

VLM Multi-Model Comparison Report

Dataset:

progression_recurrence_survival_1yr_2yr_3yr_4yr_5yr_v1_1

Subtask: died_of_cancer_1_yr

Average unique events: 97.22

Question:

Based on the provided medical history and cancer evidence, is cancer-related mortality expected within 1 year of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: [CORRECT] <think> The patient has been diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan involves lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy will be needed. The patient's overall health appears stable, with no significant comorbidities that would affect treatment outcomes. The absence of metastatic disease (M0) and the localized nature of the tumor (T1N1) suggest a favorable prognosis. Given the stage and treatment plan, cancer-related mortality within 1 year of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a stage IB lung adenocarcinoma (T1N1M0) with a treatment plan involving lobectomy and possible adjuvant chemotherapy. The absence of metastatic disease and the localized nature of the tumor suggest a favorable prognosis. The patient's overall health is stable, with no significant comorbidities affecting treatment outcomes. Therefore, cancer-related mortality within 1 year of treatment initiation is not expected. | <answer>No</answer>

middle axial image: [CORRECT] <think> The patient has been diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan involves lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy will be required. Stage IB tumors generally have a good prognosis with appropriate treatment, and the patient is expected to undergo surgery without immediate need for chemotherapy if the tumor is indeed stage I. The patient's overall health appears stable, with no significant comorbidities that would adversely affect treatment outcomes. Given the stage and treatment plan, cancer-related mortality within 1 year of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a T1N1M0 lung adenocarcinoma, classified as stage IB. The treatment plan includes lobectomy, with adjuvant chemotherapy only if the tumor is stage IB or II. Stage IB tumors generally have a good prognosis with appropriate treatment. The patient's overall health is stable, and there are no significant comorbidities affecting treatment outcomes.

Therefore, cancer-related mortality within 1 year of treatment initiation is not expected. |
<answer>No</answer>

no image: [INCORRECT] <think> The patient is a 61-year-old female diagnosed with a 2.2 cm left lower lobe pulmonary nodule, confirmed as adenocarcinoma. The imaging studies, including PET-CT, show no evidence of metastatic disease, indicating a localized tumor. The AJCC staging indicates a T1N1M0 stage, suggesting a stage IB cancer. The treatment plan involves lobectomy, and if the tumor is stage I without nodal involvement, adjuvant chemotherapy is not required. Given the early stage and the planned surgical intervention, cancer-related mortality within 1 year of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> | <answer> The patient has a T1N1M0 stage lung adenocarcinoma with no evidence of metastatic disease. The treatment plan includes lobectomy, and if the tumor is stage I without nodal involvement, adjuvant chemotherapy is not required. Given the early stage and planned surgical intervention, cancer-related mortality within 1 year of treatment initiation is not expected. </answer>

no radiology report: [INCORRECT] <think> The timeline indicates a diagnosis of a malignant neoplasm of the bronchus and lung, staged as T1 N1 M0, which is Stage IIIA according to the 7th AJCC edition. This stage suggests a localized but advanced cancer with regional lymph node involvement. The treatment plan appears to involve imaging and possibly chemotherapy or other oncological treatments. Given the stage and typical prognosis for such cancers, there is a significant risk of mortality within a year without effective treatment. The presence of multiple nodules and the patient's overall health metrics (e.g., BMI, blood pressure) also suggest a complex clinical picture that may not respond well to treatment, increasing the likelihood of cancer-related mortality within a year. </think> <brief reasoning trace with explanation for answer selection> The patient has a Stage IIIA malignant neoplasm of the bronchus and lung, indicating a significant risk of mortality within a year due to the advanced stage and regional lymph node involvement. The treatment complexity and the patient's health metrics further support a higher risk of cancer-related mortality. | <answer>Yes</answer>

100 axial images (no timeline): [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not include any specific medical history, cancer evidence, imaging, pathology, or treatment details. Without explicit evidence regarding the presence of cancer, its stage, or treatment outcomes, it is not possible to determine the likelihood of cancer-related mortality within 1 year of treatment initiation. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I need to determine whether the patient's cancer-related mortality is expected within one year of treatment initiation based on the provided medical history and imaging findings. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung. The tumor is T1N0M0 (no nodal involvement or metastasis evident on imaging). She has undergone a PET-CT showing no metastatic disease, and the biopsy confirmed adenocarcinoma. She is scheduled for lobectomy, which is standard for early-stage lung cancer. Key factors to consider for prognosis and mortality risk: - Stage: T1N0M0, which is early stage. - No evidence of nodal involvement or distant metastasis. - She is undergoing surgery, which is curative intent. - No mention of high-risk features such as large tumor size, lymphovascular invasion, or positive margins. - She has a history of DCIS and breast cancer, but no recurrence. - She is on menopausal hormone therapy, but this is not directly related to lung cancer prognosis. - No significant comorbidities mentioned that would drastically affect survival. - The imaging shows no suspicious lymph nodes or metastases. - The PET-CT showed no significant FDG uptake outside the primary tumor, indicating no active metastatic disease. - The patient is active and has no significant symptoms like weight loss or night sweats. - The tumor is localized and resectable. Given these factors, the prognosis is

generally favorable for early-stage lung adenocarcinoma treated with surgery. The absence of nodal involvement or metastasis suggests a low risk of mortality within the first year. The main treatment is surgery, and adjuvant therapy decisions will depend on final pathology, but the current data do not indicate high-risk features that would suggest imminent mortality. Therefore, based on the provided information, there is no evidence to suggest cancer-related mortality within the first year.

middle axial image: [CORRECT] First, I need to determine whether the patient's cancer-related mortality is expected within one year of treatment initiation based on the provided timeline and medical records. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung. The tumor is T1N0M0 (no nodal involvement or metastasis evident on imaging). She underwent a PET-CT which showed no metastatic disease, and the biopsy confirmed adenocarcinoma. She has a history of DCIS treated with lumpectomy and tamoxifen, and currently is on menopausal hormone therapy. Key factors to consider for prognosis and mortality risk include: - Tumor stage: T1N0M0 suggests early-stage lung cancer. - No evidence of nodal involvement or distant metastasis. - She is undergoing lobectomy as planned, which is standard for early-stage lung cancer. - No mention of high-risk features such as positive margins, lymphovascular invasion, or poor differentiation. - She has comorbidities including asthma, hypothyroidism, and a history of smoking, but these do not directly indicate poor prognosis for the lung cancer. - The patient is active and has no significant symptoms like weight loss or night sweats, which would suggest more aggressive disease. - The PET-CT showed no FDG avidity outside the primary tumor, indicating no aggressive metastatic spread. - The bone density and other lab values do not indicate significant frailty or other factors that would impact survival. - The treatment plan includes lobectomy and possibly mediastinal node sampling, which aligns with standard care for early-stage lung cancer. - The patient is being followed closely with imaging and has no evidence of progression. Given the early stage, absence of nodal or metastatic disease, and standard treatment plan, the likelihood of cancer-related mortality within one year is low. The patient's overall health status and the tumor characteristics do not suggest a high risk of mortality within the first year. Therefore, based on the provided information, the answer is "No."

no image: [CORRECT] First, I need to determine whether the patient's cancer-related mortality is expected within one year of treatment initiation based on the provided timeline and medical records. The key factors to consider include the cancer stage, tumor biology, treatment intent, completeness, surgical margins, nodal status, biomarkers, and any other relevant clinical data. Looking at the patient's history, she was diagnosed with a 2.2 cm left lower lobe adenocarcinoma of the lung. The PET-CT showed no evidence of metastasis, and the MRI brain also showed no metastatic disease. The tumor is described as T1 (based on imaging), which typically indicates a localized tumor without lymph node involvement. The patient underwent a CT-guided FNA and core biopsy, which confirmed adenocarcinoma. The biopsy report mentions TTF-1 negative but BRST-2 negative and napsin A scattered positive, which aligns with lung adenocarcinoma. The patient's treatment plan includes lobectomy, as indicated by the tumor board discussion. The tumor abuts the fissure but no fissure nodularity or satellite nodules were noted. The patient has no significant nodal involvement on imaging, and the PET-CT did not show any hypermetabolic activity outside the primary lesion. This suggests that the cancer is localized, which is a favorable prognostic factor. The patient's overall health status is good, with no significant comorbidities that would contraindicate surgery. She is active, with a BMI of 26.5 and a body surface area of 1.74 m², which are within acceptable ranges for surgery. The planned treatment is lobectomy, which is standard for early-stage lung cancer. Given that the tumor is T1N0M0 (based on the information provided), the prognosis is generally favorable. The absence of nodal involvement and distant metastasis, along with the patient's good performance status, supports a low risk of cancer-related mortality within the first year. The main concern would be recurrence, but with appropriate surgical resection and follow-up, the likelihood of mortality within one year is low. Therefore, based on the provided data, the answer

is that cancer-related mortality is not expected within one year of treatment initiation.</think>
<brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no radiology report: [CORRECT] <think>First, I carefully reviewed the provided patient timeline and medical records. The timeline includes multiple dates of imaging and clinical interventions, but no specific mention of cancer-related mortality or survival data. The records show a patient with a history of malignant neoplasm of the bronchus and lung, but no direct evidence or documentation of cancer-related death within one year of treatment initiation is present. The imaging studies and clinical notes focus on treatment monitoring, complications, and follow-up rather than mortality outcomes. Without explicit documentation of cancer-related death within one year, I cannot conclude that cancer-related mortality is expected within that timeframe. Therefore, the correct answer is "No."</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>To determine whether cancer-related mortality is expected within 1 year of treatment initiation, I must analyze the provided patient timeline. The timeline only includes the date of birth and ethnicity/race information, but no clinical details such as cancer diagnosis, stage, treatment type, or outcomes. Without this critical data, it is impossible to assess the risk of cancer-related mortality. The timeline lacks any evidence of cancer treatment initiation, progression, or survival data. Therefore, I cannot conclude whether cancer-related mortality is expected within 1 year of treatment initiation based solely on the provided information.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The patient was diagnosed with stage I lung adenocarcinoma in April 2013. The PET-CT and CT scans confirmed a 2.2 cm left lower lobe nodule with no evidence of metastatic disease. The tumor board unanimously decided to proceed with a lobectomy. The patient is described as "extremely active" and able to do the StairMaster for 20 minutes. There is no evidence of metastasis, and the patient is not a candidate for adjuvant chemotherapy. The timeline shows that treatment initiation (lobectomy) occurred in May 2013, and the patient's prognosis is favorable for stage I disease. Therefore, cancer-related mortality is not expected within 1 year of treatment initiation. No

middle axial image: [CORRECT] The provided PATIENT_TIMELINE documents a 61-year-old female diagnosed with stage I lung adenocarcinoma (T1N0M0) in April 2013. The timeline includes multiple imaging studies (chest X-ray, CT, PET-CT, MRI brain) that confirmed the primary tumor and ruled out metastatic disease. The tumor was staged as T1N0M0, and the treatment plan, discussed at tumor board on 05/22/2013, was to proceed with lobectomy. The note explicitly states that if the tumor is a stage I tumor without nodal involvement, adjuvant chemotherapy is not needed. The patient is described as "extremely active" and "in no acute distress" with no significant comorbidities impacting prognosis. The timeline does not contain any evidence of disease progression, recurrence, or treatment failure within the 1-year window. Therefore, based on the evidence of early-stage disease with planned curative surgery and no signs of metastasis or progression, cancer-related mortality is not expected within 1 year of treatment initiation. No | No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with stage I lung adenocarcinoma (T1N0M0) based on imaging and biopsy results, with no evidence of metastasis. The tumor was localized and resectable. The timeline shows that treatment (lobectomy) was planned and discussed at tumor board on 05/22/2013, and the patient was counseled and prepared for surgery. There is no evidence of advanced disease, systemic symptoms, or rapid progression. The patient's performance status is good (active, able to exercise), and no treatment-related mortality is indicated in the timeline. Therefore, cancer-related mortality within 1 year of treatment initiation is not expected. <answer>No</answer>

no radiology report: [CORRECT] The patient's medical timeline indicates a diagnosis of malignant neoplasm of the bronchus and lung (ICD9CM/162.9) in April 2013, with a subsequent clinical staging of cT1N1M0 (AJCC 7th Edition) on May 2, 2013. This staging corresponds to Stage II (T1N1M0) lung cancer. The timeline includes imaging (CT chest, PET-CT) and clinical assessments, but there is no evidence of treatment initiation or any documentation of survival status beyond the timeline provided. The question asks whether cancer-related mortality is expected within 1 year of treatment initiation. Since the timeline does not provide information on treatment initiation or patient survival, it is impossible to determine if cancer-related mortality is expected within 1 year. The provided evidence does not support a definitive "Yes" or "No" answer. <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE documents a diagnosis of malignant neoplasm of the bronchus and lung (ICD9CM/162.9) and a clinical staging of cT1N1M0 (Stage II) on May 2, 2013. However, the timeline does not contain any information regarding the initiation of treatment, the patient's response to treatment, or any documented survival outcomes. Without evidence of treatment initiation or survival data, it is impossible to determine if cancer-related mortality is expected within 1 year. Therefore, the correct answer is "No" because the evidence does not support the expectation of mortality within the specified timeframe. <answer>No</answer>

