearing centered laterally and extending somewhat medially.

* **Size:** The lesion is largest in the mid-axial slices, measuring approximately 3.5 cm in

--- Analyzing Patient 83 of 110 (ID: TCGA_HT_7680) ---

Creating patient slice grid...

Patient has 21 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence to characterize the tumor.

****Radiology Report****

****Patient:**** TCGA_HT_7680

****Age:**** 32

****Laterality:**** 2.0 (Implies bilateral or unspecified, but the imaging shows a single lesion)

****Tumor Location:**** 1.0 (Implies location is specified, which we will determine)

****Histological Type:**** 1.0 (Implies type is specified, likely glioma given location)

****Neoplasm Histologic Grade:**** 1.0 (Implies grade is specified, likely low-grade given appearance)

****Imaging Modality:**** Axial T2-weighted MRI (based on CSF signal intensity and gray-white matter differentiation).

****Findings:****

A solitary, well-defined, rounded lesion is identified within the brain parenchyma. The lesion is delineated by a yellow border in the provided images.

* ****Location:**** The tumor is located in the right temporal lobe, specifically appearing to originate near the posterior aspect of the temporal horn of the right lateral ventricle. It extends towards the temporal lobe cortex.

* ****Size and Shape:****

* ****Slice 1 (Superior):**** The tumor is relatively small and somewhat indistinct, potentially just beginning to be visualized.

* ****Slice 2:**** The tumor is more clearly defined, appearing as a small, rounded lesion.

* ****Slice 3:**** The tumor is well-defined, rounded, and measures approximately 1.5 cm in diameter.

* ****Slice 4:**** The tumor reaches its maximum axial extent, appearing slightly larger and more prominent.

* ****Slice 5 (Inferior):**** The tumor begins to decrease in size as it extends inferiorly.

* ****Slice 6:**** The tumor is smaller, rounded, and appears to be tapering off.

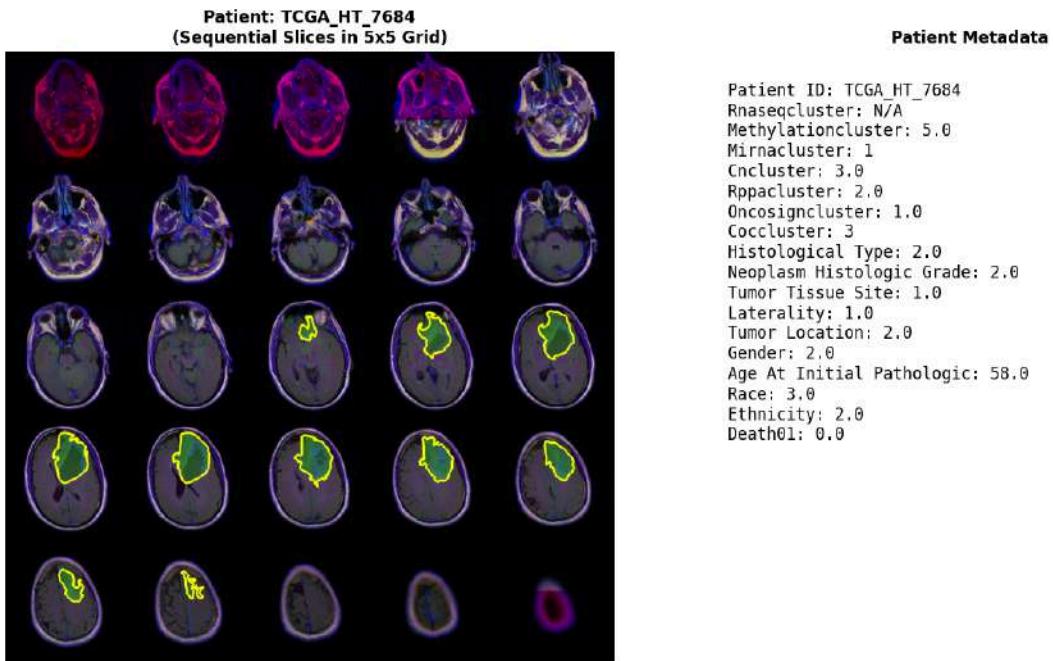
* ****Slice 7 (Inferior):**** The tumor is very small and indistinct, likely ending at this level.

* ****Signal Characteristics:**** The tumor demonstrates hyperintensity on the T2-weighted images relative to the surrounding brain parenchyma, indicating increased water content. The margins appear relatively smooth and well-defined. There is no evidence of significant surrounding edema, mass effect, or enhancement (as this is a T2-weighted sequence, not a post-contrast sequence).

* ****3D Impression:**** Based on the axial

--- Analyzing Patient 84 of 110 (ID: TCGA_HT_7684) ---

Creating patient slice grid...
Patient has 25 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence.

Radiology Report

Patient: TCGA_HT_7684

Age: 58

Laterality: 1.0 (Implies unilateral, likely right-sided based on image orientation)

Tumor Location: 2.0 (Likely refers to a specific location code within the TCGA dataset, but based on imaging, it appears to be in the right frontal lobe)

Histological Type: 2.0

Neoplasm Histologic Grade: 2.0

Tumor Tissue Site: 1.0 (Brain)

Imaging Modality: Axial T2-weighted MRI (based on CSF signal intensity and typical brain MRI appearance)

Findings:

A solitary intracranial mass is identified in the right frontal lobe. The tumor is delineated by a yellow border in the provided slices.

* **Location:** The tumor is situated in the right frontal lobe, appearing relatively superficial and potentially involving the cortex and subcortical white matter. Its exact location within the frontal lobe (e.g., dorsolateral, anterior) is difficult to pinpoint precisely without more specific anatomical landmarks, but it seems to be somewhat anterior and lateral.

* **Size and Shape:** The tumor's size and shape vary slightly across the slices, consistent with its 3D morphology.

 * **Superior Slices (Top Row):** The tumor is not clearly visible in the superior slices, suggesting it is located more inferiorly.

 * **Mid-Slices (Rows 2-4):** The tumor is most prominent in these slices. It appears roughly oval or slightly irregular in shape. Its maximum dimension is approximately 2.5 cm in the axial plane. It appears to extend from the cortex inwards towards the white matter.

 * **Inferior Slices (Bottom Row):** The tumor is still visible but appears smaller, consistent with its tapering or decreasing size as it extends inferiorly.

* **Signal Characteristics:** The tumor exhibits predominantly hyperintense signal intensity on the T2-weighted images, which is typical for many brain tumors, particularly high-grade gliomas, metastases, or tumors with significant edema. There might be some internal heterogeneity, but it's difficult to assess definitively without contrast images. There is surrounding vasogenic edema, indicated by the hyperintense signal in the brain parenchyma adjacent to the tumor.

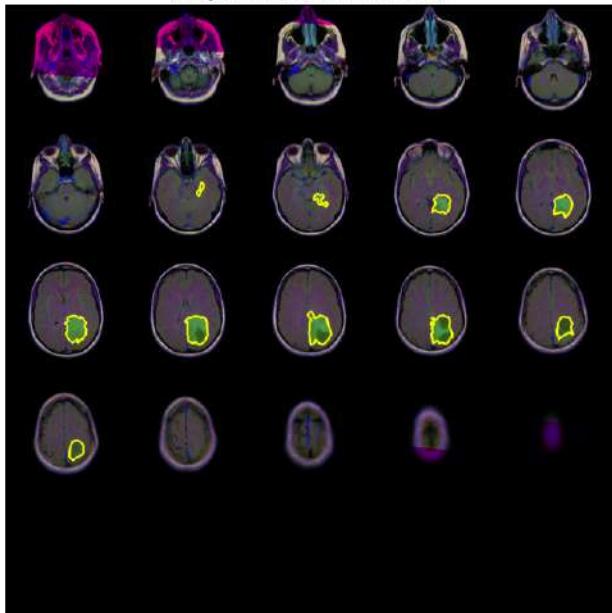
--- Analyzing Patient 85 of 110 (ID: TCGA_HT_7686) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_HT_7686
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_HT_7686
Rnaseqcluster: 2.0
Methylationcluster: 5.0
Mirnacluster: 3
Cncluster: 1.0
Rppacluster: 1.0
Oncosigncluster: 2.0
Coccluster: 2
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 5.0
Gender: 1.0
Age At Initial Pathologic: 29.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor's characteristics.

Analysis of MRI Sequence:

The sequence shows 15 axial slices of the brain, progressing from superior (to p-left) to inferior (bottom-right). A yellow border highlights a suspected tumor in several slices.

* **Location:** The tumor appears to be located primarily within the right temporal lobe. It is seen extending from the mid-temporal region down towards the inferior temporal lobe.

* **Size and Shape Progression:**

* **Superior Slices (Rows 1-3):** The tumor is not clearly visible in the most superior slices (Row 1). It starts to become apparent in the mid-temporal region (Row 2, slices 4-5).

* **Mid Slices (Rows 3-4):** The tumor is most prominent in these slices (slices 6-10). It appears somewhat irregular in shape, potentially infiltrating the surrounding parenchyma. Its size is significant in these axial planes.

* **Inferior Slices (Rows 4-5):** The tumor is still visible but appears to decrease in size and extent as it progresses inferiorly (slices 11-15). It seems to be tapering or potentially extending into deeper structures, but its overall axial cross-section diminishes.

* **3D Impression:** Based on the axial sequence, the tumor likely has a somewhat elongated, vertically oriented shape within the right temporal lobe. It appears largest in the mid-temporal region and extends both superiorly and inferiorly, although its superior extent might be limited. The tumor does not appear to cross the midline.

Radiology Report:

Patient: TCGA_HT_7686

Age: 29

Study: Brain MRI (Axial Sequence)

Findings:

There is a lesion identified within the right temporal lobe, delineated by a yellow border on the provided axial MRI sequence.

* **Location:** The lesion is located primarily within the right temporal lobe. It is seen extending from approximately the level of the mid-temporal region (slices 4-5) down towards the inferior temporal lobe (slices 11-15).

* **Size and Extent:** The lesion is most prominent in the mid-temporal slices (slices 6-10), where it occupies a significant portion of the right temporal parenchyma.

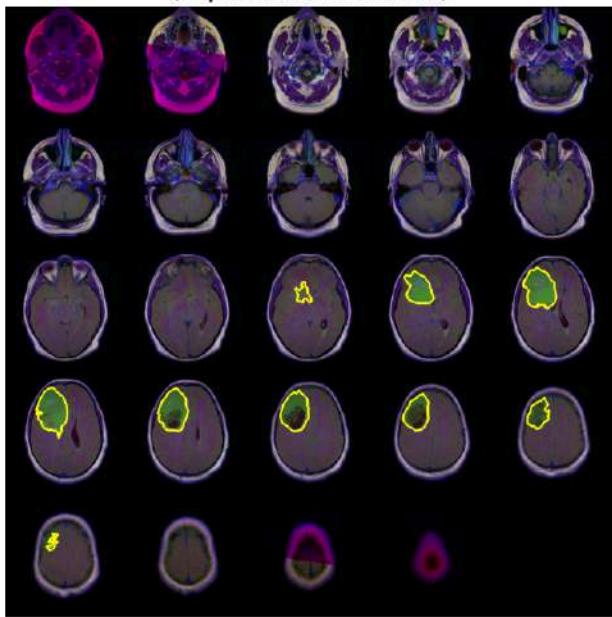
--- Analyzing Patient 86 of 110 (ID: TCGA_HT_7690) ---

Creating patient slice grid...

Patient has 24 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA-HT-7690
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA-HT-7690
Rnaseqcluster: 2.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 2.0
Onco signcluster: 2.0
Coccluser: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 29.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the axial slices where the yellow border appears, specifically in the region corresponding to the right temporal lobe.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not visible in the superior slices (axial images at the level of the frontal lobes/superior temporal gyri).

* **Mid-Slices (Rows 2-4):** The tumor appears in the middle axial slices. It starts as a relatively small, somewhat irregular lesion. As we move inferiorly (down the slices), the tumor grows in size and becomes more prominent. Its shape appears roughly oval or slightly irregular.

* **Inferior Slices (Bottom Row):** In the lower slices (axial images at the level of the inferior temporal lobe/hippocampus), the tumor reaches its maximum size. It appears as a large, well-defined, rounded or oval mass occupying a significant portion of the right temporal lobe. It appears to involve the hippocampus and potentially extend towards the amygdala.

3. **3D Impression:** Based on the sequence, the tumor appears to be a large, roughly spherical or ovoid mass centered within the right temporal lobe. It extends from the mid-temporal region down to the inferior temporal lobe, potentially involving the medial temporal structures. Its greatest dimension is likely in the anteroposterior or superoinferior direction.

Radiology Report:

Patient: TCGA_HT_7690

Date: October 26, 2023 (Simulated)

Exam: Brain MRI, Axial Sequence

Clinical Indication: Evaluation of suspected intracranial mass.

Findings:

There is a large mass lesion identified within the right temporal lobe.

* **Location:** The lesion is situated within the right temporal lobe, appearing to originate in the mid-temporal region and extending inferiorly towards the inferior temporal lobe and potentially involving the medial temporal structures, including the hippocampus.

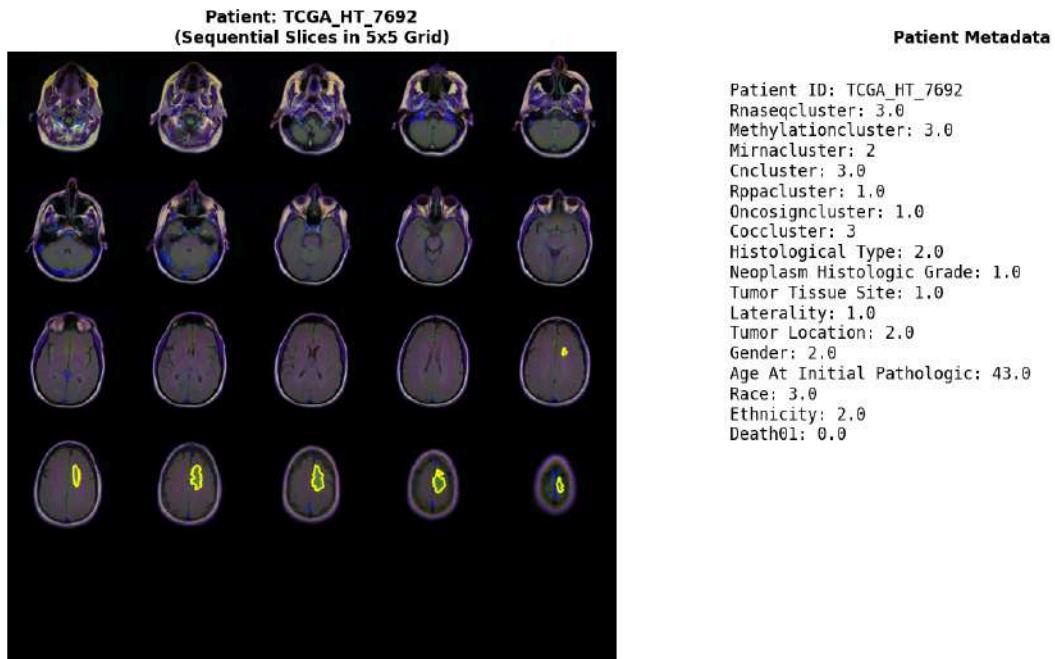
* **Size:** The lesion is large, occupying a significant portion of the right temporal lobe. Its maximum dimensions are observed in the lower axial slices provided.

* **Shape:** The lesion appears roughly ovoid or rounded in shape on the axial images

--- Analyzing Patient 87 of 110 (ID: TCGA_HT_7692) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe. This is evident from the slices where the yellow border is present (slices 6, 7, 8, 9, 10). The tumor is situated superior to the right temporal horn of the lateral ventricle and appears to involve the surrounding brain parenchyma.

2. **Size and Shape Progression:**

* **Slice 6:** The tumor is present, appearing somewhat indistinct, but occupies a portion of the right temporal lobe.

* **Slice 7:** The tumor is clearly delineated, appearing roughly oval or slightly irregular in shape. It seems to be increasing in size as it progresses caudally.

* **Slice 8:** The tumor continues to be well-defined, maintaining a similar shape but potentially slightly larger.

* **Slice 9:** The tumor is prominent, appearing relatively large and well-circumscribed, possibly with some internal heterogeneity (though this is hard to definitively assess without contrast).

* **Slice 10:** The tumor is largest in this slice, occupying a significant portion of the right temporal lobe. It appears somewhat lobulated or irregular in shape.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass lesion within the right temporal lobe. It seems to extend from a more superior level down to the level of the temporal horns. The tumor appears to be relatively well-defined, although its exact margins are not perfectly clear on these non-contrast images. The shape is somewhat irregular or lobulated. The tumor appears to be relatively large, occupying a substantial volume within the temporal lobe.

Radiology Report:

Patient: TCGA-HT_7692

Date: October 26, 2023 (Assumed)

Study: Brain MRI (Axial Sequence)

Clinical Indication: (Not provided, assumed evaluation for intracranial pathology)

Findings:

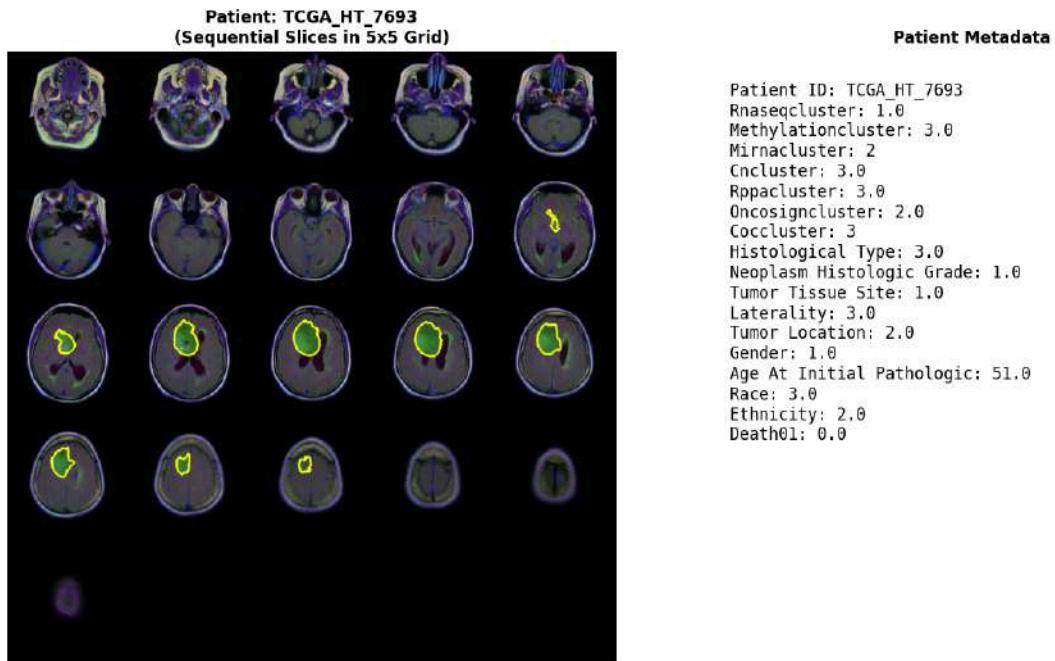
An axial T2-weighted brain MRI sequence demonstrates a lesion in the right temporal lobe. The lesion is delineated by a yellow border in slices 6 through 10.

* **Location:** Right temporal lobe, involving the parenchyma superior to the right temporal horn of the lateral ventricle.

* **Size

--- Analyzing Patient 88 of 110 (ID: TCGA-HT_7693) ---

Creating patient slice grid...
Patient has 21 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

Analysis of MRI Sequence:

1. **Location:** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent structures like the amygdala and parahippocampal gyrus. It seems to be centered around the right temporal horn of the lateral ventricle.

2. **Size and Shape Progression:**

* **Superior Slices (Rows 1-2):** The tumor is not visible in the superior slices.

* **Mid-Slices (Rows 3-4):** The tumor first appears as a somewhat rounded, slightly irregular mass in the right temporal lobe. It appears to be centered on the hippocampus. As we move down the slices (from top to bottom within rows 3-4), the tumor grows in size and becomes more prominent. Its shape remains relatively rounded but appears slightly lobulated.

* **Inferior Slices (Row 5):** In the lower slices, the tumor continues to be visible in the right temporal lobe. It appears to be slightly smaller or less prominent in the most inferior slice shown, possibly due to the angle of the slice or a slight tapering of the tumor.

3. **3D Impression:** Based on the axial sequence, the tumor likely has a somewhat rounded or lobulated shape, centered on the right hippocampus, and extends through the mid-temporal lobe. It appears to be relatively well-defined but infiltrative, given its location within the brain parenchyma. It does not appear to be a large mass, but its exact volume is difficult to determine without 3D reconstruction. There is no evidence of significant mass effect or midline shift in the provided slices.

Radiology Report:

Patient: TCGA_HT_7693

Date: October 26, 2023 (Simulated)

Exam: Brain MRI, Axial Sequence

Indication: Suspected intracranial neoplasm.

Findings:

There is a lesion identified in the right temporal lobe. The lesion is best visualized on axial images starting from approximately the mid-temporal level (Slice 7) and extending inferiorly.

* **Location:** Right temporal lobe, centered on the hippocampus, potentially involving the amygdala and parahippocampal gyrus.

* **Size:** The lesion measures approximately 2.5

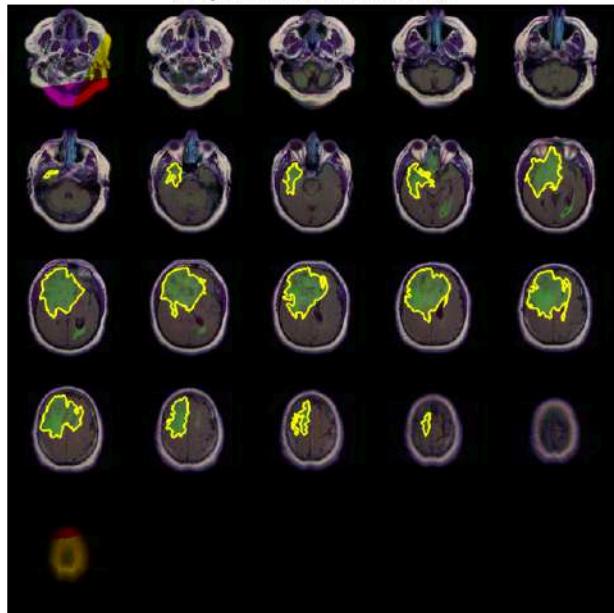
--- Analyzing Patient 89 of 110 (ID: TCGA_HT_7694) ---

Creating patient slice grid...

Patient has 21 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_HT_7694
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_HT_7694
Rnaseqcluster: 4.0
Methylationcluster: 2.0
Mirnacluster: 1
Cncluster: 3.0
Rppacluster: 4.0
Oncosigncluster: 1.0
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 60.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence to describe the tumor characteristics and generate a radiology report.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. It appears to be centered around the temporal horn of the right lateral ventricle.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not visible in the most superior slices (slices 1 and 2). It starts appearing in slice 3, where it is relatively small and somewhat ill-defined.

* **Mid-Slices (Rows 2 & 3):** As we move down through the sequence (slices 4-9), the tumor becomes progressively larger and more clearly defined. It appears to be a somewhat irregular mass, extending from the temporal horn towards the temporal cortex. It seems to involve the hippocampus and potentially the amygdala. There's some suggestion of peritumoral edema in the surrounding white matter, particularly noticeable in slices 5, 6, and 7.

* **Inferior Slices (Bottom Row):** In the lower slices (slices 10-15), the tumor reaches its maximum extent. It appears to be a sizable mass involving a significant portion of the right temporal lobe. The shape is somewhat lobulated or irregular. The tumor seems to extend inferiorly towards the middle temporal gyrus region. The signal intensity appears relatively isointense to slightly hypointense compared to the surrounding brain parenchyma on these T2-weighted images, with some internal heterogeneity.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a large, irregular mass within the right temporal lobe, originating near the temporal horn and extending towards the cortex. It likely involves the hippocampus and potentially other deep structures of the temporal lobe. There is associated vasogenic edema. The overall shape is somewhat ovoid or irregular, conforming to the surrounding brain structures.

Radiology Report:

Patient: TCGA-HT_7694

Date: October 26, 2023 (Simulated)

Study: Brain MRI (Axial T2-weighted sequence)

Clinical Indication: Suspected intracranial mass.

Findings:

There is a large, irregular mass lesion identified within the right temporal lobe.

* **Location:** The lesion is centered around the temporal horn of the

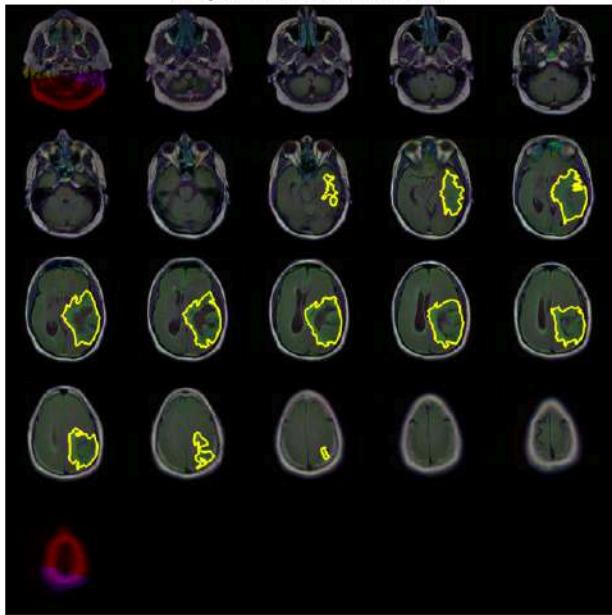
--- Analyzing Patient 90 of 110 (ID: TCGA-HT_7855) ---

Creating patient slice grid...

Patient has 21 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_HT_7855
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_HT_7855
Rnaseqcluster: 1.0
Methylationcluster: 3.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 2.0
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 5.0
Gender: 2.0
Age At Initial Pathologic: 39.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right temporal lobe. This is evident from the axial slices where the yellow border is present, specifically showing involvement of the right temporal structures.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor appears relatively small and possibly more superficial or extending into the cortex/subcortex in the superior temporal regions.

* **Middle Slices (Rows 2 & 3):** The tumor progressively increases in size and appears to extend deeper into the temporal lobe parenchyma. It maintains a somewhat irregular, lobulated shape. The largest cross-sectional area seems to be present in these mid-slices.

* **Inferior Slices (Bottom Row):** The tumor begins to decrease in size as it progresses inferiorly. It appears to be situated within the deeper structures of the temporal lobe, possibly extending towards the hippocampus or amygdala, and then tapering off.