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no information regarding any cancer diagnosis, treatment, or related clinical findings. There are no entries describing tumors, imaging results, pathology reports, or any oncological events. Without any evidence of cancer or its progression, it is impossible to determine cancer-related mortality risk. <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [CORRECT] <unused94>thought The user wants me to determine if cancer-related mortality is expected within 1 year based on the provided patient timeline. 1. **Identify the core question:** Is cancer-related mortality expected within 1 year? 2. **Scan the timeline for cancer diagnosis and treatment:** April 2013: Diagnosis of adenocarcinoma of the lung (left lower lobe). May 2013: CT-guided FNA and core biopsy confirms adenocarcinoma. May 15, 2013: MRI brain shows no evidence of metastatic disease. May 16, 2013: PET-CT shows a 2.2 cm left lower lobe pulmonary nodule (consistent with the biopsy finding) but no evidence of metastasis. May 2013: Tumor board discussion recommends lobectomy. May 2013: Patient undergoes lobectomy. May 2013: Pathology confirms adenocarcinoma. 3. **Assess the stage and treatment:** The tumor is described as T1 (based on the clinical notes, although not explicitly stated as T1 in the initial diagnosis, the subsequent discussion and treatment plan suggest it's likely early stage). The patient underwent surgery (lobectomy). There is no mention of adjuvant chemotherapy or other treatments. The PET-CT showed no evidence of metastasis. 4. **Evaluate the risk of mortality:** For early-stage (T1) lung cancer, especially after surgical resection, the prognosis is generally good. The absence of metastasis on PET-CT is a strong indicator of favorable prognosis. The patient is 61 years old, which is not extremely advanced age. There is no mention of other significant comorbidities that would drastically worsen prognosis. 5. **Formulate the answer:** Based on the diagnosis of early-stage lung cancer (T1) and successful surgical resection with no evidence of metastasis, the risk of cancer-related mortality within 1 year is low. 6. **Select the correct option:** "No". 7. **Construct the reasoning:** The patient was diagnosed with T1 lung adenocarcinoma in April 2013. A lobectomy was performed in May 2013. Subsequent imaging (PET-CT) showed no evidence of metastasis. For early-stage lung cancer treated surgically, the prognosis is generally favorable, and the risk of mortality within one year is low.<unused95><brief reasoning trace with explanation for answer

selection>The patient was diagnosed with T1 lung adenocarcinoma in April 2013. A lobectomy was performed in May 2013. Subsequent imaging (PET-CT) showed no evidence of metastasis. For early-stage lung cancer treated surgically, the prognosis is generally favorable, and the risk of mortality within one year is low. <answer>No</answer>

middle axial image: [CORRECT] <unused94>thought The user wants me to determine if cancer-related mortality is expected within 1 year based on the provided patient timeline. 1. ****Identify the core question:**** Is cancer-related mortality expected within 1 year? 2. ****Scan the timeline for cancer diagnosis and treatment:**** * April 2013: Diagnosis of adenocarcinoma of the lung (left lower lobe). * May 2013: CT-guided FNA and core biopsy confirms adenocarcinoma. * May 15, 2013: MRI brain shows no evidence of metastatic disease. * May 16, 2013: PET-CT shows a 2.2 cm left lower lobe pulmonary nodule (consistent with the biopsy finding) but no evidence of metastasis. * May 2013: Tumor board discussion recommends lobectomy. * May 2013: Patient undergoes lobectomy. * May 2013: Pathology report confirms adenocarcinoma. 3. ****Assess the stage and treatment:**** * The tumor is described as T1 (based on the clinical notes and staging codes). * The patient underwent surgery (lobectomy). * There is no mention of adjuvant chemotherapy or other treatments. * The PET-CT showed no evidence of metastasis (N0, M0). 4. ****Evaluate the risk of mortality:**** * A T1 lung cancer, especially one that has been surgically removed with no evidence of metastasis, has a very low risk of dying from the cancer within the first year. * The patient is 61 years old, which is not extremely advanced age, but the cancer itself is the primary factor. * The patient is currently undergoing follow-up care (pulmonary function test). 5. ****Formulate the answer:**** Based on the diagnosis of T1 lung cancer and successful surgical removal with no evidence of metastasis, the risk of cancer-related mortality within 1 year is very low. 6. ****Select the correct option:**** "No". 7. ****Construct the reasoning:**** The patient was diagnosed with T1 lung adenocarcinoma in April 2013. A CT-guided biopsy confirmed the diagnosis. A PET-CT scan in May 2013 showed the tumor but no evidence of metastasis. The patient underwent a lobectomy in May 2013. Pathology confirmed adenocarcinoma. There is no mention of adjuvant therapy or recurrence. A T1 lung cancer with no metastasis has a very low risk of mortality within one year. Therefore, cancer-related mortality is not expected within 1 year.<unused95><brief reasoning trace with explanation for answer selection> The patient was diagnosed with T1 lung adenocarcinoma in April 2013. A CT-guided biopsy confirmed the diagnosis. A PET-CT scan in May 2013 showed the tumor but no evidence of metastasis. The patient underwent a lobectomy in May 2013. Pathology confirmed adenocarcinoma. There is no mention of adjuvant therapy or recurrence. A T1 lung cancer with no metastasis has a very low risk of mortality within one year. Therefore, cancer-related mortality is not expected within 1 year. <answer>No</answer>

no image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung adenocarcinoma diagnosed in April 2013. The patient has undergone several imaging studies including a PET-CT and a CT chest scan. The PET-CT scan from May 16, 2013, showed a 2.2 cm left lower lobe pulmonary nodule with an SUVmax of 4.9, consistent with malignancy. The CT chest scan from April 27, 2013, also showed a 2 x 2.1-cm masslike opacity with spiculated margins in the left lower lobe. The patient has also undergone a biopsy of the lung nodule, which confirmed the diagnosis of adenocarcinoma. The patient has received treatment for this cancer, including surgery (lobectomy) and chemotherapy. The patient's clinical status is currently stable, and there is no mention of recurrence or progression of the cancer in the provided timeline. Therefore, based on the information available, cancer-related mortality within 1 year of treatment initiation is not expected. No | Yes

no radiology report: [INCORRECT] The patient has a history of malignant neoplasm of bronchus and lung, unspecified, diagnosed in 2013. The patient has undergone multiple imaging studies including CT chest and PET scan, as well as a chest tube placement and removal. The patient has also had spirometry and bronchodilation responsiveness testing. The patient's current status is not explicitly stated, but the presence of a malignancy, even if treated,

[illegible]

Model: google/medgemma-4b-it

middle image from each view: [CORRECT] No

middle axial image: [CORRECT] No

no image: [CORRECT] No

no radiology report: **[CORRECT]** No

100 axial images (no timeline): **[CORRECT]** The images show a well-defined, homogeneous mass within the breast tissue. The presence of a mass and the lack of any mention of metastasis or other concerning findings suggests a localized, potentially treatable cancer. Given the absence of evidence of advanced disease, cancer-related mortality within one year is not expected. No

Subtask: died_of_cancer_2_yr

Average unique events: 97.28

Question:

Based on the provided medical history and cancer evidence, is cancer-related mortality expected within 2 years of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: [CORRECT] <think> The patient was diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan included lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy would be needed. The patient's overall health appears stable, with no significant comorbidities that would affect treatment outcomes. Given the stage and treatment plan, cancer-related mortality within 2 years of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient was diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan included lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy would be needed. The patient's overall health appears stable, with no significant comorbidities that would affect treatment outcomes. Given the stage and treatment plan, cancer-related mortality within 2 years of treatment initiation is not expected. | <answer>No</answer>

middle axial image: [CORRECT] <think> The patient has been diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan involves lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy will be needed. Stage IB tumors generally have a good prognosis with appropriate treatment, and the five-year survival rate is typically high. There is no indication of metastatic disease (M0), and the patient's overall health appears stable. The patient's age and other comorbidities (like asthma) are managed, and there is no evidence of significant complications that would adversely affect outcomes. Given the stage and treatment plan, cancer-related mortality within 2 years of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a stage IB lung adenocarcinoma (T1N1M0) with a treatment plan involving lobectomy and possible adjuvant chemotherapy if needed. Stage IB tumors generally have a good prognosis with appropriate treatment, and there is no evidence of metastatic disease. The patient's overall health appears stable, and there are no significant comorbidities that would adversely affect outcomes. Therefore, cancer-related mortality within 2 years of treatment initiation is not expected. | <answer>No</answer>

no image: [CORRECT] <think> The patient is a 61-year-old female diagnosed with a 2.2 cm left lower lobe pulmonary nodule, confirmed as adenocarcinoma. The imaging studies, including PET-CT, show no evidence of metastatic disease, indicating a localized tumor. The AJCC staging is T1N1M0, suggesting a stage IB cancer. The treatment plan involves lobectomy, and if the tumor is stage I without nodal involvement, adjuvant chemotherapy is not required. Given the early stage and appropriate treatment, cancer-related mortality within 2 years of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a T1N1M0 stage lung adenocarcinoma with no metastatic disease. The treatment plan includes lobectomy, and if the tumor is stage I without nodal involvement, adjuvant chemotherapy is not required. Given the early stage and appropriate treatment,

cancer-related mortality within 2 years is not expected. | <answer>No</answer>

no radiology report: [INCORRECT] <think> The timeline indicates a diagnosis of a malignant neoplasm of the bronchus and lung, staged as T1 N1 M0, which is Stage IIIA according to the 7th AJCC edition. This stage suggests a localized but advanced cancer with regional lymph node involvement. The treatment plan likely involves a combination of surgery, chemotherapy, and/or radiation therapy. Given the stage and typical prognosis for such cancers, there is a significant risk of cancer-related mortality within 2 years of treatment initiation. The presence of multiple nodules and the need for PET/CT imaging also suggest a more aggressive disease course. </think> <brief reasoning trace with explanation for answer selection> The patient has a Stage IIIA malignant neoplasm of the bronchus and lung, indicating a significant risk of cancer-related mortality within 2 years due to the advanced stage and regional lymph node involvement. | <answer>Yes</answer>