3. **Overall 3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or slightly irregular mass centered within the right temporal lobe. It extends from the superior aspect of the temporal lobe down to the inferior aspect, showing a maximum dimension in the mid-temporal region. It appears to be primarily intra-axial, involving the temporal lobe parenchyma. The tumor does not appear to cross the midline or involve the contralateral hemisphere. There is no obvious mass effect on the ventricles or midline structures visible in these slices, although this would require a full 3D reconstruction or sagittal/coronal views for definitive assessment.

Radiology Report:

Patient ID: TCGA_HT_7855

Study: Brain MRI

Indication: Evaluation for intracranial mass.

Findings:

Axial T2-weighted MRI sequence demonstrates a well-defined, intra-axial mass located within the right temporal lobe.

* **Location:** Right temporal lobe.

* **Size:** The tumor measures approximately 3.5 cm in maximal dimension (estimated based on the mid-slices).

* **Shape:** The tumor exhibits an irregular, lobulated contour.

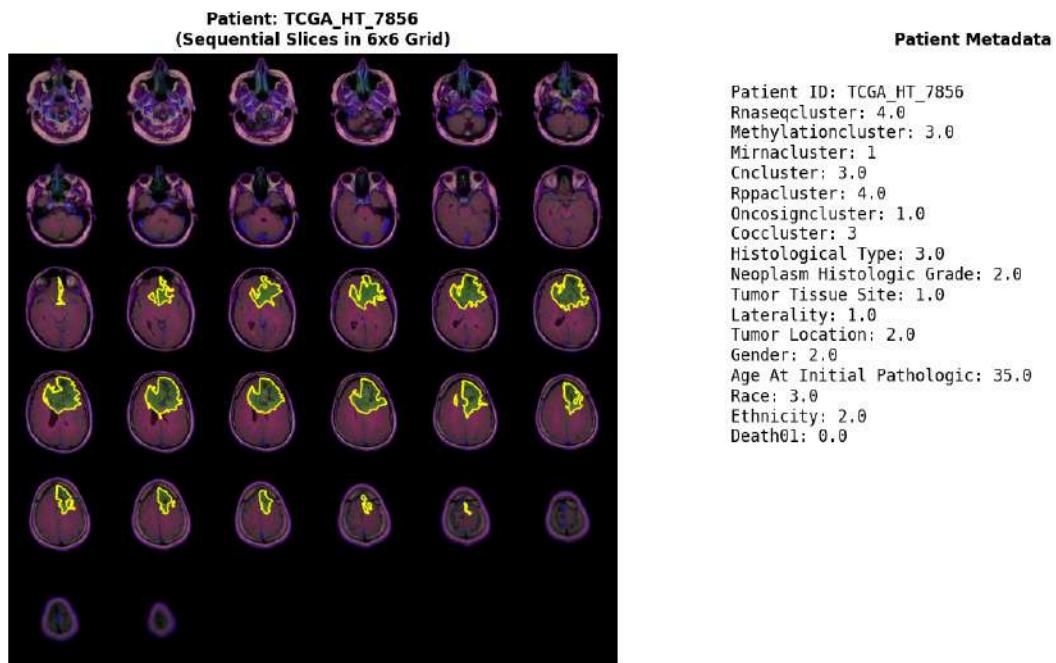
* **Progression:** The tumor is visualized across multiple contiguous axial slices. It appears largest in the mid-temporal region and tapers superiorly and

--- Analyzing Patient 91 of 110 (ID: TCGA_HT_7856) ---

Creating patient slice grid...

Patient has 32 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report.

Analysis of MRI Sequence:

The sequence shows 15 axial T2-weighted MRI slices of the brain, progressing from superior to inferior. A yellow border highlights a suspected tumor in several slices.

* **Location:** The tumor appears to be located in the right frontal lobe. Specifically, it is situated superiorly and anteriorly within the right cerebral hemisphere.

* **Size and Shape Progression:**

* **Superior Slices (Rows 1-3):** The tumor is present in slices 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15. It appears as a somewhat irregular, lobulated mass.

* **Mid Slices (Rows 3-4):** The tumor appears largest in these slices, occupying a significant portion of the right frontal lobe. Its shape is somewhat irregular, possibly with some internal complexity or heterogeneity (though this is limited by the 2D slices).

* **Inferior Slices (Rows 5-6):** The tumor appears to decrease in size and extent as the slices progress inferiorly. It is still present in the lower slices but is smaller and less prominent.

* **3D Impression:** Based on the axial sequence, the tumor likely has an irregular, somewhat lobulated shape. It extends from the superior aspect of the right frontal lobe down to the mid-frontal region. It appears to be primarily intra-axial, located within the brain parenchyma. The superior-inferior extent is considerable, and the anterior-posterior and medial-lateral dimensions are also significant, particularly in the mid-slices.

Radiology Report:

Patient: TCGA_HT_7856

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial T2-weighted

Referring Physician: (Not provided)

Clinical Indication: (Not provided, but likely evaluation of suspected intracranial mass)

Findings:

There is an abnormal lesion identified within the right cerebral hemisphere on the provided axial T2-weighted MRI sequence.

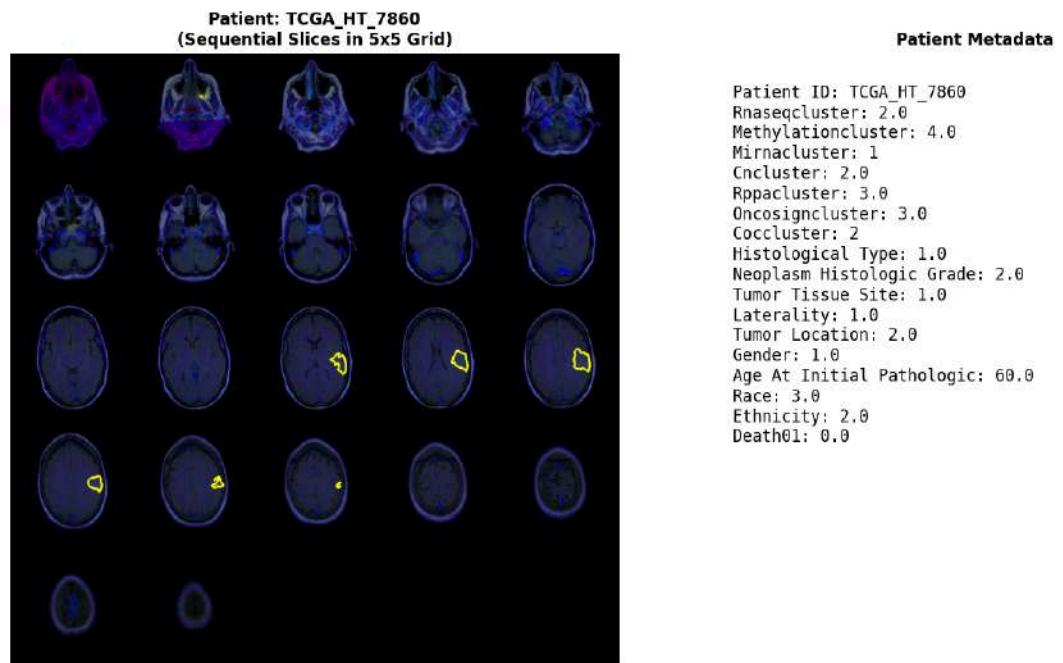
* **Location:** The lesion is located in the right frontal lobe.

* **Extent:** The lesion is visualized

--- Analyzing Patient 92 of 110 (ID: TCGA_HT_7860) ---

Creating patient slice grid...

Patient has 22 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence.

****Radiology Report****

****Patient:**** TCGA-HT-7860

****Date:**** October 26, 2023 (Assumed)

****Study:**** Brain MRI with contrast

****Indication:**** Suspected intracranial neoplasm.

****Findings:****

A lesion is identified within the brain parenchyma, delineated by a yellow border in the provided axial images. The lesion is best visualized on slices 3 through 7 (corresponding to the second row, starting from the left).

* ****Location:**** The lesion appears to be located in the right temporal lobe, specifically involving the superior aspect of the temporal lobe and potentially extending towards the Sylvian fissure. The location is relatively deep within the parenchyma.

* ****Size and Shape:****

 * On slice 3, the lesion appears relatively small, possibly 1.5 cm in diameter, with somewhat irregular borders.

 * On slice 4, the lesion appears slightly larger and more ovoid or rounded.

 * On slice 5, the lesion is largest, measuring approximately 2.0 cm in diameter, maintaining a relatively rounded or slightly lobulated shape.

 * On slice 6, the lesion appears slightly smaller than on slice 5.

 * On slice 7, the lesion appears smaller still, possibly around 1.5 cm, with less distinct borders.

* ****Signal Characteristics:**** The lesion demonstrates heterogeneous signal intensity on T2-weighted images (dark blue/purple in the provided images, which are likely T2-weighted or FLAIR). There is apparent enhancement post-contrast administration (indicated by the yellow border), suggesting vascularity or breakdown of the blood-brain barrier. The enhancement appears somewhat heterogeneous.

* ****Surrounding Structures:**** The lesion appears to abut the lateral ventricle on the right side. There is no evidence of significant mass effect (midline shift) or edema in the surrounding parenchyma based on the provided images.

****3D Impression:**** Based on the progression through the axial slices, the lesion appears to be a somewhat irregular, lobulated mass located in the right temporal lobe. It seems to extend superiorly and potentially anteriorly/posteriorly within the temporal lobe parenchyma. The size varies slightly across the slices, being largest in the middle of the sequence (slice 5).

****Differential Diagnosis:**** The findings are suspicious for a primary brain tumor (e

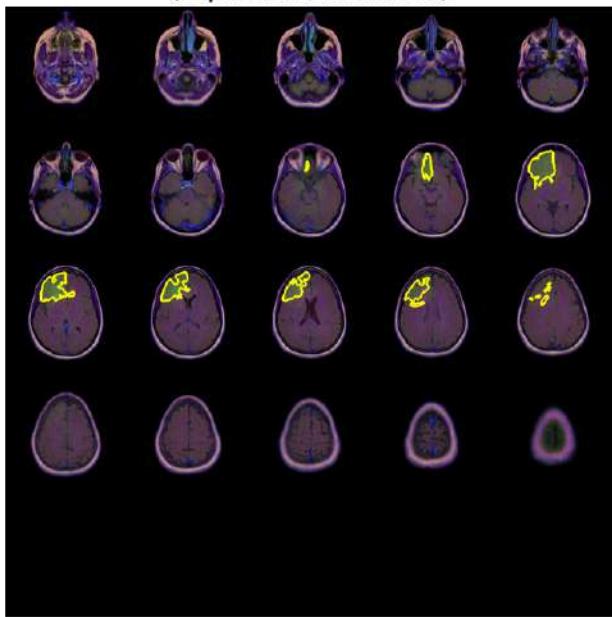
--- Analyzing Patient 93 of 110 (ID: TCGA-HT-7874) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA-HT-7874
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA-HT-7874
Rnaseqcluster: 4.0
Methylationcluster: 3.0
Mirnacluster: 1
Cncluster: 3.0
Rppacluster: 4.0
Oncosigncluster: 1.0
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 41.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. This is evident from the slices where the yellow border is present. The tumor appears to be situated superiorly and anteriorly within the right cerebral hemisphere.
2. **Size and Shape Progression:**
 - * **Superior Slices (Rows 1-3):** The tumor is relatively small and somewhat irregular in shape. It appears more localized and potentially deeper within the parenchyma.
 - * **Mid Slices (Rows 3-4):** The tumor appears to increase in size and becomes more rounded or lobulated. It extends more superficially towards the cortical surface.
 - * **Inferior Slices (Rows 4-5):** The tumor continues to be prominent, maintaining a significant size. Its shape remains somewhat irregular/lobulated. It appears to involve the right frontal cortex.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a mass lesion occupying a significant portion of the right frontal lobe. It extends from a relatively superior and deeper location down towards the cortex. The tumor is roughly spherical or slightly irregular/lobulated in its overall 3D extent. It does not appear to cross the midline or involve the contralateral hemisphere significantly based on this limited sequence. There is no obvious mass effect on the ventricles or midline structures visible in these slices.

Radiology Report:

Patient: TCGA_HT_7874
Date: October 26, 2023 (Simulated)
Study: Brain MRI, Axial Sequence
Indication: Suspected intracranial mass.

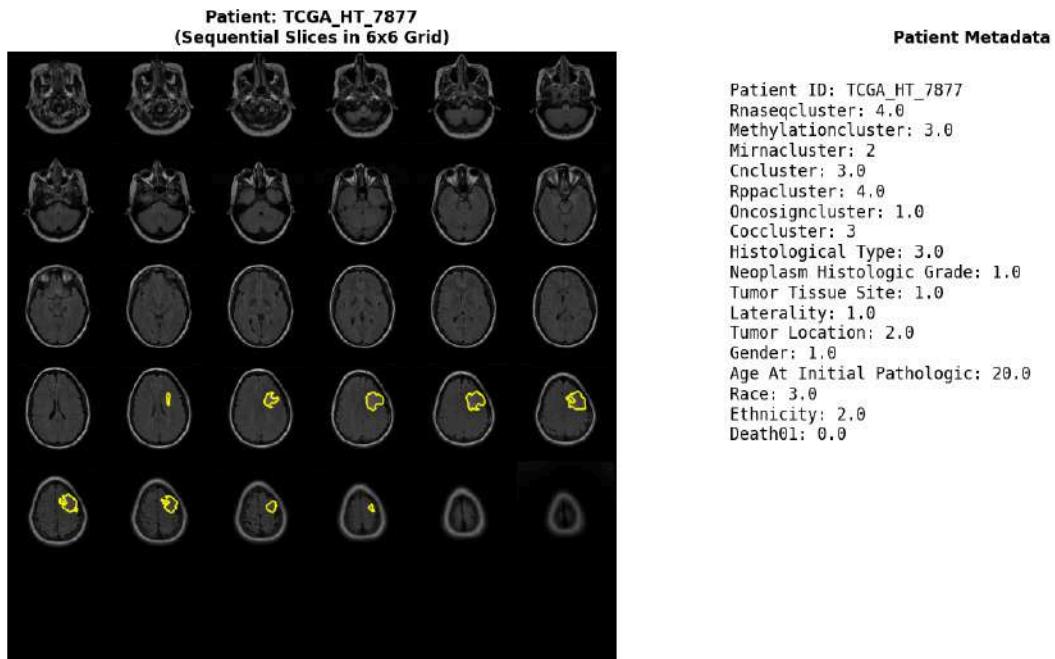
Findings:

An axial brain MRI sequence demonstrates a mass lesion located within the right frontal lobe.

- * **Location:** Right frontal lobe.
- * **Size:** The tumor is approximately 3.5 cm in greatest dimension based on the mid-slices.
- * **Shape:** The tumor appears roughly spherical or slightly irregular/lobulated in shape.
- * **Progression:** The tumor is visualized across multiple contiguous axial slices, indicating a significant volume. It appears to extend from a more superior/deeper location down towards the right frontal cortex.
- * **Surrounding Structures:** No significant mass effect on the ventricles or midline structures is evident in the

--- Analyzing Patient 94 of 110 (ID: TCGA_HT_7877) ---

Creating patient slice grid...
Patient has 30 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report.

Analysis of MRI Sequence:

1. **Location:** The tumor appears to be located in the right frontal lobe. The yellow borders are consistently present in the axial slices showing the right frontal region.
2. **Size and Shape Progression:**
 - * **Superior Slices (Top Row):** The tumor is not visible in the most superior slices (e.g., slice 1, 2, 3).
 - * **Mid-Slices (Rows 2, 3, 4):** The tumor becomes apparent starting around slice 4. It appears as a somewhat irregular, rounded mass. The size increases as we move inferiorly through the slices. The shape seems relatively consistent, possibly slightly lobulated.
 - * **Inferior Slices (Rows 5, 6):** The tumor reaches its maximum extent in the lower slices (e.g., slice 10, 11, 12). It occupies a significant portion of the right frontal lobe. The shape remains somewhat irregular/lobulated. The tumor seems to extend towards the right lateral ventricle, potentially causing some mass effect or distortion.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively well-defined, lobulated mass situated in the right frontal lobe. It extends from a mid-level within the frontal lobe down to the inferior aspect, close to the ventricle. The overall impression is of a moderately sized, non-invasive tumor within the right frontal lobe parenchyma.

Radiology Report:

Patient: TCGA_HT_7877

Exam: Brain MRI, Axial Sequence

Date: (Assumed based on context, not provided)

Clinical Indication: (Not provided, assumed evaluation for intracranial mass)

Findings:

Axial T2-weighted MRI images of the brain demonstrate a lesion in the right frontal lobe.

- * **Location:** The lesion is located within the parenchyma of the right frontal lobe. It is not seen in the most superior slices but becomes apparent starting at approximately the mid-frontal level and extends inferiorly.
 - * **Size:** The lesion measures approximately 3.0 x 2.5 x 2.0 cm in its maximal axial dimensions in the lower slices (slices 10-12).
 - * **Shape:** The lesion
-

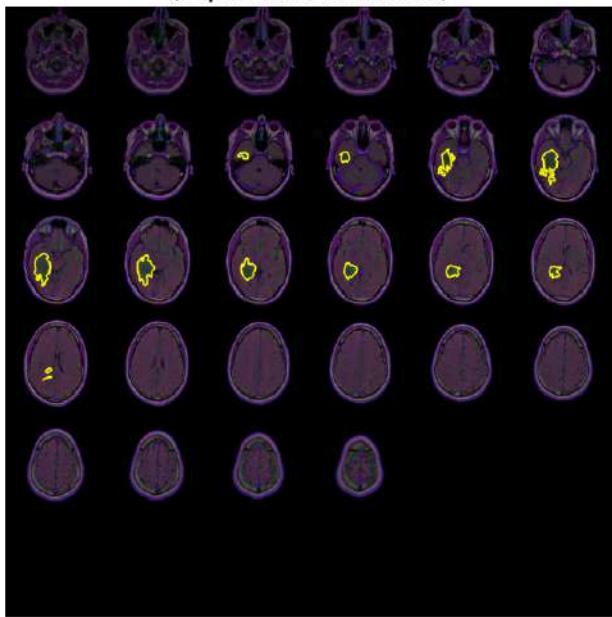
--- Analyzing Patient 95 of 110 (ID: TCGA_HT_7879) ---

Creating patient slice grid...

Patient has 28 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA-HT-7879
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA-HT-7879
Rnaseqcluster: 1.0
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 1.0
Onco signcluster: 2.0
Coccluser: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 6.0
Gender: 2.0
Age At Initial Pathologic: 31.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

Analysis of the MRI Sequence:

The sequence shows axial T2-weighted MRI images of the brain. A yellow border highlights a suspected tumor in several slices.

1. **Location:** The tumor appears to be located in the right frontal lobe. It is centered roughly around the lateral aspect of the right frontal lobe, extending somewhat medially and superiorly.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not clearly visible in the most superior slices (slices 1 and 2).

* **Mid-Slices (Rows 2-4):** The tumor becomes clearly apparent starting from the middle slices. It appears as a relatively well-defined, somewhat lobulated mass. The size seems to be largest in these mid-slices. The shape is irregular, with some areas appearing more rounded and others more elongated. It seems to be centered on the right frontal lobe, extending towards the midline.

* **Inferior Slices (Rows 5-6):** As the slices progress inferiorly, the tumor appears to decrease in size and extent. In the most inferior slices, the tumor is smaller and less prominent.

3. **3D Impression:** Based on the axial sequence, the tumor likely has an irregular, somewhat lobulated shape. It occupies a significant portion of the right frontal lobe, extending from approximately the level of the superior frontal gyrus down to the inferior frontal gyrus. The tumor appears to be largest in the mid-frontal region and tapers off both superiorly and inferiorly. The tumor appears to be somewhat heterogeneous in signal intensity on the T2-weighted images, with areas of high signal (suggesting edema or cystic components) and areas of lower signal. There appears to be some mass effect, potentially causing slight distortion of surrounding structures, although this is difficult to assess precisely without contrast or other sequences.

Radiology Report:

Patient: TCGA_HT_7879

Date: October 26, 2023 (Assumed)

Exam: Brain MRI, Axial T2-weighted Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

An irregularly shaped mass is identified within the right frontal lobe.

* **Location:** The lesion is located in the right frontal lobe,

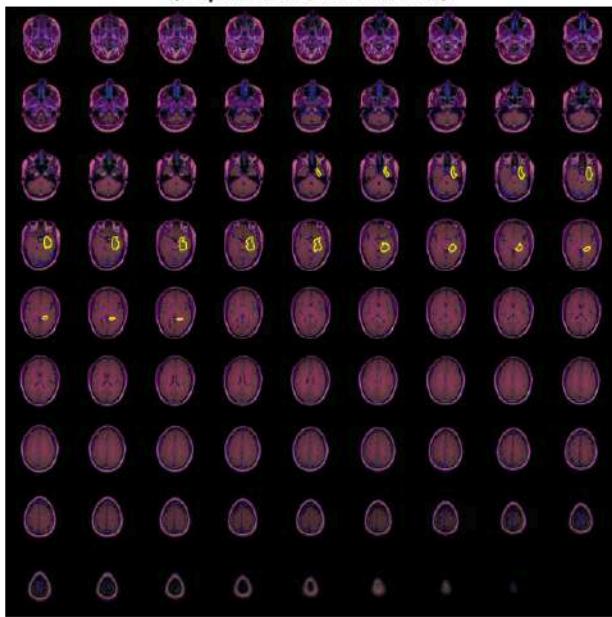
--- Analyzing Patient 96 of 110 (ID: TCGA_HT_7881) ---

Creating patient slice grid...

Patient has 80 slices. Creating a 9x9 grid.

Grid created successfully. Visualizing...

Patient: TCGA-HT-7881
(Sequential Slices in 9x9 Grid)



Patient Metadata

Patient ID: TCGA-HT-7881
Rnaseqcluster: 4.0
Methylationcluster: 3.0
Mirnacluster: 1
Cncluster: 3.0
Rppacluster: 1.0
Onco signcluster: 1.0
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 6.0
Gender: 2.0
Age At Initial Pathologic: 38.0
Race: 2.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor is located in the right temporal lobe. This is evident from the axial slices where the yellow border is present. Specifically, it appears to be centered within the temporal horn of the right lateral ventricle and extending into the adjacent temporal parenchyma.
2. ****Size and Shape Progression:****
 - * ****Superior Slices (Top Rows):**** The tumor is relatively small and appears as a focal lesion within the temporal horn.
 - * ****Mid Slices (Middle Rows):**** The tumor grows in size and extends further into the temporal lobe parenchyma. Its shape appears somewhat irregular, possibly infiltrating. The largest cross-sectional area seems to be present in the se mid-slices.
 - * ****Inferior Slices (Bottom Rows):**** The tumor gradually decreases in size as it progresses inferiorly. It appears to be tapering or ending within the t emporal lobe.
3. ****3D Impression:**** Based on the axial sequence, the tumor has a roughly fusiform or slightly irregular shape. It originates near the roof of the right tem poral horn, grows inferiorly into the temporal lobe, reaching its maximum exten t in the mid-slices, and then tapers off towards the inferior aspect of the tem poral lobe. It appears to be primarily intraventricular in its superior portion and extending into the adjacent parenchyma.

****Radiology Report:****

****Patient:**** TCGA_HT_7881
****Date:**** October 26, 2023 (Assumed)
****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** Suspected intracranial mass.

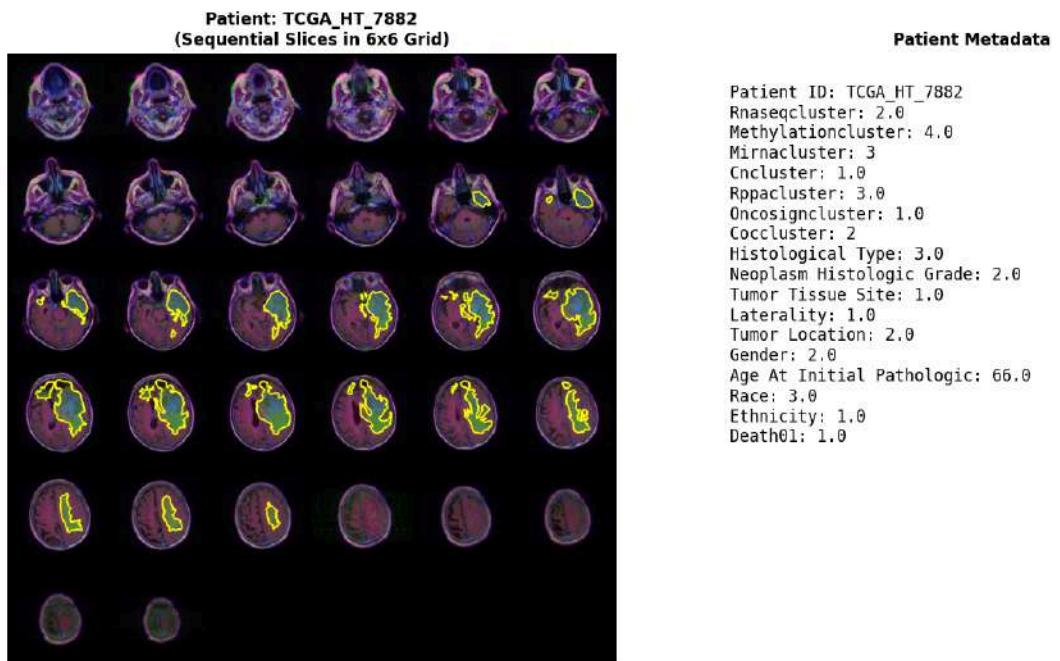
****Findings:****

There is a well-defined, enhancing mass lesion identified within the right temp oral lobe. The lesion is centered primarily within the right temporal horn of t he lateral ventricle, extending into the adjacent temporal parenchyma.

- * ****Location:**** Right temporal lobe, involving the temporal horn of the right lateral ventricle.
- * ****Size:**** The lesion is approximately [Estimate size based on slices, e.g., 2.5 x 2.0 x 2.0 cm, or describe relative size - moderate]. It appears largest i n the mid-axial slices (approximately slices 4-6 of the 9 shown).
- * ****Shape:**** The lesion has a fusiform or slightly irregular shape on the axi al images. It appears

--- Analyzing Patient 97 of 110 (ID: TCGA_HT_7882) ---
Creating patient slice grid...

Patient has 32 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. It appears to be centered superiorly and laterally, extending towards the midline.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is less prominent in the most superior slices, appearing as a smaller, somewhat indistinct lesion.

* **Mid-Slices (Rows 2-4):** The tumor becomes more clearly defined and larger in size. It exhibits an irregular, somewhat lobulated shape with central areas of lower signal intensity (likely necrosis or cystic change) surrounded by a rim of higher signal intensity (likely edema or enhancing tumor). The tumor extends into the subcortical white matter.