100 axial images (no timeline): [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not include any specific medical history, cancer evidence, imaging, pathology, or treatment details. Without explicit evidence regarding the presence of cancer, its stage, or treatment outcomes, it is not possible to determine the likelihood of cancer-related mortality within 2 years of treatment initiation. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I need to determine if the patient has cancer-related mortality expected within 2 years of treatment initiation based on the provided timeline and medical data. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung (T1N0M0 stage). Key points from the timeline: 1. ****Diagnosis and Staging****: - CT-guided FNA confirmed adenocarcinoma. - PET-CT showed a 2.2 cm nodule without nodal involvement or distant metastasis. - No evidence of metastasis on brain MRI. - No lymph node involvement or distant spread noted. 2. ****Treatment Plan****: - Planned lobectomy (as per tumor board discussion). - No indication of advanced disease requiring immediate systemic therapy. - No mention of metastatic disease or high-risk features that would suggest poor prognosis within 2 years. 3. ****Prognostic Factors****: - Tumor is T1N0M0, which is early stage. - No lymphovascular invasion or other high-risk features mentioned. - Patient is active and has no significant comorbidities that would impact survival. - No evidence of aggressive tumor biology or biomarkers indicating rapid progression. 4. ****Follow-up and Monitoring****: - Small nodules and ground-glass opacities noted but likely incidental or non-metastatic. - No signs of recurrence or progression in the provided timeline. Given the early stage, absence of nodal or metastatic disease, and no high-risk features, the likelihood of cancer-related mortality within 2 years is low. The patient is undergoing curative-intent surgery, and the prognosis aligns with early-stage lung adenocarcinoma. Therefore, based on the provided data, the answer is "No".</think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to determine whether the patient's cancer-related mortality is expected within 2 years of treatment initiation based on the provided timeline and medical records. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung. The tumor is T1N0M0 (no nodal involvement or metastasis evident on imaging). She underwent a PET-CT showing no metastatic disease, and the biopsy confirmed adenocarcinoma. She has a history of DCIS treated with lumpectomy and tamoxifen, and no recent recurrence. Key factors to consider for prognosis and mortality risk: - Tumor stage: T1N0M0, which is early stage. - No evidence of nodal involvement or distant metastasis. - She is undergoing lobectomy as planned, which is standard for early-stage lung cancer. - No mention of high-risk features such as positive margins, lymphovascular invasion, or poor differentiation. - She has comorbidities including asthma, hypothyroidism, and a history of smoking, but these do not directly indicate poor prognosis for the lung cancer. - The patient is

active and has no significant symptoms like weight loss or night sweats. - The treatment plan includes lobectomy and possibly mediastinal node sampling, which aligns with standard care for early-stage lung cancer. - The PET-CT showed no FDG-avid lymph nodes or distant metastases, supporting the N0 and M0 status. - The patient is on hormone therapy for menopause, but this does not affect lung cancer prognosis. - The FRAX score and bone density indicate osteopenia but no fractures or metastases to bone. - The patient has no history of prior cancer recurrence or aggressive tumor biology. Given the early stage, absence of nodal or metastatic disease, and standard treatment plan, the likelihood of cancer-related mortality within 2 years is low. The patient's overall health status and treatment approach suggest a favorable prognosis. Therefore, based on the provided information, the answer is "No," cancer-related mortality is not expected within 2 years.</think> <brief reasoning trace with explanation for answer selection | <answer>No</answer>

no image: [CORRECT] <think>First, I need to determine if the patient's cancer-related mortality is expected within 2 years based on the provided timeline and medical records. The key factors to consider include the cancer stage, treatment details, tumor biology, and any available prognostic indicators. Looking at the patient's history, she was diagnosed with a 2.2 cm left lower lobe adenocarcinoma of the lung. The PET-CT showed no evidence of metastasis, and the MRI brain also showed no metastatic disease. The tumor is described as T1 (based on imaging), which typically indicates a localized tumor without nodal involvement. The patient underwent a CT-guided FNA and core biopsy, confirming adenocarcinoma. The treatment plan includes lobectomy, which is standard for early-stage lung cancer. The tumor abuts the fissure but no nodal involvement is noted. The patient has undergone staging with PET-CT and MRI, and the findings suggest a localized disease without distant spread. The presence of nonspecific ground-glass opacities and small nodules is noted but not considered significant for metastasis at this stage. The patient's overall health is good, with no significant comorbidities that would preclude surgery. She is active and has a normal performance status. The decision for lobectomy is made, and the tumor board has discussed the case, indicating a favorable prognosis with surgery. Given that the tumor is T1N0M0 (based on the information provided), the 5-year survival rate is relatively high, and the risk of mortality within 2 years is low if the surgery is successful and there is no recurrence. The patient's history of DCIS and current hormone therapy does not directly impact the lung cancer prognosis in this context. Therefore, based on the available data, there is no indication that cancer-related mortality is expected within 2 years. The patient's condition appears to be localized and treatable with surgery, and no high-risk features are mentioned that would suggest a poor prognosis.</think> <answer>No</answer>

no radiology report: [CORRECT] <think>First, I carefully examine the provided CT images and the patient timeline data to assess the likelihood of cancer-related mortality within 2 years of treatment initiation. The CT images show axial slices of the chest and pelvis, with no obvious signs of metastatic disease or aggressive tumor progression visible in these images. The patient timeline includes multiple visits and procedures, including imaging and oxygen therapy, but no direct evidence of metastatic spread or recurrence is noted. The patient's treatment appears to be ongoing, with no indication of disease progression or complications that would suggest imminent mortality. The absence of clear metastatic lesions or aggressive tumor features in the images, combined with the lack of documented clinical deterioration or treatment failure, suggests that the patient is stable. Therefore, based on the available data, the likelihood of cancer-related mortality within 2 years is low.</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>To determine whether cancer-related mortality is expected within 2 years of treatment initiation, I must analyze the provided patient timeline. However, the timeline only includes the date of birth and ethnicity/race, with no clinical details such as cancer diagnosis, stage, treatment type, or outcomes. Without this critical information, it is impossible to assess the risk of cancer-related mortality. Therefore, I cannot conclude whether the patient is at high risk of dying from cancer within 2 years of treatment

initiation based solely on the given data.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The patient was diagnosed with stage I lung adenocarcinoma in April 2013. The timeline shows that a tumor board meeting occurred on May 22, 2013, and the unanimous decision was to proceed with a lobectomy. The patient's clinical status at the time of diagnosis was described as "well-appearing" with no significant symptoms beyond anxiety. The imaging (PET-CT, MRI brain, CT chest) confirmed a localized tumor with no evidence of metastasis. The treatment plan was surgical resection, with adjuvant chemotherapy only if the tumor was found to be stage IB or II. Given the stage I diagnosis and the planned curative surgical intervention, cancer-related mortality within 2 years of treatment initiation is not expected. <brief reasoning trace with explanation for answer selection> | <answer></answer> No

middle axial image: [CORRECT] The provided PATIENT_TIMELINE documents a 61-year-old female diagnosed with stage I lung adenocarcinoma (T1N0M0) in April 2013. The timeline includes multiple imaging studies (CT, PET-CT, MRI) that confirmed the primary tumor and ruled out metastatic disease. The treatment plan, discussed at tumor board on 05/22/2013, was to proceed with lobectomy. The note from 05/17/2013 explicitly states that if the tumor is a stage I tumor without nodal involvement, adjuvant chemotherapy is not needed. The patient is described as "extremely active" and "able to do the StairMaster for 20 minutes," indicating good functional status. There is no evidence of metastasis, and the tumor is localized. The timeline does not contain any information about the patient's death or any events indicating cancer-related mortality within 2 years of treatment initiation. Therefore, based on the evidence provided, cancer-related mortality is not expected within 2 years of treatment initiation. <brief reasoning trace with explanation for answer selection> | <answer></answer> No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with stage I lung adenocarcinoma (T1N0M0) based on imaging and biopsy results, with no evidence of metastasis. The tumor was localized and resectable, and the tumor board unanimously decided to proceed with lobectomy. The patient is otherwise healthy, with no significant comorbidities or symptoms, and is highly active. There is no evidence of advanced disease, and adjuvant chemotherapy is not indicated for stage I. Given the early stage, localized disease, and planned curative surgery, cancer-related mortality within 2 years is not expected. <answer>No</answer>

no radiology report: [CORRECT] The patient's medical timeline indicates a diagnosis of malignant neoplasm of the bronchus and lung (ICD9CM/162.9) in April 2013, with a clinical staging of cT1N1M0 (AJCC 7th Edition) on May 2, 2013. This is a stage IIIA lung cancer. The timeline includes imaging (CT chest, PET-CT) and a case management visit, suggesting active oncology care. However, the timeline does not contain any information about the initiation of treatment, the specific treatment modality, its response, or any documented survival data. Without evidence of treatment initiation or its effectiveness, it is impossible to determine if cancer-related mortality is expected within 2 years. The question requires evidence from the timeline, which is absent. No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no information regarding any cancer diagnosis, treatment, or related clinical findings. There are no entries describing tumors, imaging results, pathology reports, or any oncological history. Without any evidence of cancer or its progression, it is impossible to determine whether cancer-related mortality is expected within 2 years of treatment initiation. <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [CORRECT] <unused94>thought The user wants me to determine if cancer-related mortality is expected within 2 years based on the provided patient timeline. 1. **Identify the core question:** Is cancer-related mortality expected within 2 years? 2. **Scan the timeline for cancer diagnosis and treatment:** April 2013: Diagnosis of adenocarcinoma of the lung (left lower lobe). May 2013: CT-guided FNA and core biopsy confirms adenocarcinoma. May 15, 2013: MRI brain shows no evidence of metastatic disease. May 16, 2013: PET-CT shows a 2.2 cm left lower lobe pulmonary nodule (consistent with the biopsy finding) but no evidence of metastasis. May 2013: Tumor board discussion recommends lobectomy. May 2013: Patient undergoes lobectomy. May 2013: Pathology confirms adenocarcinoma. 3. **Assess the stage and treatment:** The tumor is described as T1 (based on the clinical notes and staging codes). The patient underwent surgery (lobectomy). There is no mention of adjuvant chemotherapy or other treatments. The PET-CT showed no evidence of metastasis (N0, M0). 4. **Evaluate the prognosis based on stage and treatment:** Stage I lung cancer (T1N0M0) has a very good prognosis. Survival rates for Stage I lung cancer are typically >90% at 5 years and >80% at 10 years. The patient has completed primary treatment (surgery). 5. **Determine if mortality is expected within 2 years:** Given the Stage I diagnosis and successful surgery, the risk of dying from lung cancer within the next 2 years is very low. 6. **Formulate the answer:** The patient has Stage I lung cancer (T1N0M0). She underwent surgery (lobectomy). There is no evidence of metastasis. Stage I lung cancer has a very high survival rate, with less than 10% mortality within 2 years. Therefore, cancer-related mortality is not expected within 2 years. 7. **Select the correct option:** "No". 8. **Construct the output:** Reasoning trace: The patient was diagnosed with Stage I lung cancer (T1N0M0) in April 2013. She underwent surgery (lobectomy) in May 2013. The PET-CT scan showed no evidence of metastasis. Stage I lung cancer has a very high survival rate, with less than 10% mortality within 2 years. Therefore, cancer-related mortality is not expected within 2 years. Answer: No.<unused95>Reasoning trace: The patient was diagnosed with Stage I lung cancer (T1N0M0) in April 2013. She underwent surgery (lobectomy) in May 2013. The PET-CT scan showed no evidence of metastasis. Stage I lung cancer has a very high survival rate, with less than 10% mortality within 2 years. Therefore, cancer-related mortality is not expected within 2 years. Answer: No

middle axial image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung adenocarcinoma diagnosed in April 2013. The PET-CT scan performed on May 16, 2013, showed a 2.2 cm left lower lobe pulmonary nodule with an SUVmax of 4.9, consistent with malignancy. The subsequent CT scan on May 26, 2013, confirmed the presence of the nodule and also revealed several other smaller nodules and ground-glass opacities. The patient underwent a CT-guided biopsy on May 4, 2013, which confirmed adenocarcinoma. The patient is currently on menopausal hormone therapy. The patient's clinical presentation and imaging findings are consistent with lung cancer. The question asks about the expected cancer-related mortality within 2 years of treatment initiation. Given the diagnosis of lung cancer, even if staged as T1N0M0 (based on the initial imaging and biopsy), the risk of cancer-related mortality within 2 years is significant. Lung cancer, even in early stages, carries a substantial risk of recurrence and death. Therefore, the expected outcome is not "No". <answer>Yes</answer>

no image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung adenocarcinoma diagnosed in April 2013. The patient has undergone multiple imaging studies including a PET-CT and a CT chest, which showed a 2.2 cm left lower lobe pulmonary nodule. The PET-CT showed no evidence of metastatic disease. The patient has also undergone a brain MRI and a chest x-ray, both showing no evidence of metastatic disease. The patient has received treatment for the lung cancer, including a CT-guided biopsy and subsequent lobectomy surgery in May 2013. The patient's clinical status is documented as well-appearing and active. There is no mention of recurrence, progression, or other signs of cancer-related mortality in the provided timeline.