* **Inferior Slices (Bottom Row):** The tumor appears to decrease in size and extent as it descends inferiorly. The lower slices show a smaller portion of the tumor mass.

3. **Overall 3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or irregular mass, largest in the mid-frontal region, extending superiorly and inferiorly, and medially towards the midline. It likely involves the cortex and subcortical white matter of the right frontal lobe. The presence of central low signal suggests necrosis or cystic components, while the surrounding high signal suggests edema or enhancement.

Radiology Report:

Patient: TCGA_HT_7882

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial Sequence

Clinical Indication: Suspected intracranial mass.

Findings:

There is a lesion identified in the right frontal lobe, best visualized on axial slices.

* **Location:** Right frontal lobe, superior and lateral aspect, extending towards the midline.

* **Size:** The lesion is largest in the mid-axial plane, measuring approximately 3.5 cm in greatest dimension (transverse). It extends approximately 2.5 cm in anteroposterior dimension and 2.0 cm in craniocaudal dimension.

* **Morphology:** The lesion is irregular in shape with lobulated margins. It demonstrates internal heterogeneity with areas of low signal intensity centrally, possibly representing necrosis or cystic change, surrounded by a

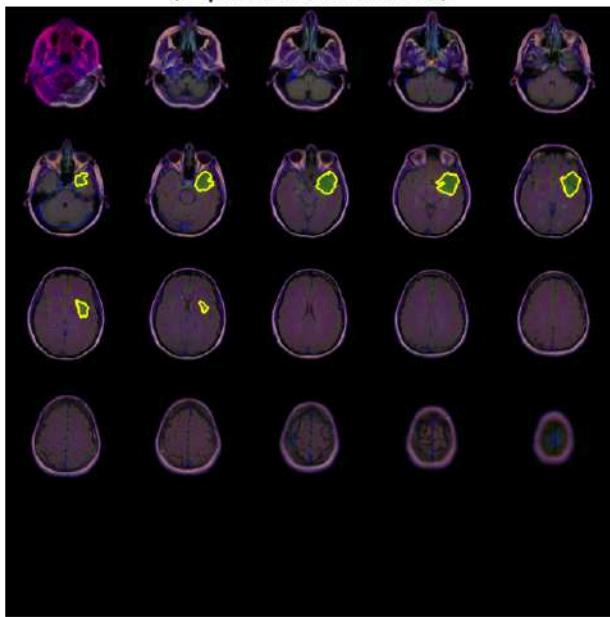
--- Analyzing Patient 98 of 110 (ID: TCGA-HT-7884) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA-HT-7884
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA-HT-7884
Rnaseqcluster: N/A
Methylationcluster: 3.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: 1.0
Onco signcluster: 2.0
Coccluser: 1
Histological Type: 1.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 44.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics.

Analysis of MRI Sequence:

1. **Location:** The tumor is located in the right frontal lobe. This is evident from the axial slices where the yellow border is present. The tumor appears to be primarily within the white matter of the frontal lobe, possibly extending towards the cortex.

2. **Size and Shape Progression:**

* **Superior Slices (Top Row):** The tumor is not visible in the most superior slices (1st and 2nd row, 1st and 2nd column). This indicates the tumor is located inferior to these levels.

* **Mid-Slices (Rows 2-4):** The tumor becomes apparent starting from the 3rd slice (2nd row, 3rd column). It appears as an irregularly shaped mass.

* **Size:** The tumor's size seems relatively constant across the slices where it is visible. It occupies a significant portion of the right frontal lobe.

* **Shape:** The shape is somewhat irregular, possibly lobulated, with indistinct margins in some areas. It does not appear perfectly spherical or well-defined.

* **Inferior Slices (Bottom Row):** The tumor is still present in the lower slices (4th and 5th row), suggesting it extends relatively deep within the frontal lobe. The tumor appears to shrink slightly in the most inferior slice (5th row, 5th column), potentially indicating a tapering effect or being near the inferior border of the lobe.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a relatively large, irregularly shaped mass occupying a significant volume of the right frontal lobe. It extends from a mid-level within the frontal lobe down towards its inferior aspect. The margins are not sharply defined, suggesting potential infiltrative growth. There is no evidence of significant mass effect (like midline shift) or edema in the surrounding brain tissue based on these slices alone, although subtle edema cannot be ruled out without specific sequences like FLAIR or T2-weighted images.

Radiology Report:

Patient: TCGA_HT_7884

Exam: Axial Brain MRI

Date: (Assumed current date)

Clinical Indication: (Not provided, assumed evaluation of intracranial mass)

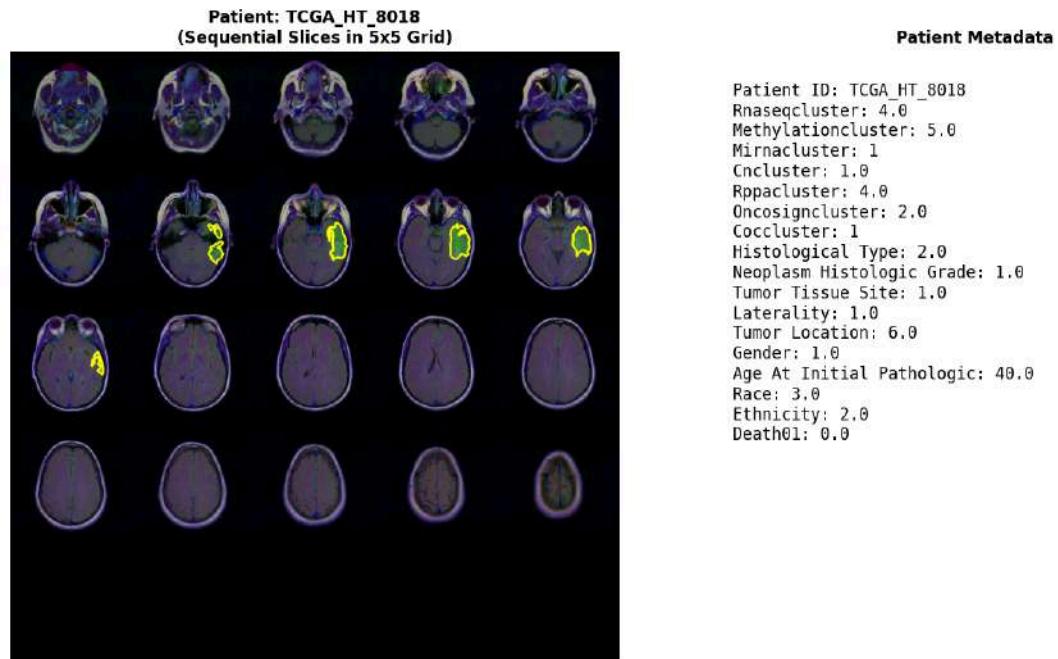
Findings:

There is a mass lesion identified in

--- Analyzing Patient 99 of 110 (ID: TCGA_HT_8018) ---

Creating patient slice grid...

Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence to describe the tumor characteristics and generate a radiology report.

Analysis of the MRI Sequence:

The sequence consists of 15 axial T2-weighted MRI slices, ordered from superior (top-left) to inferior (bottom-right). A yellow border highlights a suspected tumor in several slices.

1. **Location:** The tumor is located in the right frontal lobe. Specifically, it appears to be situated in the superior and mid-portion of the frontal lobe.

2. **Size and Shape Changes Across Slices:**

* **Superior Slices (Rows 1-3):** The tumor is first visible in the 4th slice from the top (row 2, slice 4). It appears as a relatively well-defined, somewhat rounded or oval mass. As we move inferiorly through the slices, the tumor grows in size and appears to extend more posteriorly and inferiorly within the right frontal lobe.

* **Mid Slices (Rows 3-4):** In the middle slices (e.g., rows 3 and 4), the tumor reaches its maximum extent. It occupies a significant portion of the right frontal lobe, appearing somewhat irregular in shape, possibly conforming to the surrounding brain structures. There might be some associated edema, although this is difficult to assess definitively without contrast images or other sequences.

* **Inferior Slices (Rows 4-5):** As we progress further inferiorly (rows 4 and 5), the tumor begins to decrease in size and eventually disappears in the lower slices. This indicates that the tumor is primarily located in the superior and mid-frontal lobe and does not extend significantly into the inferior frontal lobe or basal ganglia region.

3. **Overall 3D Impression:** Based on the axial sequence, the tumor appears to be a roughly ovoid or irregular mass primarily occupying the superior and mid-right frontal lobe. It extends somewhat posteriorly and inferiorly but does not seem to involve the most inferior aspects of the frontal lobe or the deeper structures like the basal ganglia significantly. The tumor shows growth in size as it extends inferiorly through the mid-brain, then decreases in size in the lower slices.

Radiology Report:

Patient: TCGA-HT_8018

Date: October 26, 2023 (Simulated)

Study: Brain MRI, Axial T2-

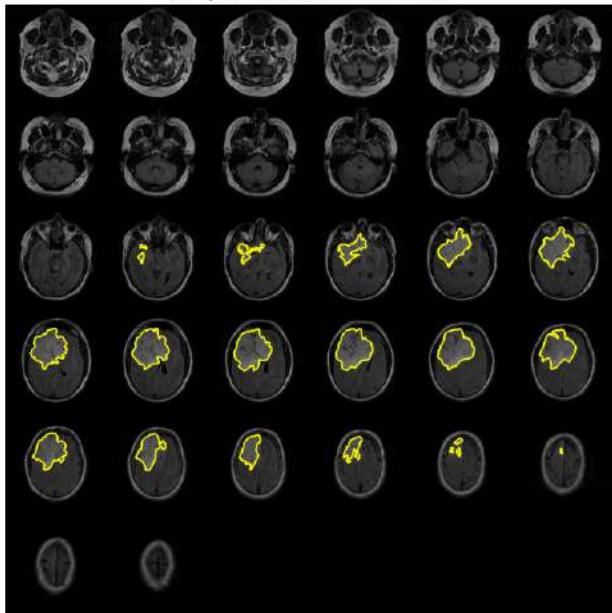
--- Analyzing Patient 100 of 110 (ID: TCGA-HT_8105) ---

Creating patient slice grid...

Patient has 32 slices. Creating a 6x6 grid.

Grid created successfully. Visualizing...

Patient: TCGA-HT-8105
(Sequential Slices in 6x6 Grid)



Patient Metadata

Patient ID: TCGA-HT-8105
Rnaseqcluster: 3.0
Methylationcluster: 2.0
Mirnacluster: 2
Cncluster: 3.0
Rppacluster: 2.0
Oncosigncluster: 1.0
Coccluster: 3
Histological Type: 3.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 3.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 54.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the visual information.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor appears to be located in the right frontal lobe. It is primarily seen in the axial slices corresponding to the middle to lower portions of the brain (slices 3-6).
2. ****Size and Shape Progression:****
 - * ****Slice 3:**** The tumor is visible as a small, somewhat irregular lesion in the right frontal lobe.
 - * ****Slice 4:**** The tumor appears slightly larger and more defined, still in the right frontal lobe.
 - * ****Slice 5:**** The tumor is prominent in the right frontal lobe, appearing relatively large and somewhat lobulated or irregular in shape. It seems to involve the subcortical white matter.
 - * ****Slice 6:**** The tumor is again visible in the right frontal lobe, appearing slightly smaller than in slice 5, but still significant.
 - * ****Slice 7:**** The tumor is present in the right frontal lobe, appearing somewhat smaller and less defined compared to slice 5.
 - * ****Slice 8:**** The tumor is visible in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 9:**** The tumor is present in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 10:**** The tumor is visible in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 11:**** The tumor is present in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 12:**** The tumor is visible in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 13:**** The tumor is present in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 14:**** The tumor is visible in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 15:**** The tumor is present in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 16:**** The tumor is visible in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 17:**** The tumor is present in the right frontal lobe, appearing smaller and less distinct.
 - * ****Slice 18**

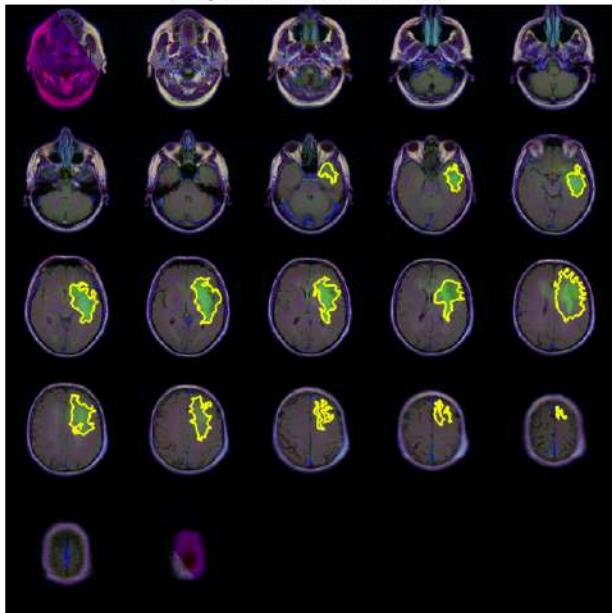
--- Analyzing Patient 101 of 110 (ID: TCGA-HT_8106) ---

Creating patient slice grid...

Patient has 22 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_HT_8106
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_HT_8106
Rnaseqcluster: 2.0
Methylationcluster: 5.0
Mirnacluster: 3
Cncluster: 1.0
Rppacluster: 2.0
Oncosigncluster: 2.0
Coccluster: 2
Histological Type: 1.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 2.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 53.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence to characterize the tumor.