Therefore, based on the available information, cancer-related mortality is not expected within 2 years of treatment initiation. No | Yes

[illegible]

[illegible]

middle image from each view: [CORRECT] No

no image: [CORRECT] No

100 axial images (no timeline): [CORRECT] The images show a well-defined, homogeneous mass within the breast tissue. The presence of a mass and the lack of any mention of metastasis or other concerning findings suggest a localized, potentially treatable cancer. Given the absence of information about the stage, grade, or treatment plan, it is impossible to determine the expected cancer-related mortality within 2 years. No

Subtask: died_of_cancer_3_yr

Average unique events: 97.28

Question:

Based on the provided medical history and cancer evidence, is cancer-related mortality expected within 3 years of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: [CORRECT] <think> The patient was diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan included lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy would be needed. The patient's overall health appears stable, with no significant comorbidities that would affect treatment outcomes. Given the stage and treatment plan, cancer-related mortality within 3 years of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient was diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan included lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy would be needed. The patient's overall health appears stable, with no significant comorbidities that would affect treatment outcomes. Given the stage and treatment plan, cancer-related mortality within 3 years of treatment initiation is not expected. | <answer>No</answer>

middle axial image: [CORRECT] <think> The patient has been diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. According to the AJCC 7th edition staging, stage IB tumors have a 5-year survival rate of approximately 70-80%. The patient is planned for lobectomy, which is the standard treatment for stage IB lung cancer. The absence of metastatic disease (M0) and the localized nature of the tumor (T1N1) suggest a favorable prognosis. The patient's overall health appears stable, with no significant comorbidities that would adversely affect treatment outcomes. Given the stage and treatment plan, cancer-related mortality within 3 years is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a stage IB lung adenocarcinoma (T1N1M0) with no evidence of metastasis. The treatment plan includes lobectomy, which is effective for localized tumors. The 5-year survival rate for stage IB is high, and there are no significant comorbidities affecting prognosis. | <answer>No</answer>

no image: [CORRECT] <think> The patient is a 61-year-old female diagnosed with a 2.2 cm left lower lobe pulmonary nodule, confirmed as adenocarcinoma. The imaging studies, including PET-CT, show no evidence of metastatic disease, indicating a localized tumor. The AJCC staging indicates a T1N1M0 stage, suggesting a stage IB cancer. The treatment plan involves lobectomy, and if the tumor is stage I without nodal involvement, adjuvant chemotherapy is not required. Given the early stage and appropriate treatment, cancer-related mortality within 3 years is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a T1N1M0 stage lung adenocarcinoma with no evidence of metastasis. The treatment plan includes lobectomy, and if the tumor is stage I without nodal involvement, adjuvant chemotherapy is not required. Given the early stage and appropriate treatment, cancer-related mortality within 3 years is not expected. | <answer>No</answer>

no radiology report: [CORRECT] <think> The timeline indicates a diagnosis of a malignant neoplasm of the bronchus and lung, staged as T1 N1 M0 according to the 7th edition of the

AJCC. This stage suggests a localized cancer with regional lymph node involvement but no distant metastasis. The treatment appears to involve imaging and possibly chemotherapy or other oncological interventions. Given the stage and typical prognosis for such cancers, patients often have a significant survival rate beyond three years with appropriate treatment. There is no explicit evidence of advanced disease or treatment failure within the provided timeline that would suggest imminent mortality within three years. </think> <brief reasoning trace with explanation for answer selection> The patient has a malignant neoplasm of the bronchus and lung, staged T1 N1 M0, indicating localized disease with regional lymph node involvement but no distant metastasis. The typical prognosis for such cancers, with appropriate treatment, often extends beyond three years. There is no explicit evidence of advanced disease or treatment failure suggesting imminent mortality within three years. | <answer>No</answer>

100 axial images (no timeline): [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not include any specific medical history, cancer evidence, imaging, pathology, or treatment details. Without explicit evidence regarding the presence of cancer, its stage, or treatment outcomes, it is not possible to determine the likelihood of cancer-related mortality within 3 years of treatment initiation. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I need to determine if the patient has cancer-related mortality expected within 3 years of treatment initiation based on the provided timeline and medical data. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung (T1N0M0 stage). Key points from the timeline: 1. ****Diagnosis and Staging****: - CT-guided FNA confirmed adenocarcinoma. - PET-CT showed a 2.2 cm nodule without nodal involvement or distant metastasis. - No evidence of metastatic disease on brain MRI. - No lymph node involvement noted. 2. ****Treatment Plan****: - Planned lobectomy (as per tumor board discussion). - No indication of advanced disease requiring neoadjuvant therapy. - No mention of metastatic disease or high-risk features. 3. ****Prognostic Factors****: - Tumor is T1N0M0, which is early stage. - No nodal or distant metastasis. - Patient is active and has no significant comorbidities that would preclude surgery. - No biomarkers indicating aggressive disease (e.g., EGFR, ALK status not mentioned). - No prior history of metastasis or recurrence. 4. ****Surveillance and Follow-up****: - Nonspecific GGOs and small nodules noted but not concerning for metastasis. - Patient is undergoing staging workup but no evidence of advanced disease. 5. ****Mortality Risk****: - For early-stage non-small cell lung cancer (NSCLC), 5-year survival is generally >60%. - Within 3 years, the risk of cancer-related mortality is low if the tumor is completely resected and no recurrence. - No evidence of aggressive features or high-risk factors in the provided data. Given the absence of metastatic disease, no nodal involvement, and early stage, the patient's prognosis is favorable. The treatment plan aligns with standard care for early-stage lung cancer. Therefore, there is no indication of cancer-related mortality expected within 3 years.</think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to determine if the patient has cancer-related mortality expected within 3 years of treatment initiation based on the provided timeline and medical records. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung. Key points from the timeline: - Diagnosis: 2.2 cm spiculated nodule in left lower lobe, biopsy confirmed adenocarcinoma. - Staging: PET-CT and CT show no nodal involvement or metastasis. No evidence of metastatic disease. - Treatment Plan: Lobectomy planned, likely stage I given no nodal involvement. - Comorbidities: History of DCIS, asthma, hypothyroidism, and other non-cancer conditions. - No mention of distant metastasis or high-risk features like large tumor size, positive nodes, or poor performance status. - The patient is active, with no significant weight loss or other symptoms suggesting advanced disease. - The tumor is localized, and treatment is surgical with possible adjuvant therapy depending on final

pathology. Given the absence of metastatic disease, no high-risk features, and the tumor being localized (stage I), the prognosis is generally favorable. The patient's age and comorbidities do not suggest a high risk of mortality within 3 years. The main concern is the potential for recurrence, but the question is about cancer-related mortality within 3 years. Therefore, based on the information, the answer is "No" because there is no evidence of advanced disease or factors indicating high mortality risk within 3 years.</think> <brief reasoning trace with explanation for answer selection | <answer>No</answer>

no image: [CORRECT] <think>First, I need to determine whether the patient's cancer-related mortality is expected within 3 years of treatment initiation based on the provided timeline and medical records. The key factors to consider include the cancer stage, tumor biology, treatment intent, completeness, surgical margins, nodal status, biomarkers, and any other relevant clinical data. Looking at the patient's history, she was diagnosed with a 2.2 cm left lower lobe adenocarcinoma of the lung. The PET-CT showed no evidence of metastasis, and the MRI brain also showed no metastatic disease. The tumor is described as T1 (based on imaging), which typically indicates a localized tumor without lymph node involvement. The biopsy confirmed adenocarcinoma with certain immunohistochemical markers (TTF-1 negative, BRST-2 negative, napsin A positive), which aligns with lung adenocarcinoma. The patient underwent a CT-guided FNA and core biopsy, which confirmed the diagnosis. The treatment plan includes lobectomy, as indicated by the tumor board discussion. The patient is scheduled for surgery, and the plan is to evaluate mediastinal nodes intraoperatively. There is no mention of lymph node involvement or distant metastasis at this stage. The patient's overall health is stable, with no significant comorbidities that would preclude surgery. She is active and has a good performance status. The presence of other conditions like asthma and hypothyroidism is noted but does not seem to impact her current treatment plan. Given that the tumor is localized (T1N0M0), the prognosis is generally favorable with appropriate surgical resection. The 5-year survival rate for stage I non-small cell lung cancer (NSCLC) is relatively high, often exceeding 60-70%. However, the question is about mortality within 3 years. For stage I NSCLC, the 3-year survival rate is approximately 70-80%, indicating that mortality within 3 years is not expected if the treatment is successful. There is no evidence of nodal involvement, distant metastasis, or other high-risk features that would suggest a poor prognosis. The patient is undergoing appropriate staging and treatment, and there are no indications of aggressive disease or complications that would lead to early mortality. Therefore, based on the available information, the patient's cancer-related mortality is not expected within 3 years of treatment initiation.</think> <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no radiology report: [INCORRECT] <think>First, I carefully examine the provided CT images and the associated timeline data to assess the patient's condition and treatment history. The images show axial CT scans of the chest and pelvis, with no clear evidence of metastatic disease or recurrence. The patient's timeline includes multiple visits and procedures, including imaging and oxygen therapy, but no indication of cancer progression or recurrence is evident. The patient's treatment appears to be stable, with no signs of complications or deterioration. Based on the available data, there is no evidence to suggest cancer-related mortality within 3 years of treatment initiation.</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>To determine whether cancer-related mortality is expected within 3 years of treatment initiation, I must analyze the provided patient timeline. The timeline only includes the date of birth and ethnicity/race information, but no clinical details such as cancer diagnosis, stage, treatment type, or outcomes. Without this critical data, it is impossible to assess the risk of cancer-related mortality. The timeline lacks any evidence of cancer treatment initiation, progression, or survival data. Therefore, I cannot conclude whether cancer-related mortality is expected within 3 years. The answer must be based solely on the available information, which is insufficient to make a definitive judgment.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The patient was diagnosed with stage I lung adenocarcinoma in April 2013. The PET-CT and CT scans confirmed a 2.2 cm left lower lobe nodule with no evidence of metastatic disease. The tumor board unanimously decided to proceed with a lobectomy in May 2013. The patient is described as extremely active and without significant comorbidities that would negatively impact prognosis. For stage I non-small cell lung cancer, the standard of care is surgical resection, and the 5-year survival rate is very high (often over 80%). Given the early stage, complete resection, and absence of metastatic disease, cancer-related mortality within 3 years of treatment initiation is not expected. No | No

middle axial image: [CORRECT] The patient was diagnosed with stage I lung adenocarcinoma (T1N0M0) in 2013, based on imaging and biopsy results. The tumor was localized to the left lower lobe, with no evidence of nodal or distant metastasis. The treatment plan, as discussed in the tumor board on 05/22/2013, was to proceed with lobectomy. For a stage I lung cancer, adjuvant chemotherapy is not indicated, and the patient was deemed to be a good surgical candidate. The patient's overall health, including her activity level and absence of significant comorbidities (aside from asthma and osteopenia), supports a favorable prognosis. The timeline indicates that treatment initiation (lobectomy) occurred shortly after diagnosis, and with stage I disease, the 5-year survival rate is typically over 90%. Therefore, cancer-related mortality within 3 years of treatment initiation is not expected. No | No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with stage I lung adenocarcinoma (T1N0M0) based on imaging and biopsy results, with no evidence of metastasis. The tumor was localized and resectable, and the tumor board unanimously decided to proceed with lobectomy. The patient is otherwise healthy, with no significant comorbidities or symptoms, and is highly active. Stage I lung cancer has an excellent prognosis with surgical resection, and adjuvant chemotherapy is not indicated for stage I. Given the absence of metastatic disease, the patient's good performance status, and the curative intent of surgery, cancer-related mortality within 3 years is not expected. <answer>No</answer>

no radiology report: [INCORRECT] The patient's medical timeline indicates a diagnosis of malignant neoplasm of the bronchus and lung (ICD9CM/162.9) in April 2013, with a clinical staging of cT1N1M0 (AJCC 7th Edition) on May 2, 2013. This is a stage IIIA lung cancer. The timeline includes imaging (CT chest, PET-CT) and a chest tube placement, suggesting an invasive procedure, likely for tumor resection or complication management. The patient's age at diagnosis (62 years old in 2013) and the stage of disease are significant prognostic factors. Stage IIIA non-small cell lung cancer has a 5-year survival rate of approximately 20-30% with treatment. Given the stage, the patient's age, and the absence of any evidence of treatment completion or disease control in the provided timeline, cancer-related mortality within 3 years of treatment initiation is a reasonable expectation. <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with stage IIIA lung cancer (cT1N1M0) in 2013. Stage IIIA non-small cell lung cancer has a 5-year survival rate of approximately 20-30% with treatment. Given the stage, the patient's age, and the absence of evidence of treatment completion or disease control in the provided timeline, cancer-related mortality within 3 years of treatment initiation is a reasonable expectation. | Yes

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no information regarding any cancer diagnosis, treatment, or related clinical findings. There are no entries describing tumors, imaging results, pathology reports, or any oncological history. Without any evidence of cancer or its progression, it is impossible to determine cancer-related mortality risk. <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [CORRECT] <unused94>thought The user wants me to determine if cancer-related mortality is expected within 3 years based on the provided patient timeline. 1. ****Identify the core question:**** Is cancer-related mortality expected within 3 years? 2. ****Scan the timeline for cancer diagnosis and treatment:**** * April 2013: Diagnosis of adenocarcinoma of the lung (left lower lobe). * May 2013: CT-guided FNA and core biopsy confirms adenocarcinoma. * May 15, 2013: MRI brain shows no evidence of metastatic disease. * May 16, 2013: PET-CT shows a 2.2 cm left lower lobe pulmonary nodule (consistent with the biopsy finding) but no evidence of metastasis. * May 2013: Tumor board discussion recommends lobectomy. * May 2013: Patient undergoes lobectomy. * May 2013: Pathology confirms adenocarcinoma. 3. ****Assess the stage and treatment:**** * The tumor is described as T1 (based on the clinical notes and staging codes). * The patient underwent surgery (lobectomy). * There is no mention of adjuvant chemotherapy or radiation therapy. * There is no mention of recurrence or metastasis. 4. ****Evaluate the risk of mortality:**** * T1 lung cancer, especially after surgery, generally has a very low risk of mortality within 3 years. The 5-year survival rate for T1 lung cancer is typically very high (often >90%). * The patient has no evidence of metastatic disease. * The patient is relatively young (61 years old). 5. ****Formulate the answer:**** Based on the diagnosis of T1 lung cancer and successful surgical resection without evidence of metastasis, the risk of cancer-related mortality within 3 years is very low. 6. ****Select the correct option:**** "No". 7. ****Construct the reasoning:**** The patient was diagnosed with T1 lung adenocarcinoma in April 2013. She underwent lobectomy in May 2013. Subsequent imaging (MRI brain, PET-CT) showed no evidence of metastatic disease. T1 lung cancer, especially after surgical resection, has a very low risk of mortality within 3 years. Therefore, cancer-related mortality is not expected within 3 years.<unused95><brief reasoning trace with explanation for answer selection>The patient was diagnosed with T1 lung adenocarcinoma in April 2013. She underwent lobectomy in May 2013. Subsequent imaging (MRI brain, PET-CT) showed no evidence of metastatic disease. T1 lung cancer, especially after surgical resection, has a very low risk of mortality within 3 years. Therefore, cancer-related mortality is not expected within 3 years. <answer>No</answer>

middle axial image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> 1. ****Analyze the Request:**** The user wants me to determine if cancer-related mortality is expected within 3 years based on the provided patient timeline and select the correct option ("Yes" or "No"). 2. ****Review the Timeline:**** I need to scan the timeline for any evidence of cancer diagnosis, treatment, staging, prognosis, or mortality. * ****Diagnosis:**** The timeline shows a diagnosis of adenocarcinoma of the lung (ICD9CM/162.9, STANFORD_NOTE/ip-letter, STANFORD_NOTE/SR-). The biopsy was performed on 05/04/2013. * ****Staging:**** The timeline includes PET-CT (05/16/2013) and CT chest (04/27/2013). The PET-CT shows a 2.2 cm left lower lobe pulmonary nodule with CD max 4.9. The CT chest shows a 2 x 2.1-cm masslike opacity with spiculated margins in the left lower lobe. The report mentions "no obvious nodal involvement by size criteria or PET avidity" and "nonspecific GGOs and very small nodules." The report also mentions endometrial FDG uptake and bilateral ovarian cysts, which are noted as potentially incidental. * ****Treatment:**** The timeline shows a CT-guided FNA and core biopsy on 05/04/2013. It also shows a chest tube placement on 05/03/2013 and removal on 06/04/2013. The patient is on menopausal hormone therapy. * ****Prognosis/Mortality:**** The timeline does not explicitly state a prognosis or expected mortality. However, the diagnosis is lung cancer, which is a serious condition. The staging information (T1N0M0 based on the report) suggests a relatively early stage. While early-stage lung cancer has a good prognosis, it is still cancer. The timeline does not provide any information about the patient's overall health, comorbidities, or response to treatment. 3. ****Evaluate the Question:**** The question asks about "expected" cancer-related mortality within 3 years. This implies a prediction based on the available data. 4. ****Synthesize Findings:**** The patient has been diagnosed with lung cancer (adenocarcinoma). The staging appears to be

T1N0M0 based on the report. While T1N0M0 lung cancer has a relatively good prognosis, it is still a cancer diagnosis. The timeline does not provide enough information to make a definitive prediction about mortality within 3 years. The report mentions "no obvious nodal involvement" and "no evidence of metastasis" on the PET-CT, which is positive. The report also mentions incidental findings (endometrial FDG uptake, ovarian cysts) that may or may not be related to the cancer. Without more information (e.g., specific tumor biology, patient's overall health, treatment plan details, follow-up imaging), it is impossible to definitively say whether cancer-related mortality is expected within 3 years. The timeline provides a diagnosis but lacks the necessary details for a prognosis. 5. ****Select the Answer:**** Since the timeline provides a diagnosis of cancer but lacks sufficient information to predict mortality within 3 years, the most appropriate answer is "No". The timeline does not contain evidence **supporting** the expectation of cancer-related mortality within 3 years. It only provides the diagnosis. 6. ****Format the Output:**** Follow the required format: `<brief reasoning trace with explanation for answer selection> | <answer></answer>`. <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient timeline includes a diagnosis of lung adenocarcinoma (ICD9CM/162.9, STANFORD_NOTE/ip-letter, STANFORD_NOTE/SR-). The staging report suggests a T1N0M0 classification. While T1N0M0 lung cancer generally has a favorable prognosis, the timeline does not provide sufficient information to predict cancer-related mortality within 3 years. There is no mention of specific tumor biology, patient comorbidities, treatment details, or follow-up findings that would allow for a prognosis. Therefore, based solely on the provided timeline, it is not possible to definitively state that cancer-related mortality is expected within 3 years. | No

no image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung adenocarcinoma diagnosed in April 2013. The patient underwent a PET-CT scan in May 2013, which showed a 2.2 cm left lower lobe pulmonary nodule with an SUVmax of 4.9, consistent with malignancy. The PET-CT also showed no evidence of metastatic disease. The patient subsequently underwent a CT-guided biopsy, confirming the diagnosis of adenocarcinoma. The patient has also had a history of DCIS, which is a precursor to breast cancer, but the breast cancer is in remission. The patient has a history of asthma, but no recent hospitalizations or ER visits related to it. The patient has been on menopausal hormone therapy. The patient has a history of smoking, but quit 11-12 years ago. The patient has a history of Crohn's disease, which is reportedly in remission. The patient has a history of hypothyroidism and allergies. The patient has had a chest tube placed and removed. The patient has had a brain MRI and a pulmonary function test (PFT) with DLCO. The patient's clinical presentation, imaging findings (lung nodule, no metastasis), and biopsy results are consistent with a primary lung cancer diagnosis. The patient's history of DCIS is noted but does not change the current diagnosis of lung cancer. The patient's history of asthma and menopausal hormone therapy are relevant comorbidities but do not alter the assessment of cancer risk or prognosis based on the provided information. The patient's history of smoking, although remote, is a significant risk factor for lung cancer. The patient's history of Crohn's disease is not directly related to the current lung cancer diagnosis. The patient's history of hypothyroidism and allergies are also not directly related. The patient's history of DCIS is a risk factor for breast cancer, but the patient is currently in remission from this. The patient's history of a chest tube placement is related to a previous medical issue, not the current lung cancer. The patient's history of a brain MRI and PFT are related to the current workup for lung cancer. The patient's history of being on menopausal hormone therapy is relevant for potential treatment planning and side effects, but does not directly impact the likelihood of cancer mortality based on the provided evidence. The patient's history of asthma is relevant for potential treatment side effects (e.g., bronchospasm). The patient's history of Crohn's disease is not directly related to the current lung cancer diagnosis. The patient's history of hypothyroidism and allergies are not directly related to the current lung cancer diagnosis. The patient's history of DCIS is a risk factor for breast cancer, but the patient is currently in remission from this. The

[illegible]

[illegible]

Model: google/medgemma-4b-it

middle image from each view: **[CORRECT]** No

middle axial image: [CORRECT] No

no image: [CORRECT] No

no radiology report: [CORRECT] No

100 axial images (no timeline): [CORRECT] The images show a well-defined, homogeneous mass within the breast tissue. The presence of a mass and the lack of any mention of metastasis or other concerning features suggests a localized, potentially treatable cancer. Given the absence of information about the stage, grade, or treatment plan, it is impossible to determine the expected cancer-related mortality within 3 years. No

Subtask: died_of_cancer_4_yr

Average unique events: 97.83

Question:

Based on the provided medical history and cancer evidence, is cancer-related mortality expected within 4 years of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: [CORRECT] <think> The patient was diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan included lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy would be needed. The patient's overall health appears stable, with no significant comorbidities that would affect treatment outcomes. Given the stage and treatment plan, the expected survival rate for a 4-year period post-treatment initiation is generally favorable, suggesting that cancer-related mortality is not expected within this timeframe. </think> <brief reasoning trace with explanation for answer selection> The patient has a stage IB lung adenocarcinoma (T1N1M0) and is planned for lobectomy with possible adjuvant chemotherapy if needed. The staging and treatment plan suggest a favorable prognosis, indicating that cancer-related mortality is not expected within 4 years. | <answer>No</answer>

middle axial image: [CORRECT] <think> The patient has been diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. According to the AJCC 7th edition staging, stage IB tumors have a 5-year survival rate of approximately 70-80%. The patient is planned for lobectomy, which is the standard treatment for stage IB lung cancer. The absence of metastasis (M0) and the localized nature of the tumor (T1N1) suggest a favorable prognosis. The patient's overall health appears stable, with no significant comorbidities that would adversely affect treatment outcomes. Given the stage and treatment plan, cancer-related mortality within 4 years of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a stage IB lung adenocarcinoma (T1N1M0) with no evidence of metastasis. The treatment plan includes lobectomy, which is effective for localized tumors. The 5-year survival rate for stage IB is high, and there are no significant comorbidities affecting prognosis. | <answer>No</answer>

no image: [CORRECT] <think> The patient is a 61-year-old female diagnosed with a T1N1M0 stage lung adenocarcinoma. The imaging studies, including PET-CT, show a 2.2 cm left lower lobe pulmonary nodule with no evidence of metastatic disease. The patient underwent a lobectomy, and the decision to proceed with surgery was made after tumor board discussion. Given the stage I or IB classification, the patient is unlikely to require adjuvant chemotherapy if there is no nodal involvement. The patient's overall health status appears stable, with no significant comorbidities that would adversely affect prognosis. The absence of metastatic disease and the localized nature of the tumor suggest a favorable prognosis, reducing the likelihood of cancer-related mortality within 4 years of treatment initiation. </think> <brief reasoning trace with explanation for answer selection> The patient has a T1N1M0 stage lung adenocarcinoma with no evidence of metastatic disease. The tumor is localized, and the patient is expected to undergo lobectomy without the need for adjuvant chemotherapy if there is no nodal involvement. The absence of metastasis and the localized nature of the tumor suggest a favorable prognosis, reducing the likelihood of cancer-related mortality within 4 years. |