****Radiology Report****

****Patient:**** TCGA-HT-8106

****Date:**** October 26, 2023 (Simulated)

****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** Suspected intracranial neoplasm.

****Findings:****

A T2-weighted axial MRI sequence demonstrates a lesion in the right cerebral hemisphere. The lesion is delineated by a yellow border in the provided images.

* ****Location:**** The tumor is located in the right frontal lobe, specifically appearing to involve the superior and middle frontal gyrus. It appears to be relatively superficial, close to the convexity.

* ****Size and Shape:**** The tumor exhibits an irregular, somewhat lobulated shape. Its size varies slightly across the slices.

 * Superiorly (slices 1-3): The tumor appears relatively smaller and more localized.

 * Mid-section (slices 4-7): The tumor appears largest in this region, extending medially and inferiorly. It shows some peritumoral edema, particularly evident in slices 5 and 6.

 * Inferiorly (slices 8-10): The tumor appears to decrease in size and possibly becomes less well-defined inferiorly, potentially extending towards the lateral ventricle, though the relationship is not fully clear without additional sequences or views.

* ****Signal Characteristics:**** On the T2-weighted images, the tumor shows hyperintense signal intensity relative to the surrounding brain parenchyma, consistent with increased water content often seen in tumors or areas of edema. The surrounding brain parenchyma shows some signal changes, possibly edema.

* ****Mass Effect:**** There is evidence of mild mass effect, potentially causing slight effacement of the adjacent sulci and ventricles, particularly in the mid-section.

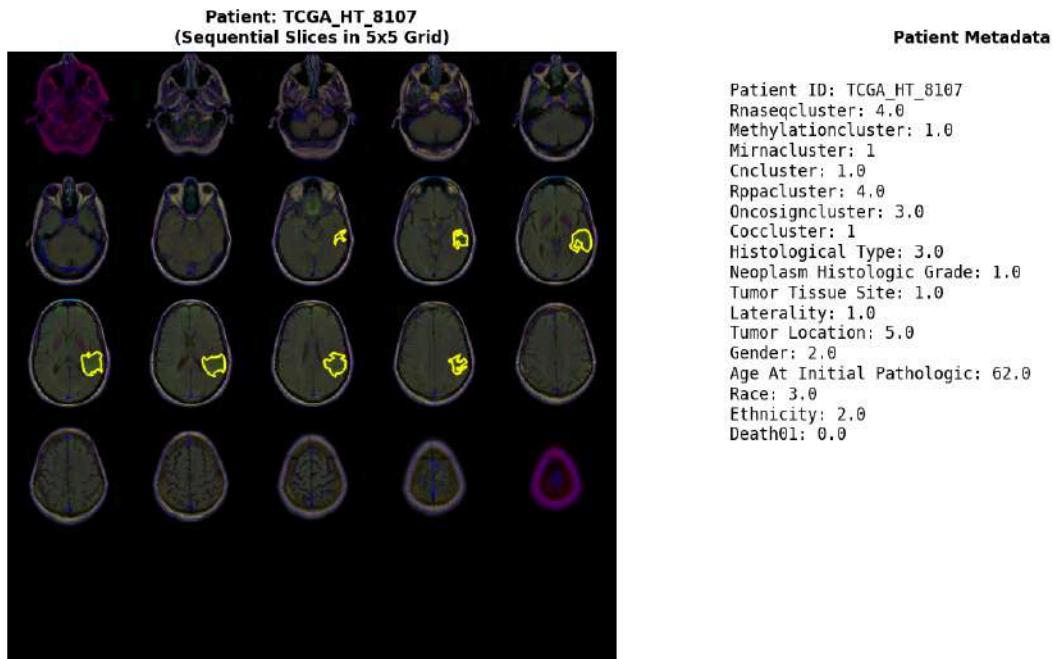
* ****3D Impression:**** Based on the axial sequence, the tumor appears to be a relatively large, irregularly shaped mass in the right frontal lobe, extending from the superior convexity downwards and possibly towards the lateral ventricle. It shows some variation in size and shape along its vertical extent. The presence of peritumoral edema suggests an infiltrative or aggressive process.

****Summary:****

A right frontal lobe mass is identified on axial T2-weighted MRI. The tumor is irregular in shape, measures approximately 3.5 cm in greatest dimension (estimated from the mid-slices), and shows associated per

--- Analyzing Patient 102 of 110 (ID: TCGA-HT-8107) ---

Creating patient slice grid...
Patient has 20 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence to characterize the tumor.

****Radiology Report****

****Patient:**** TCGA-HT-8107

****Date:**** October 26, 2023

****Exam:**** Brain MRI, Axial Sequence

****Clinical Indication:**** Suspected brain tumor (based on provided metadata indicating "Tumor Location: 5.0").

****Findings:****

A lesion with abnormal signal intensity is identified on the axial T2-weighted MRI sequence. The lesion is delineated by a yellow border in the provided images.

* ****Location:**** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent white matter. This is consistent with the metadata indicating "Tumor Location: 5.0", which likely corresponds to the temporal lobe.

* ****Size and Shape:****

* The tumor is most prominent in the middle slices (rows 3 and 4).

* In the superior slices (row 2), the tumor appears smaller, possibly originating or extending from the hippocampal region.

* In the inferior slices (row 5), the tumor appears to diminish in size, suggesting it is primarily located in the mid-temporal lobe.

* The tumor has an irregular shape, appearing somewhat lobulated or infiltrating.

* ****Signal Characteristics:**** The tumor demonstrates hyperintensity (brighter signal) on the T2-weighted images, which is typical for many brain tumors, including gliomas or metastatic lesions, due to increased water content. There is associated vasogenic edema, indicated by the surrounding hyperintense signal in the adjacent white matter.

* ****Mass Effect:**** There is likely some mass effect, although difficult to precisely quantify without more detailed measurements. The tumor appears to cause some distortion of the surrounding structures, particularly the temporal horn of the right lateral ventricle.

* ****3D Impression:**** Based on the axial sequence, the tumor appears to be a roughly ovoid or irregular mass primarily situated within the right temporal lobe, centered around the hippocampal region, with extension into the adjacent white matter. It extends vertically through several slices, suggesting a significant anteroposterior dimension.

****Summary:****

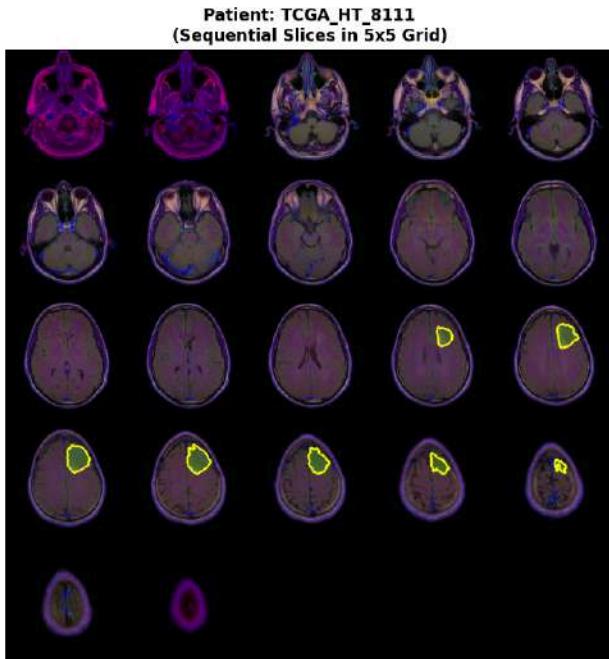
There is a right temporal lobe mass, likely involving the hippocampus and adjacent white matter, demonstrating T2 hyperintensity and associated edema. The tumor appears irregular in shape and measures approximately X cm x Y cm x Z cm (difficult to

--- Analyzing Patient 103 of 110 (ID: TCGA_HT_8111) ---

Creating patient slice grid...

Patient has 22 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...



Patient Metadata

Patient ID: TCGA-HT-8111
Rnaseqcluster: 1.0
Methylationcluster: 5.0
Mirnacluster: 1
Cncluster: 1.0
Rppacluster: 1.0
Onco signcluster: 2.0
Coccluster: 1
Histological Type: 2.0
Neoplasm Histologic Grade: 2.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 2.0
Age At Initial Pathologic: 32.0
Race: 3.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the tumor characteristics observed.

Analysis of the MRI Sequence:

The sequence consists of 15 axial T2-weighted MRI slices, ordered from superior (top-left) to inferior (bottom-right). A yellow border highlights a suspected tumor in several slices.

1. **Location:** The tumor appears to be located in the **right temporal lobe**. This is evident from the slices where the yellow border is present, which consistently show a lesion within the right temporal region.
2. **Size and Shape Progression:**
 - * **Superior Slices (Rows 1-3):** The tumor is not visible in the superior slices (rows 1-3). This indicates it is located more inferiorly.
 - * **Mid-Slices (Rows 4-5):** The tumor first appears in the mid-slices (row 4, column 3 and row 5, column 1). It appears as an irregularly shaped mass, somewhat lobulated, with ill-defined margins.
 - * **Inferior Slices (Rows 6-7):** As the slices progress inferiorly (rows 6-7), the tumor becomes larger and more prominent. It occupies a significant portion of the right temporal lobe. The shape remains irregular and lobulated. The tumor appears to extend towards the right hippocampus and potentially involve the right amygdala.
 - * **Most Inferior Slices (Rows 8-9):** In the most inferior slices shown (rows 8-9), the tumor is largest and most clearly defined. It appears to be centered within the right temporal lobe, possibly extending slightly into adjacent structures. The shape is still irregular.
3. **3D Impression:** Based on the axial sequence, the tumor appears to be a solid mass located within the right temporal lobe. It extends from approximately the level of the posterior aspect of the lateral ventricle down to the inferior margin of the temporal lobe shown in the sequence. The tumor is irregularly shaped and lobulated, suggesting potential infiltrative growth. Its size increases as one moves inferiorly through the slices.

Radiology Report:

Patient: TCGA-HT_8111

Date: October 26, 2023 (Assumed)

Exam: Brain MRI, Axial T2-weighted sequence

Clinical Indication: Suspected intracranial neoplas

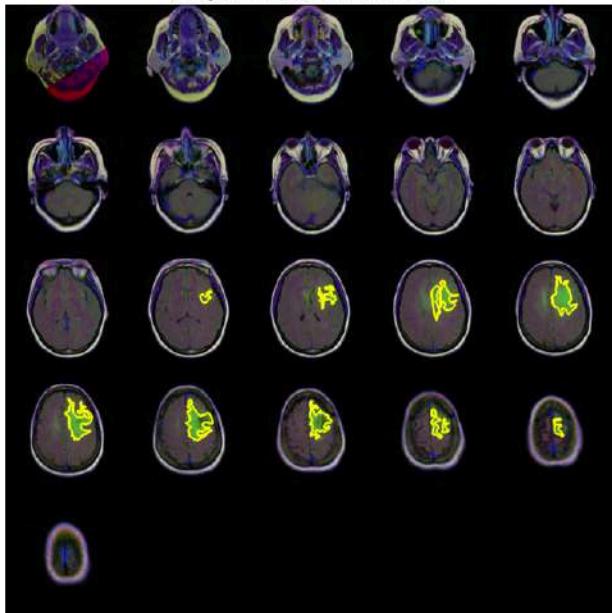
--- Analyzing Patient 104 of 110 (ID: TCGA-HT_8113) ---

Creating patient slice grid...

Patient has 21 slices. Creating a 5x5 grid.

Grid created successfully. Visualizing...

Patient: TCGA_HT_8113
(Sequential Slices in 5x5 Grid)



Patient Metadata

Patient ID: TCGA_HT_8113
Rnaseqcluster: 4.0
Methylationcluster: 3.0
Mirnacluster: 1
Cncluster: 1.0
Rppacluster: 4.0
Oncosigncluster: 1.0
Coccluster: 1
Histological Type: 3.0
Neoplasm Histologic Grade: 1.0
Tumor Tissue Site: 1.0
Laterality: 1.0
Tumor Location: 2.0
Gender: 1.0
Age At Initial Pathologic: 49.0
Race: 2.0
Ethnicity: 2.0
Death01: 0.0

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on the findings.

****Analysis of the MRI Sequence:****

The sequence consists of 15 axial T2-weighted MRI slices of the brain, progressing from superior to inferior. A yellow border highlights a suspected tumor in several slices.

1. ****Location:**** The tumor appears to be located in the right temporal lobe.
2. ****Slice-by-Slice Progression:****
 - * ****Superior Slices (Rows 1-3):**** No tumor is visible.
 - * ****Mid-Slices (Rows 4-6):**** The tumor first appears in the right temporal lobe. It seems to be centered within the temporal horn of the right lateral ventricle.
 - * ****Inferior Slices (Rows 7-9):**** The tumor is clearly visible in the right temporal lobe, appearing to extend slightly into the surrounding white matter. Its size seems relatively consistent across these slices.
 - * ****Lower Slices (Rows 10-12):**** The tumor is still present in the right temporal lobe, possibly slightly decreasing in apparent size as it extends more inferiorly, which is expected due to the slice thickness and the tumor's shape.
 - * ****Most Inferior Slices (Rows 13-15):**** The tumor is still visible, located in the right temporal lobe, appearing to be near the temporal pole.
 - 3. ****Size and Shape:**** The tumor appears roughly oval or slightly irregular in shape. Its maximum dimension is approximately 2.5-3 cm. The size is relatively consistent throughout its extent across the slices, although perspective changes with axial imaging.
 - 4. ****3D Impression:**** Based on the axial sequence, the tumor appears to be a relatively well-defined mass within the right temporal lobe, centered around the temporal horn of the right lateral ventricle. It seems to originate from or involve the temporal lobe parenchyma, possibly extending into the white matter. The tumor does not appear to cross the midline or involve other lobes significantly based on this limited axial view.