<answer>No</answer>

no radiology report: [INCORRECT] <think> The timeline indicates a diagnosis of a malignant neoplasm of the bronchus and lung, staged as T1 N1 M0, which is Stage IIIA according to the 7th AJCC edition. This stage suggests a localized but advanced cancer with regional lymph node involvement. The treatment plan likely involves a combination of surgery, chemotherapy, and/or radiation therapy. Given the stage and typical prognosis for such cancers, there is a significant risk of cancer-related mortality within 4 years without effective treatment. The presence of additional conditions like asthma and the patient's overall health metrics (BMI, blood pressure) might impact treatment outcomes, but the primary concern remains the advanced stage of the cancer. </think> <brief reasoning trace with explanation for answer selection> The patient has a Stage IIIA malignant neoplasm of the bronchus and lung (T1 N1 M0), which typically has a poorer prognosis and higher risk of mortality within 4 years. The advanced stage and regional lymph node involvement suggest a challenging treatment course, increasing the likelihood of cancer-related mortality. | <answer>Yes</answer>

100 axial images (no timeline): [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not include any specific medical history, cancer evidence, imaging, pathology, or treatment details. Without explicit evidence regarding the presence of cancer, its stage, or treatment outcomes, it is not possible to determine the expected cancer-related mortality within 4 years of treatment initiation. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I need to determine whether the patient's cancer-related mortality is expected within 4 years of treatment initiation based on the provided medical history and imaging findings. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung. The tumor is T1N0M0 (no nodal involvement or metastasis evident on imaging). She underwent a PET-CT which showed no metastatic disease, and the biopsy confirmed adenocarcinoma. She has a history of DCIS treated with lumpectomy and tamoxifen, and no recent recurrence. She is currently on menopausal hormone therapy. The key factors to consider for prognosis and mortality risk include: - Tumor stage: T1N0M0 suggests early-stage lung cancer. - No evidence of nodal involvement or distant metastasis on imaging. - She is undergoing lobectomy as planned, which is standard for early-stage lung cancer. - No mention of high-risk features such as positive margins, lymphovascular invasion, or poor differentiation. - She has no significant comorbidities that would drastically affect survival. - The patient is active and has no symptoms like weight loss or night sweats, which could indicate advanced disease. Given the early stage and absence of metastasis, the prognosis is generally favorable. The 5-year survival rate for stage I lung cancer is relatively high, often exceeding 60-70%. Without evidence of recurrence or metastasis, the likelihood of cancer-related mortality within 4 years is low. Therefore, based on the provided data, there is no indication that cancer-related mortality is expected within 4 years.</think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to determine whether the patient's cancer-related mortality is expected within 4 years of treatment initiation based on the provided timeline and medical records. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung. The tumor is T1N0M0 (no nodal involvement or metastasis evident on imaging). She underwent a PET-CT which showed no metastatic disease, and the biopsy confirmed adenocarcinoma. She has a history of DCIS treated with lumpectomy and tamoxifen, and currently is on menopausal hormone therapy. Key factors to consider for prognosis and mortality risk: - Tumor stage: T1N0M0, which is early stage. - No evidence of nodal involvement or distant metastasis. - She is undergoing lobectomy as planned, which is standard for early-stage lung cancer. - No mention of high-risk features such as positive margins,

lymphovascular invasion, or poor differentiation. - She has comorbidities including asthma, hypothyroidism, and a history of smoking, but these do not directly impact cancer prognosis. - The patient is active and has no significant symptoms like weight loss or night sweats, which would suggest advanced disease. - The PET-CT showed no FDG-avid lymph nodes or distant metastases. - The FRAX score for osteoporosis and BMD are within normal limits, indicating no significant bone metastasis risk. - The patient has been followed for ovarian cysts and endometrial FDG uptake, but these are likely unrelated to the lung cancer and are being monitored separately. Given the early stage (T1N0M0) and absence of high-risk features, the prognosis is generally favorable. The standard treatment for T1N0M0 lung adenocarcinoma is lobectomy, and adjuvant therapy is not indicated unless there are high-risk features. The patient is scheduled for surgery, and there is no indication of recurrence or metastasis at this time. Therefore, based on the available data, there is no evidence to suggest cancer-related mortality within 4 years. The patient's cancer appears to be localized and treatable with surgery, and no high-risk factors are noted that would significantly increase mortality risk.</think>
<answer>No</answer>

no image: [CORRECT] <think>First, I need to determine whether the patient's cancer-related mortality is expected within 4 years of treatment initiation based on the provided timeline and medical records. The key factors to consider include the cancer stage, tumor biology, treatment details, and any available prognostic indicators. Looking at the patient's history, she was diagnosed with a 2.2 cm left lower lobe adenocarcinoma of the lung. The tumor is T1 (based on imaging), and there is no evidence of nodal involvement or metastasis on PET-CT or brain MRI. This suggests an early-stage lung cancer (likely stage I). The patient underwent a CT-guided FNA and core biopsy, confirming adenocarcinoma. The treatment plan includes lobectomy, which is standard for early-stage non-small cell lung cancer (NSCLC). The patient's performance status is good, as she is active and able to exercise. There are no significant comorbidities that would contraindicate surgery. The tumor markers and IHC (TTF-1 negative, BRST-2 negative, napsin A positive) are consistent with adenocarcinoma but do not indicate aggressive biology. The patient has a history of DCIS and is on hormone therapy, but this does not directly affect lung cancer prognosis. The presence of small nodules and ground-glass opacities is noted but not indicative of metastatic disease. The patient is scheduled for surgery and will undergo mediastinal node sampling, which is appropriate for staging. Given the early stage, absence of nodal or metastatic disease, and planned curative surgery, the prognosis is favorable. The 5-year survival rate for stage I lung adenocarcinoma is approximately 60-80%, indicating that mortality within 4 years is unlikely. However, the question is specifically about mortality within 4 years. Since the patient is undergoing definitive treatment and has no high-risk features, the likelihood of cancer-related mortality within 4 years is low. Therefore, based on the provided information, the answer is "No."</think> <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no radiology report: [INCORRECT] <think>First, I carefully examine the provided CT images and the associated timeline data to assess the patient's condition and treatment history. The images show axial CT scans of the chest and pelvis, with no clear evidence of metastatic disease or recurrence. The patient's timeline includes multiple visits and procedures, including imaging and oxygen therapy, but no indication of cancer progression or recurrence is evident. The patient's treatment appears to be stable, with no signs of complications or deterioration. Based on the available data, there is no evidence to suggest cancer-related mortality within 4 years of treatment initiation.</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>To determine whether cancer-related mortality is expected within 4 years of treatment initiation, I must analyze the provided patient timeline and any relevant clinical data. However, the timeline provided only includes the date of birth and ethnicity/race, with no mention of cancer diagnosis, treatment details, or outcomes. There is no evidence of cancer-related events, treatment initiation, or mortality data. Without specific clinical information such as tumor stage, treatment type, or survival data, it is impossible

to assess cancer-related mortality risk. Therefore, based solely on the provided timeline, there is no evidence to suggest cancer-related mortality within 4 years of treatment initiation.</think>
<answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The patient was diagnosed with stage I lung adenocarcinoma in April 2013. The timeline shows that a tumor board meeting occurred on May 22, 2013, and the unanimous decision was to proceed with a lobectomy. The patient's clinical status at the time of diagnosis was described as "well-appearing" with no significant symptoms beyond anxiety. The imaging (PET-CT, MRI brain, CT chest) confirmed a localized tumor with no evidence of metastasis. The treatment plan was surgical resection, with adjuvant chemotherapy only if the tumor was found to be stage IB or II. The patient was actively engaged in her care and was described as extremely active. Based on the stage (I), the treatment plan (surgery), and the patient's good clinical status at diagnosis, cancer-related mortality is not expected within 4 years of treatment initiation. No | No

middle axial image: [CORRECT] The provided PATIENT_TIMELINE documents a diagnosis of stage I lung adenocarcinoma (T1N0M0) in a 61-year-old female, confirmed by biopsy and staging imaging (PET-CT, MRI brain, CT chest). The tumor is localized to the left lower lobe with no evidence of metastasis. The treatment plan, as discussed at tumor board on 05/22/2013, is lobectomy. The note explicitly states: "If she is simply a stage I tumor without any nodal involvement, she will not need adjuvant chemotherapy." The patient is described as "extremely active" and "able to do the StairMaster for 20 minutes," indicating good functional status. There is no evidence of disease progression or recurrence in the timeline. Given the early stage (I), localized disease, and planned curative surgery without adjuvant chemotherapy, cancer-related mortality is not expected within 4 years of treatment initiation. No
<answer>No</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> |
<answer></answer> The patient was diagnosed with stage I lung adenocarcinoma (T1N0M0) based on imaging and biopsy results, with no evidence of metastasis. The tumor was localized and resectable, and the tumor board unanimously decided to proceed with lobectomy. The patient is otherwise healthy, with no significant comorbidities or performance status limitations. Stage I lung cancer has a very favorable prognosis, with 5-year survival rates exceeding 80% for patients undergoing curative-intent surgery. Given the absence of metastatic disease, the localized nature of the tumor, and the planned curative surgical intervention, cancer-related mortality within 4 years is not expected. <answer>No</answer>

no radiology report: [INCORRECT] The patient's medical timeline indicates a diagnosis of malignant neoplasm of the bronchus and lung (ICD9CM/162.9) in April 2013, with a clinical staging of cT1N1M0 (AJCC 7th Edition) on May 2, 2013. This is a stage IIIA lung cancer. The timeline includes imaging (CT chest, PET-CT) and a chest tube placement, suggesting an invasive procedure, likely for a lung mass or complication. The patient's age at diagnosis (62 years old in 2013) and the stage of disease are significant prognostic factors. Stage IIIA non-small cell lung cancer has a 5-year survival rate of approximately 20-30% with treatment, and the prognosis is generally poor for patients with advanced disease. The timeline does not show evidence of treatment completion or disease control beyond the initial diagnosis and staging. Given the stage, age, and lack of evidence of successful treatment or remission, cancer-related mortality within 4 years of treatment initiation is highly likely. <brief reasoning trace with explanation for answer selection> | <answer> The patient was diagnosed with stage IIIA lung cancer in 2013. Stage IIIA non-small cell lung cancer has a 5-year survival rate of approximately 20-30% with treatment, and the prognosis is generally poor for patients with advanced disease. The timeline does not show evidence of successful treatment or remission. Therefore, cancer-related mortality within 4 years of treatment initiation is expected. <answer>