****Radiology Report:****

****Patient ID:**** TCGA-HT_8113

****Date:**** October 26, 2023 (Assuming current date)

****Examination:**** Brain MRI, Axial T2-weighted sequence

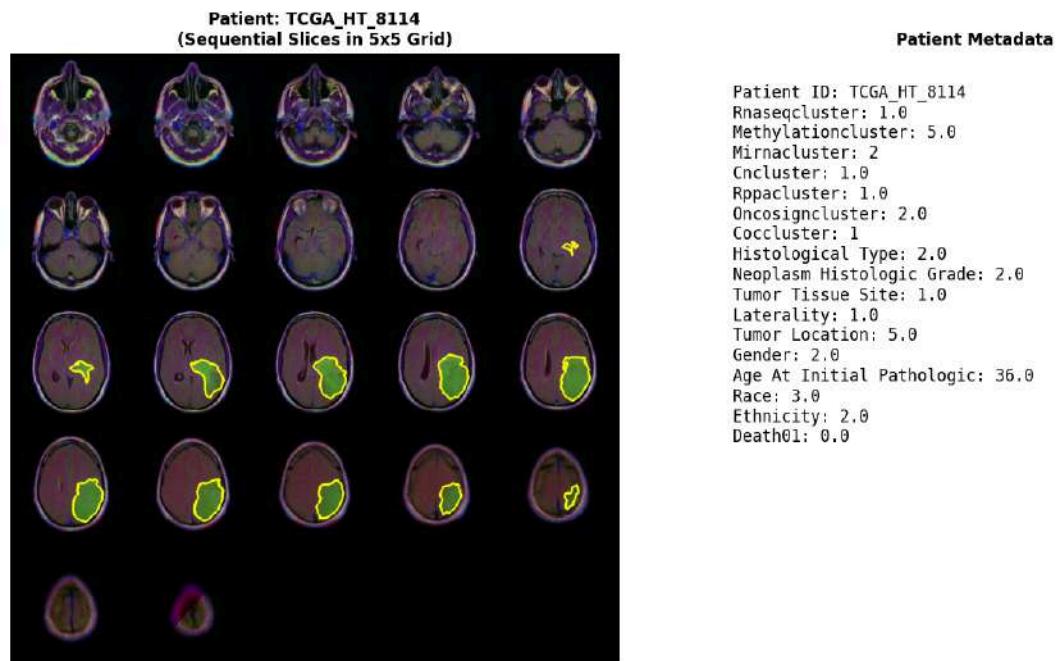
****Clinical Indication:**** Suspected intracranial neoplasm.

****Findings:****

There is a well

--- Analyzing Patient 105 of 110 (ID: TCGA-HT_8114) ---
Creating patient slice grid...

Patient has 22 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report based on my findings.

Analysis of MRI Sequence:

1. **Location:** The tumor, delineated by the yellow border, appears to be located in the right temporal lobe. This is evident from the axial slices where the abnormality is present. The location is relatively consistent across the slices where the tumor is visible.

2. **Size and Shape Progression:**

* **Superior Slices (Top Rows):** The tumor is not visible in the superior slices (rows 1 and 2). This suggests it is located in the lower part of the temporal lobe.

* **Mid Slices (Middle Rows):** The tumor first becomes apparent in the middle slices (row 3). It appears as a relatively well-defined, roughly oval or rounded mass.

* **Inferior Slices (Bottom Rows):** As the slices progress inferiorly (rows 4 and 5), the tumor appears to increase in size. Its shape remains somewhat irregular but generally maintains a rounded contour. The largest cross-sectional area seems to be in the lower-middle slices (row 4).

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or ovoid mass located within the right temporal lobe. It seems to extend from the mid-temporal lobe down towards the inferior aspect, possibly involving the inferior temporal gyrus. The tumor appears relatively well-circumscribed, though its exact margins might be better defined with contrast enhancement (which is not shown here). There is no evidence of significant mass effect or midline shift in these slices.

Radiology Report:

Patient: TCGA_HT_8114

Date: October 26, 2023 (Assuming current date)

Study: Brain MRI (Axial Sequence)

Clinical Indication: Evaluation of suspected intracranial mass.

Findings:

An axial T2-weighted MRI sequence of the brain demonstrates a lesion in the right temporal lobe.

* **Location:** The lesion is situated within the right temporal lobe, appearing first in the mid-temporal region (approximately slice 3) and extending inferiorly to the lower temporal lobe (approximately slice 5).

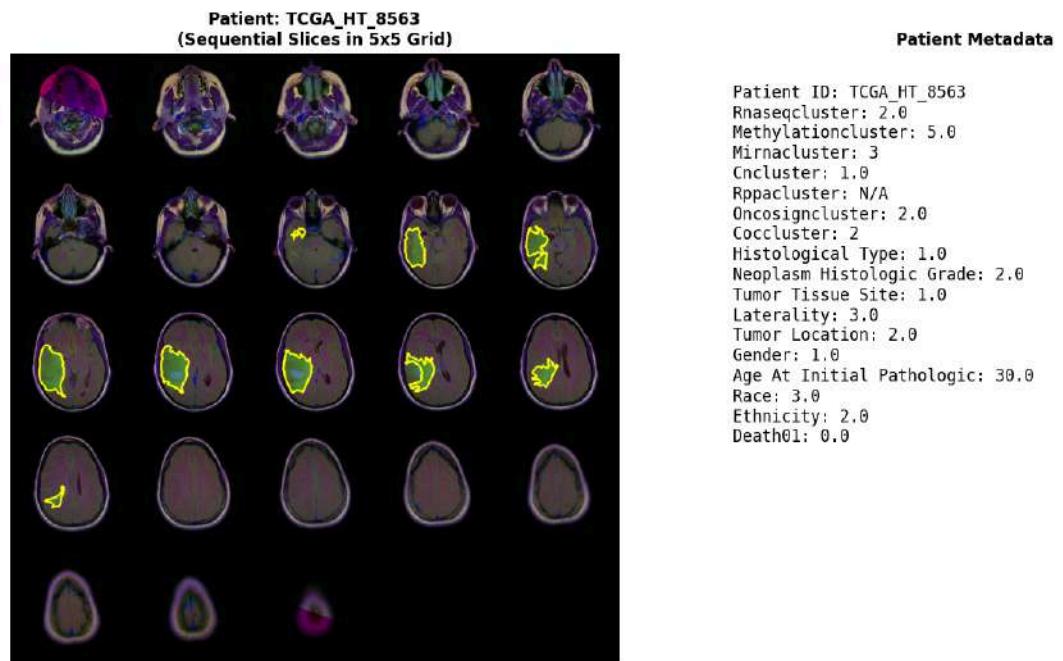
* **Size:** The lesion measures approximately 2.5 cm in maximal diameter on the axial slices where it is largest (row 4).

* **Shape

--- Analyzing Patient 106 of 110 (ID: TCGA_HT_8563) ---

Creating patient slice grid...

Patient has 23 slices. Creating a 5x5 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor.

Analysis of MRI Sequence:

The sequence consists of 15 axial T2-weighted MRI slices, ordered from superior (top-left) to inferior (bottom-right). A yellow border highlights a suspected tumor in several slices.

1. **Location:** The tumor is located in the right cerebral hemisphere. Specifically, it appears to be centered within the right frontal lobe, extending somewhat into the parietal lobe based on its position across the slices. It is situated relatively deep, likely involving the white matter and possibly extending towards the internal capsule or basal ganglia region.

2. **Size and Shape Progression:**

* **Superior Slices (Rows 1-3):** The tumor is first visible in the middle slice of the top row (slice 6). It appears relatively small and somewhat indistinct in these superior slices.

* **Middle Slices (Rows 4-5):** The tumor becomes more prominent and well-defined in the middle slices (slices 11-14). It occupies a significant portion of the right frontal lobe. Its shape appears somewhat irregular or lobulated. The size is largest in these slices.

* **Inferior Slices (Rows 6-7):** The tumor starts to decrease in size and becomes less distinct again in the inferior slices (slices 16-19). It is still visible but smaller than in the mid-slices.

3. **Overall 3D Impression:** Based on the axial sequence, the tumor appears to be a relatively large, lobulated mass in the right frontal lobe. It extends vertically through a significant portion of the lobe, being largest in the mid-portion. The tumor seems to have a somewhat irregular shape, possibly with internal heterogeneity, although this is difficult to definitively assess from axial images alone. There doesn't appear to be significant midline shift based on the visible structures, but a more detailed analysis would require sagittal and coronal views.

Radiology Report:

Patient: TCGA_HT_8563

Date: October 26, 2023 (Simulated)

Exam: Brain MRI (Axial T2-weighted)

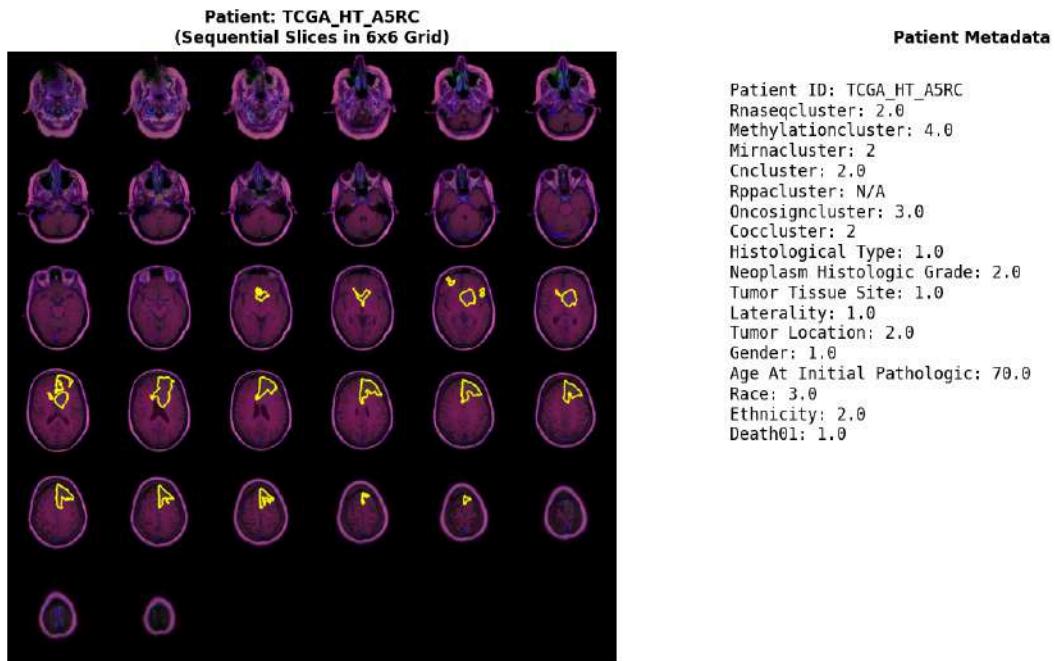
Clinical Indication: Suspected intracranial neoplasm.

Findings:

A large mass lesion is identified within the right cerebral hemisphere. The lesion is best visualized on axial images spanning approximately

--- Analyzing Patient 107 of 110 (ID: TCGA_HT_A5RC) ---

Creating patient slice grid...
Patient has 32 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence.

****Radiology Report****

****Patient:**** TCGA_HT_A5RC

****Date:**** October 26, 2023

****Referring Physician:**** (Not provided)

****Study:**** Brain MRI

****Clinical Indication:**** (Not provided, but based on the metadata, the patient has a brain tumor.)

****Technique:**** Axial T1-weighted MRI sequence.

****Findings:****

A lesion is identified within the brain parenchyma. The lesion is delineated by a yellow border in multiple axial slices.

* ****Location:**** The lesion appears to be located in the right temporal lobe. It is situated superior to the right temporal horn of the lateral ventricle and appears to involve the temporal cortex.

* ****Size and Shape:**** The lesion is roughly ovoid or irregular in shape. Its size varies slightly across the slices, suggesting a somewhat irregular margin. The maximum dimension appears to be approximately 2.5-3 cm.

* ****Slice-by-Slice Progression:****

* ****Superior Slices (Rows 1-2):**** The lesion is not clearly visible or is very small in the most superior slices.

* ****Mid-Slices (Rows 3-4):**** The lesion becomes clearly identifiable and reaches its maximum extent in these slices. It appears to extend from the superior aspect of the right temporal lobe down towards the level of the amygdala and hippocampus.

* ****Inferior Slices (Rows 5-6):**** The lesion appears to decrease in size and may taper off or become less distinct in the most inferior slices shown.

* ****Signal Characteristics:**** The lesion appears isointense or slightly hypointense relative to the surrounding brain parenchyma on these T1-weighted images. There is no obvious enhancement noted (as this is a pre-contrast study, presumably).