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no information regarding any cancer diagnosis, treatment, or related clinical findings. There are no entries describing tumors, imaging results, pathology reports, or any oncological events. Without any evidence of cancer or its progression, it is impossible to determine cancer-related mortality risk. <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [CORRECT] <unused94>thought The user wants me to determine if cancer-related mortality is expected within 4 years based on the provided patient timeline. 1. **Identify the core question:** Is cancer-related mortality expected within 4 years? 2. **Scan the timeline for cancer diagnosis and treatment:** April 2013: Diagnosis of adenocarcinoma of the lung (left lower lobe). May 2013: CT-guided FNA and core biopsy confirms adenocarcinoma. May 15, 2013: MRI brain shows no evidence of metastatic disease. May 16, 2013: PET-CT shows a 2.2 cm left lower lobe pulmonary nodule (consistent with the biopsy finding) but no evidence of metastasis. May 2013: Tumor board discussion recommends lobectomy. May 2013: Patient undergoes lobectomy. May 2013: Pathology confirms adenocarcinoma. 3. **Assess the stage and treatment:** The tumor is described as T1 (based on the AJCC staging system, which is standard in oncology). The patient underwent surgery (lobectomy). There is no mention of adjuvant therapy (chemotherapy, radiation) or recurrence. 4. **Evaluate the prognosis for T1 lung cancer:** T1 lung cancer is considered early-stage. The 5-year survival rate for T1 lung cancer is generally high, often exceeding 90-95%, especially when treated surgically. The patient has completed surgical treatment. 5. **Formulate the answer:** Based on the diagnosis of T1 lung cancer and completion of surgical treatment, the prognosis is generally very good, and cancer-related mortality within 4 years is not expected. 6. **Select the correct option:** "No". 7. **Construct the reasoning:** The patient was diagnosed with T1 lung cancer, which is an early stage. She underwent surgical resection (lobectomy). The 5-year survival rate for T1 lung cancer is high. There is no evidence of recurrence or metastasis. Therefore, cancer-related mortality within 4 years is not expected.<unused95><brief reasoning trace with explanation for answer selection> The patient was diagnosed with T1 lung cancer, which is considered an early stage. She underwent surgical resection (lobectomy). The 5-year survival rate for T1 lung cancer is generally high, often exceeding 90-95%. There is no evidence of recurrence or metastasis in the provided timeline. Therefore, cancer-related mortality within 4 years is not expected. | <answer>No</answer>

middle axial image: [CORRECT] <unused94>thought The user wants me to determine if cancer-related mortality is expected within 4 years based on the provided patient timeline. 1. **Identify the core question:** Is cancer-related mortality expected within 4 years? 2. **Scan the timeline for cancer diagnosis and treatment:** April 2013: Diagnosis of adenocarcinoma of the lung (left lower lobe). May 2013: CT-guided FNA and core biopsy confirms adenocarcinoma. May 15, 2013: MRI brain shows no evidence of metastatic disease. May 16, 2013: PET-CT shows a 2.2 cm left lower lobe pulmonary nodule (consistent with the biopsy finding) but no evidence of metastasis. May 2013: Tumor board discussion recommends lobectomy. May 2013: Patient undergoes lobectomy. 3. **Assess the stage and prognosis:** The tumor is T1 (based on the AJCC 7th edition staging system, which is likely used in this context). There is no evidence of nodal involvement (N0) or distant metastasis (M0) based on the PET-CT and MRI brain. The patient is stage I. 4. **Consider factors influencing mortality:** **Stage:** Stage I lung cancer has a very high cure rate, especially with surgery. **Treatment:** The patient underwent surgery (lobectomy), which is the standard curative treatment for early-stage lung cancer. **Prognosis:** For stage I lung cancer, the 5-year survival rate is typically >80-90%. This means that death from the cancer is highly unlikely within 4 years. 5. **Formulate the answer:** Based on the diagnosis of stage I lung cancer and successful

surgical treatment, cancer-related mortality within 4 years is not expected. 6. **Select the correct option:** "No". 7. **Construct the reasoning:** The patient was diagnosed with stage I lung cancer (T1N0M0) in April 2013. She underwent a lobectomy in May 2013. Stage I lung cancer has a very high cure rate, with 5-year survival rates typically exceeding 80-90%. Therefore, cancer-related mortality within 4 years is not expected.<unused95><brief reasoning trace with explanation for answer selection>The patient was diagnosed with stage I lung cancer (T1N0M0) in April 2013. She underwent a lobectomy in May 2013. Stage I lung cancer has a very high cure rate, with 5-year survival rates typically exceeding 80-90%. Therefore, cancer-related mortality within 4 years is not expected. <answer>No</answer>

no image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung adenocarcinoma diagnosed in April 2013. The patient underwent a PET-CT scan in May 2013, which showed a 2.2 cm left lower lobe pulmonary nodule with an SUVmax of 4.9, consistent with malignancy. The PET-CT also showed no evidence of metastatic disease. The patient subsequently underwent a CT-guided biopsy, confirming the diagnosis of adenocarcinoma. The patient has also had a history of DCIS, which is a precursor to breast cancer, but the breast cancer is in remission. The patient has a history of asthma, but no recent hospitalizations or ER visits related to it. The patient has been on menopausal hormone therapy. The patient has a history of smoking, but quit 11-12 years ago. The patient has a history of Crohn's disease, which is reportedly in remission. The patient has a history of hypothyroidism and allergies. The patient has had a chest tube placed and removed. The patient has had a brain MRI and a pulmonary function test (PFT) with DLCO. The patient's clinical presentation, imaging findings (lung nodule, no metastasis), and biopsy results are consistent with a primary lung cancer diagnosis. The patient's history of DCIS is noted but does not change the current diagnosis of lung cancer. The patient's history of asthma and menopausal hormone therapy are relevant but do not alter the assessment of the lung cancer. The patient's history of smoking is a significant risk factor for lung cancer. The patient's history of Crohn's disease is not directly related to the lung cancer. The patient's history of hypothyroidism and allergies are not directly related to the lung cancer. The patient's history of DCIS is a separate condition. The patient's history of chest tube placement and removal is related to a previous procedure, not the current lung cancer. The patient's history of brain MRI and PFT with DLCO are related to the evaluation of the lung cancer and potential complications or comorbidities. The patient's history of smoking is a major risk factor for lung cancer. The patient's history of DCIS is a separate condition. The patient's history of Crohn's disease is not directly related to the lung cancer. The patient's history of hypothyroidism and allergies are not directly related to the lung cancer. The patient's history of chest tube placement and removal is related to a previous procedure, not the current lung cancer. The patient's history of brain MRI and PFT with DLCO are related to the evaluation of the lung cancer and potential complications or comorbidities. The patient's history of smoking is a major risk factor for lung cancer. The patient's history of DCIS is a separate condition. The patient's history of Crohn's disease is not directly related to the lung cancer. The patient's history of hypothyroidism and allergies are not directly related to the lung cancer. The patient's history of chest tube placement and removal is related to a previous procedure, not the current lung cancer. The patient's history of brain MRI and PFT with DLCO are related to the evaluation of the lung cancer and potential complications or comorbidities. The patient's history of smoking is a major risk factor for lung cancer. The patient's history of DCIS is a separate condition. The patient's history of Crohn's disease is not directly related to the lung cancer. The patient's history of hypothyroidism and allergies are not directly related to the lung cancer. The patient's history of chest tube placement and removal is related to a previous procedure, not the current lung cancer. The patient's history of brain MRI and PFT with DLCO are related to the evaluation of the lung cancer and potential complications or comorbidities. The patient's history of smoking is a major risk factor for lung cancer. The patient's history of DCIS is a separate condition. The patient's history of Crohn's disease is not directly related to the lung cancer. The patient's history of hypothyroidism and allergies are not directly related to the lung cancer.

directly related to the lung cancer. The patient's history of chest tube placement and removal is related to a previous procedure, not the current lung cancer. The patient's history of brain MRI and PFT with DLCO are related to the evaluation of the lung cancer and potential complications or comorbidities. The patient's history of smoking is a major risk factor for lung cancer. The patient's history of DCIS is a separate condition. The patient's history of Crohn's disease is not directly related to the lung cancer. The patient's history of hypothyroidism and allergies are not directly related to the lung cancer. The patient's history of chest tube placement and removal is related to a previous procedure, not the current lung cancer. The patient's history of brain MRI and PFT with DLCO are related to the evaluation of the lung cancer and

[illegible]

[illegible]

middle image from each view: **[CORRECT]** No

no image: [CORRECT] No

no radiology report: [CORRECT] No

100 axial images (no timeline): [CORRECT] The images show a well-defined, homogeneous mass within the breast tissue. The presence of a mass and the lack of any mention of metastasis or other concerning findings suggest a localized, potentially treatable cancer. Given the absence of information about the cancer stage, treatment, or follow-up, it is impossible to determine the expected cancer-related mortality within 4 years. No

Subtask: died_of_cancer_5_yr

Average unique events: 95.55

Question:

Based on the provided medical history and cancer evidence, is cancer-related mortality expected within 5 years of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: [CORRECT] <think> The patient was diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. The treatment plan included lobectomy, and if the tumor is stage IB or II, adjuvant chemotherapy would be needed. The patient's overall health appears stable, with no significant comorbidities that would affect treatment outcomes. Given the stage and treatment plan, the prognosis is generally favorable, and cancer-related mortality within 5 years is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a stage IB lung adenocarcinoma (T1N1M0) with a treatment plan that includes lobectomy and possible adjuvant chemotherapy if needed. The patient's overall health is stable, and there are no significant comorbidities. The prognosis for stage IB lung cancer is generally favorable, and cancer-related mortality within 5 years is not expected. | <answer>No</answer>

middle axial image: [CORRECT] <think> The patient has been diagnosed with a T1N1M0 lung adenocarcinoma, which is a stage IB cancer. According to the AJCC 7th edition staging, stage IB tumors have a 5-year survival rate of approximately 70-80%. The patient is planned for lobectomy, which is the standard treatment for stage IB lung cancer. The absence of metastatic disease (M0) and the localized nature of the tumor (T1N1) suggest a favorable prognosis. The patient's overall health appears stable, with no significant comorbidities that would adversely affect treatment outcomes. Given the stage and treatment plan, cancer-related mortality within 5 years of treatment initiation is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a stage IB lung adenocarcinoma (T1N1M0) with no evidence of metastasis. The treatment plan includes lobectomy, which is effective for localized tumors. The 5-year survival rate for stage IB is high, and there are no significant comorbidities affecting prognosis. | <answer>No</answer>

no image: [CORRECT] <think> The patient is a 61-year-old female diagnosed with a 2.2 cm left lower lobe pulmonary nodule, confirmed as adenocarcinoma. The imaging studies, including PET-CT, show no evidence of metastatic disease, indicating a localized tumor. The AJCC staging indicates a T1N1M0 stage, suggesting a stage IB cancer. The treatment plan involves lobectomy, and if the tumor is stage I without nodal involvement, adjuvant chemotherapy is not required. Given the early stage and appropriate treatment, cancer-related mortality within 5 years is not expected. </think> <brief reasoning trace with explanation for answer selection> The patient has a T1N1M0 stage lung adenocarcinoma with no evidence of metastasis. The treatment plan includes lobectomy, and if the tumor is stage I without nodal involvement, adjuvant chemotherapy is not required. Given the early stage and appropriate treatment, cancer-related mortality within 5 years is not expected. | <answer>No</answer>

no radiology report: [CORRECT] <think> The timeline indicates a diagnosis of a malignant neoplasm of the bronchus and lung, staged as T1 N1 M0 according to the 7th edition of the AJCC. This stage suggests a localized cancer with regional lymph node involvement but no

distant metastasis. The treatment appears to have been initiated promptly, with imaging and other diagnostic procedures conducted. The patient's vital signs and other observations do not indicate immediate severe complications. Based on the stage and treatment initiation, the expected cancer-related mortality within 5 years might not be high, but it is not zero. However, the question asks if mortality is "expected" within 5 years, which implies a higher probability. Given the stage and typical prognosis, it is reasonable to consider that mortality within 5 years is possible but not certain. The answer "No" suggests that mortality is not expected, which might be too definitive without more specific survival data. </think> <brief reasoning trace with explanation for answer selection> The patient has a malignant neoplasm of the bronchus and lung, staged as T1 N1 M0, indicating localized disease with regional lymph node involvement but no distant metastasis. The treatment was initiated promptly, and there is no immediate indication of severe complications. While the prognosis for this stage is generally favorable, cancer-related mortality within 5 years cannot be ruled out entirely. However, the answer "No" suggests that mortality is not expected, which aligns with the typical prognosis for this stage, though it is not definitive. |<answer>No</answer>|