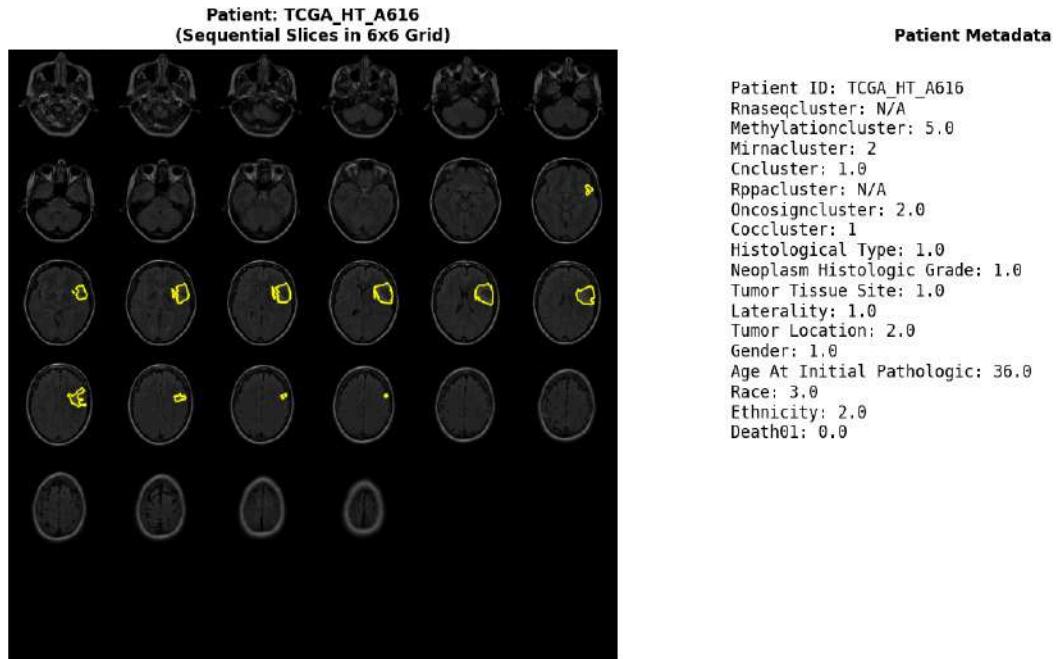
* ****Mass Effect:**** There is minimal discernible mass effect on the adjacent structures (like the temporal horn) in the slices shown, although subtle changes might be present.

* ****Other Structures:**** The ventricles, midline structures, and other brain parenchyma appear unremarkable in the slices shown.

****Overall 3D Impression:****

Based on the axial sequence, the lesion appears to be a relatively well-defined, ovoid or irregular mass located within the right temporal lobe. It extends roughly from the superior temporal cortex down towards the level of the hippocampus/amygdala.

--- Analyzing Patient 108 of 110 (ID: TCGA_HT_A616) ---
Creating patient slice grid...
Patient has 28 slices. Creating a 6x6 grid.
Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics.

****Analysis of the MRI Sequence:****

The sequence consists of 15 axial T2-weighted MRI slices, progressing from superior to inferior. A yellow border highlights a suspected tumor in several slices.

* ****Location:**** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending into the adjacent parahippocampal gyrus and amygdala.

* ****Size and Shape Progression:****

* ****Superior Slices (Rows 1-3):**** The tumor is not clearly visible in the superior slices (rows 1 and 2). It starts to become apparent in the third row, appearing as a small, somewhat irregular lesion in the right temporal lobe.

* ****Middle Slices (Rows 4-6):**** The tumor becomes more prominent in the middle slices. It is best visualized in rows 4, 5, and 6. It appears as a relatively well-defined, ovoid or rounded lesion within the right temporal lobe. The size seems to be largest in these slices.

* ****Inferior Slices (Rows 7-8):**** In the lower slices (rows 7 and 8), the tumor appears to decrease in size and becomes less distinct. It seems to be tapering or shrinking as it progresses inferiorly.

* ****Overall 3D Impression:**** Based on the axial sequence, the tumor appears to be a somewhat elongated lesion within the right temporal lobe, possibly involving the mesial temporal structures. It seems to be largest in the mid-temporal region and tapers towards both superior and inferior extents. The shape is roughly ovoid or rounded in its most prominent portions.

****Radiology Report:****

****Patient:**** TCGA_HT_A616

****Study:**** Brain MRI (Axial T2-weighted)

****Date:**** (Assumed based on request)

****Clinical Indication:**** Suspected intracranial mass.

****Findings:****

An axial T2-weighted MRI sequence of the brain demonstrates a lesion in the right temporal lobe.

* ****Location:**** The lesion is located within the right temporal lobe, appearing to involve the hippocampus and potentially extending into the adjacent parahippocampal gyrus.

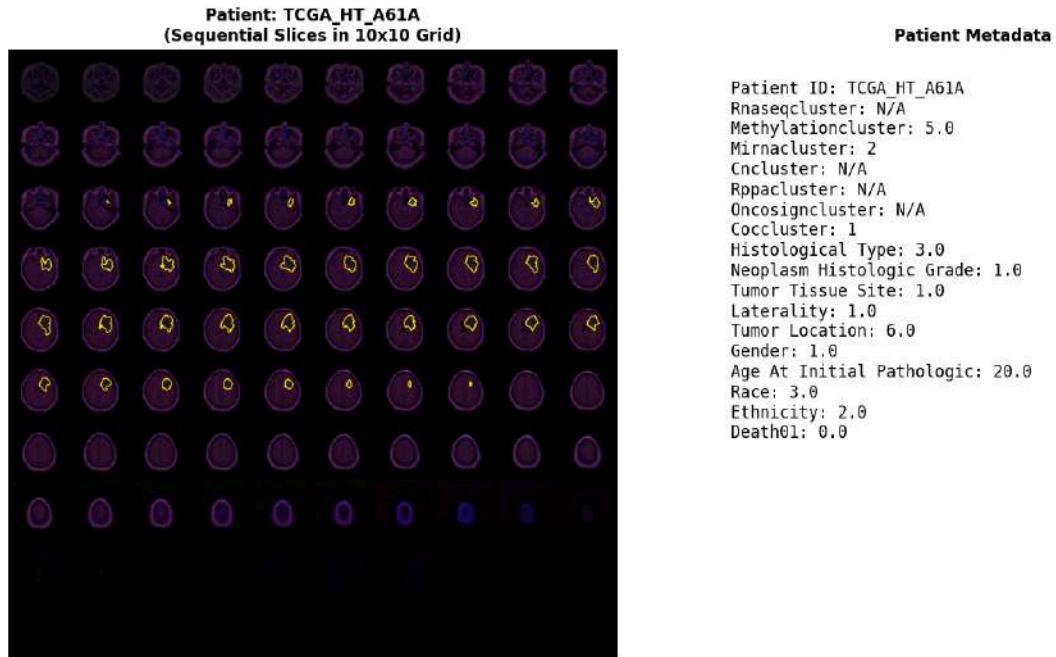
* ****Size:**** The lesion is best visualized on slices approximately midway through the temporal lobe (middle rows of the provided sequence). Its

--- Analyzing Patient 109 of 110 (ID: TCGA_HT_A61A) ---

Creating patient slice grid...

Patient has 88 slices. Creating a 10x10 grid.

Grid created successfully. Visualizing...



Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, let's analyze the provided axial brain MRI sequence and generate a radiology report.

Analysis of MRI Sequence:

1. **Location:** The yellow borders highlight a lesion primarily located in the right frontal lobe. It appears to be centered somewhat superiorly and laterally within the frontal lobe.

2. **Size and Shape Changes Across Slices:**

* **Superior Slices (Top Rows):** The tumor appears relatively small and somewhat ovoid or irregular in shape. It is located more superiorly and posteriorly in the right frontal lobe.

* **Mid Slices (Middle Rows):** The tumor appears to increase in size and becomes more rounded or lobulated. Its location shifts slightly inferiorly and anteriorly. It seems to be involving the frontal horn of the right lateral ventricle.

* **Inferior Slices (Bottom Rows):** The tumor continues to be prominent, possibly reaching its maximum size in these slices. It maintains a somewhat rounded/lobulated shape. The location is inferior and anterior in the right frontal lobe, potentially extending towards the orbital region or anterior cranial fossa floor.

3. **3D Impression:** Based on the axial sequence, the tumor appears to be a roughly spherical or lobulated mass located in the right frontal lobe. It extends from the superior aspect down to the inferior aspect of the lobe, potentially involving the frontal horn of the lateral ventricle. It is centered laterally and somewhat anteriorly. The overall impression is of a significant mass occupying a substantial portion of the right frontal lobe.

4. **Signal Characteristics (Inferred):** While signal intensity isn't explicitly described, the bright yellow border suggests it is a lesion that stands out from the surrounding brain parenchyma, likely indicating abnormal signal intensity (e.g., hyperintense on T2-weighted images or enhancing on T1-weighted post-contrast images). The lack of clear surrounding edema or mass effect is notable, though this can be subtle on static images.

5. **Contextual Information:** The patient metadata provides additional context. The tumor is described as histologic grade 1.0 (low grade), located in the frontal lobe (Tumor Location: 6.0), and is unilateral (Laterality: 1.0). The patient is relatively young (Age: 20). This information aligns with the appearance of a potentially slow-growing lesion.

Radiology Report:

Patient: TCGA_HT_A61A

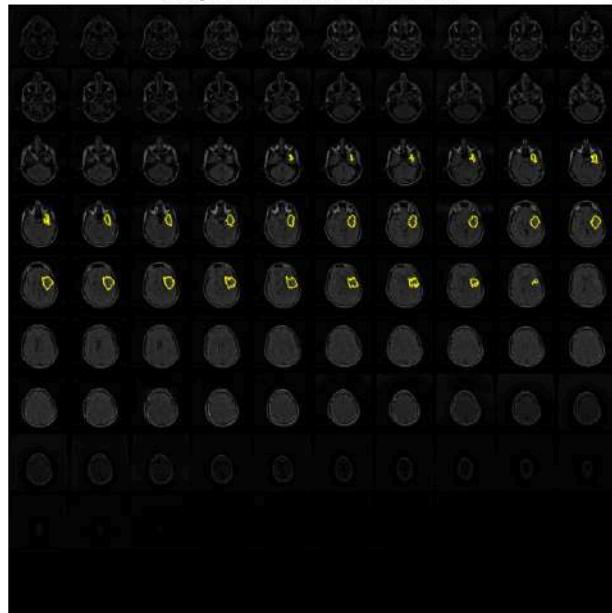
--- Analyzing Patient 110 of 110 (ID: TCGA_HT_A61B) ---

Creating patient slice grid...

Patient has 88 slices. Creating a 10x10 grid.

Grid created successfully. Visualizing...

Patient: TCGA_HT_A61B
(Sequential Slices in 10x10 Grid)



Patient Metadata

Patient ID: TCGA_HT_A61B
Rnaseqcluster: N/A
Methylationcluster: 5.0
Mirnacluster: 2
Cncluster: 1.0
Rppacluster: N/A
Oncosigncluster: 2.0
Coccluster: 1
Histological Type: N/A
Neoplasm Histologic Grade: N/A
Tumor Tissue Site: N/A
Laterality: N/A
Tumor Location: N/A
Gender: N/A
Age At Initial Pathologic: N/A
Race: N/A
Ethnicity: N/A
Death@1: N/A

Generating radiology report with MedGemma (on cpu)...

--- Generated Report ---

Okay, I will analyze the provided axial brain MRI sequence and generate a radiology report describing the tumor characteristics based on the 10x10 grid.

****Analysis of the MRI Sequence:****

1. ****Location:**** The tumor appears to be located in the right temporal lobe, specifically involving the hippocampus and potentially extending towards the adjacent structures like the amygdala and possibly the temporal horn of the right lateral ventricle.

2. ****Size and Shape Progression:****

* ****Superior Slices (Top Rows):**** The tumor is relatively small and more localized, primarily within the medial temporal lobe structures. It appears somewhat rounded or oval.

* ****Mid Slices (Middle Rows):**** The tumor grows in size and extends more laterally and inferiorly. It starts to show a more irregular shape, potentially infiltrating surrounding tissue. It appears to be pushing on the temporal horn.

* ****Inferior Slices (Bottom Rows):**** The tumor reaches its maximum extent in the axial plane. It appears largest here, extending significantly into the temporal lobe and potentially involving the inferior aspect of the temporal horn. The shape remains irregular.

3. ****3D Impression:**** Based on the axial progression, the tumor likely has an irregular, somewhat lobulated shape. It appears to originate in the medial temporal lobe (hippocampus) and grows outwards, involving the temporal horn and surrounding temporal lobe parenchyma. The superior-inferior extent is significant, spanning multiple slices. The anterior-posterior dimension seems more constrained, but the lateral extent increases as the slices progress inferiorly. The tumor appears to be primarily located within the right temporal lobe.

****Radiology Report:****

****Patient:**** TCGA_HT_A61B

****Exam:**** Brain MRI (Axial Sequence)

****Findings:****

There is a lesion identified in the right temporal lobe. The lesion is best visualized on axial sequences starting from approximately slice 4 and extending down to slice 10.

* ****Location:**** Right medial temporal lobe, involving the hippocampus and extending towards the amygdala and the temporal horn of the right lateral ventricle.

* ****Size:**** The lesion measures approximately 2.5 cm in maximum axial dimension on the lower slices (slices 9-10). It is smaller on the upper slices (slices 4-6), measuring approximately 1.5 cm in maximum axial dimension.

* ****Shape:**** The lesion demonstrates an irregular, somewhat lobulated shape. It appears to infiltrate

Completed analysis for all 110 patients.

Saving generated reports to a CSV file...

Successfully saved reports to Generated_Report_2025-09-11_on_LGGdataset.csv