100 axial images (no timeline): [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not include any specific medical history, cancer evidence, imaging, pathology, or treatment details. Without this information, it is not possible to determine the expected cancer-related mortality within 5 years of treatment initiation. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I need to determine whether the patient's cancer-related mortality is expected within 5 years of treatment initiation based on the provided medical history and imaging findings. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung. The tumor is T1N0M0 (no nodal involvement or metastasis evident on imaging). She underwent a PET-CT which showed no metastatic disease, and the biopsy confirmed adenocarcinoma. She has a history of DCIS treated with lumpectomy and tamoxifen, but no recurrence noted on recent mammograms. She is currently on menopausal hormone therapy. Key factors to consider for prognosis and mortality risk: - Tumor stage: T1N0M0 suggests early-stage lung cancer. - No evidence of nodal involvement or distant metastasis on imaging. - She is undergoing lobectomy as planned, which is standard for early-stage lung cancer. - No mention of high-risk features such as positive margins, lymphovascular invasion, or poor differentiation. - She has comorbidities including asthma, hypothyroidism, and a history of Crohn's disease, but these do not directly impact lung cancer prognosis. - The patient is active and has no significant symptoms like weight loss or night sweats, which are poor prognostic indicators. - The PET-CT showed no FDG-avid lymph nodes or distant metastases, supporting the clinical staging. - The FRAX score and bone density are not directly relevant to lung cancer prognosis. - The patient's age and menopausal status do not significantly alter the prognosis for early-stage lung cancer. - The treatment plan (lobectomy) is appropriate and likely curative for T1N0M0 disease. - No evidence of aggressive tumor biology or high-risk features in the pathology report. Given the early stage, absence of nodal or metastatic disease, and appropriate treatment plan, the likelihood of cancer-related mortality within 5 years is low. The patient's overall health status and comorbidities do not suggest a high risk of mortality from the cancer itself. Therefore, based on the provided information, the answer is "No," cancer-related mortality is not expected within 5 years of treatment initiation.</think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to determine whether the patient's cancer-related mortality is expected within 5 years of treatment initiation based on the provided timeline and medical records. The patient is a 61-year-old female diagnosed with left lower lobe adenocarcinoma of the lung. The tumor is T1N0M0 (no nodal involvement or metastasis evident

on imaging). She underwent a PET-CT which showed no metastatic disease, and the biopsy confirmed adenocarcinoma. She has a history of DCIS treated with lumpectomy and tamoxifen, and currently is on menopausal hormone therapy. Key factors to consider for prognosis and mortality risk: - Tumor stage: T1N0M0 suggests early-stage lung cancer. - No evidence of nodal involvement or distant metastasis. - She is undergoing lobectomy as planned, which is standard for early-stage lung cancer. - No mention of high-risk features such as positive margins, lymphovascular invasion, or poor differentiation. - She has comorbidities including asthma, hypothyroidism, and a history of smoking, but these do not directly indicate poor prognosis for the lung cancer. - The patient is active and has no significant symptoms like weight loss or night sweats, which would suggest more aggressive disease. - The PET-CT showed no FDG avidity outside the primary tumor, indicating no aggressive metastatic spread. - The FRAX score for osteoporosis and other metrics do not directly impact cancer mortality. - The patient's treatment plan includes lobectomy and possibly adjuvant therapy depending on final pathology, which aligns with standard care for early-stage lung cancer. Given the early stage (T1N0M0), absence of nodal or metastatic disease, and planned curative surgery, the prognosis is generally favorable. The 5-year survival rate for stage I non-small cell lung cancer (NSCLC) is approximately 60-80%, depending on subtype and other factors. There is no evidence in the records suggesting high-risk features that would drastically increase mortality risk within 5 years. Therefore, based on the provided timeline and medical records, there is no indication that cancer-related mortality is expected within 5 years of treatment initiation.</think>
<answer>No</answer>

no image: [CORRECT] <think>First, I need to determine if the patient's cancer-related mortality is expected within 5 years based on the provided timeline and medical records. The key factors to consider include the cancer stage, tumor biology, treatment intent, completeness of treatment, surgical margins, nodal status, and any other relevant clinical data. Looking at the patient's history, she was diagnosed with a 2.2 cm left lower lobe adenocarcinoma of the lung. The PET-CT showed no evidence of metastasis, and the MRI brain also showed no metastatic disease. The tumor is described as T1 (based on imaging), which typically indicates a localized tumor without lymph node involvement. The patient underwent a CT-guided FNA and core biopsy, which confirmed adenocarcinoma. The pathology report mentions TTF-1 negative but BRST-2 negative and napsin A scattered positive, which supports the diagnosis of lung adenocarcinoma. The patient's treatment plan includes lobectomy, as indicated by the tumor board discussion. The tumor abuts the fissure but no fissure nodularity or satellite nodules were noted. The patient is scheduled for surgery, and the plan includes mediastinal node sampling. The absence of nodal involvement on imaging suggests that the cancer is localized, which is a favorable prognostic factor. The patient's overall health status is good, with no significant comorbidities that would contraindicate surgery. She is active, with a BMI of 26.5 and a normal body surface area. The presence of non-specific ground-glass opacities and small nodules in other lung areas is noted, but these are likely incidental findings given the lack of other concerning features. Given the T1 stage, no nodal involvement, and the planned surgical resection, the prognosis is generally favorable. The 5-year survival rate for stage I non-small cell lung cancer (NSCLC) is approximately 60-80%, depending on other factors. However, the question is whether cancer-related mortality is expected within 5 years. Since the tumor is localized and the patient is undergoing curative-intent surgery, the likelihood of cancer-related death within 5 years is low. The patient's history of DCIS and current hormone therapy does not directly impact the lung cancer prognosis. The incidental findings of ovarian cysts and endometrial FDG uptake are noted but are not related to the lung cancer and do not affect the mortality risk from it. Therefore, based on the available data, there is no indication that the patient is at high risk for cancer-related mortality within 5 years. The treatment plan is appropriate, and the prognosis is favorable.</think> <answer>No</answer>

no radiology report: [INCORRECT] <think>First, I carefully reviewed the provided medical history and imaging data to identify any evidence of cancer-related mortality risk within 5 years

of treatment initiation. The timeline includes multiple imaging studies and clinical notes, but no direct evidence of cancer recurrence, metastasis, or death is visible. The imaging shows anatomical structures without clear signs of advanced malignancy or complications. The patient's treatment appears to have been completed, and there is no indication of ongoing cancer therapy or related mortality risk. The absence of documented cancer progression or death within the provided timeline suggests that the patient is not at risk of cancer-related mortality within 5 years of treatment initiation.</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>To determine whether cancer-related mortality is expected within 5 years of treatment initiation, I must analyze the provided patient timeline and any relevant clinical data. However, the timeline provided only includes the date of birth (1951-10-04) and ethnicity/race information, with no details about cancer diagnosis, treatment, or outcomes. There is no evidence of cancer treatment initiation, tumor stage, or survival data. Without specific clinical information such as tumor stage, treatment type, or survival metrics, it is impossible to assess cancer-related mortality risk. Therefore, based solely on the provided data, I cannot conclude whether cancer-related mortality is expected within 5 years of treatment initiation.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The patient was diagnosed with stage I lung adenocarcinoma in April 2013. The staging workup, including PET-CT and MRI, confirmed no evidence of metastatic disease (M0) and no nodal involvement (N0). The tumor was classified as T1N0M0. The treatment plan, discussed at tumor board on May 22, 2013, was to proceed with a lobectomy. The note explicitly states that if the tumor is a stage I tumor without nodal involvement, adjuvant chemotherapy is not needed. The patient was deemed a good surgical candidate and was actively engaged in the decision-making process. The timeline shows that treatment initiation (lobectomy) occurred in May 2013. For stage I non-small cell lung cancer, the 5-year survival rate is very high, often exceeding 80-90%. The patient's overall good health, absence of metastasis, and planned curative surgery strongly indicate that cancer-related mortality is not expected within 5 years of treatment initiation. No | No

middle axial image: [CORRECT] The provided PATIENT_TIMELINE documents a 61-year-old female diagnosed with stage I lung adenocarcinoma (T1N0M0) in 2013. The timeline includes multiple imaging studies (CT, PET-CT, MRI) that confirmed the primary tumor and ruled out metastatic disease. The treatment plan, as discussed in tumor board on 05/22/2013, was to proceed with lobectomy. The note explicitly states that if the tumor is a stage I tumor without nodal involvement, adjuvant chemotherapy is not needed. The patient is described as extremely active and without significant comorbidities that would negatively impact prognosis. The timeline does not contain any evidence of disease progression, recurrence, or treatment failure. Therefore, based on the evidence of early-stage disease and planned curative surgery without adjuvant chemotherapy, cancer-related mortality is not expected within 5 years of treatment initiation. No | No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with stage I lung adenocarcinoma (T1N0M0) based on imaging and biopsy results, with no evidence of metastasis. The tumor was localized to the left lower lobe, and staging workup (PET-CT, MRI brain, CT chest) confirmed no nodal or distant spread. The treatment plan included lobectomy, which is standard for stage I disease, and adjuvant chemotherapy was not indicated unless the tumor was larger or nodal involvement was present. The patient's overall health, including BMI, lung function, and absence of significant comorbidities or symptoms, supports a favorable prognosis. Given the stage and treatment plan, cancer-related mortality within 5 years is not expected. <answer>No</answer>

no radiology report: [CORRECT] The patient's medical timeline indicates a diagnosis of malignant neoplasm of the bronchus and lung (ICD9CM/162.9) in April 2013, with a subsequent clinical staging of cT1N1M0 (AJCC 7th Edition) on May 2, 2013. This staging corresponds to Stage II (T1N1M0) lung cancer. The timeline includes imaging (CT chest, PET-CT) and clinical assessments, but there is no evidence of treatment initiation or completion, nor any documentation of disease progression or survival status. The timeline ends with a series of outpatient visits and observations, but no information is provided about the patient's survival beyond the 5-year mark from treatment initiation. Therefore, based on the available evidence, it is not possible to determine if cancer-related mortality is expected within 5 years. No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no information regarding any cancer diagnosis, treatment, or related clinical findings. There are no entries describing tumors, imaging results, pathology reports, or any oncological history. Without any evidence of cancer or its progression, it is impossible to determine cancer-related mortality risk. <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [INCORRECT] <unused94>thought The user wants me to determine if cancer-related mortality is expected within 5 years based on the provided patient timeline. 1. ****Identify the core question:**** Is cancer-related mortality expected within 5 years? 2. ****Scan the timeline for cancer diagnosis:**** The timeline shows a diagnosis of adenocarcinoma of the lung on May 4, 2013. 3. ****Scan the timeline for treatment:**** The timeline shows a CT-guided FNA and core biopsy on May 4, 2013. It also shows a PET-CT on May 16, 2013. The timeline mentions a discussion at a tumor board on May 22, 2013, and a decision to proceed with lobectomy. 4. ****Scan the timeline for follow-up/surveillance:**** The timeline shows a follow-up visit on May 3, 2013, with a chest tube placement and removal. There are no mentions of subsequent follow-up imaging or clinical assessments related to the lung cancer. 5. ****Evaluate the information for mortality prediction:**** The timeline provides a diagnosis and initial staging (T1N0M0 based on the AJCC 7th edition classification provided in the notes). It also indicates a treatment plan (lobectomy). However, there is no information about the patient's survival status or any documented follow-up indicating the outcome of the treatment. 6. ****Conclusion:**** Without any information on the patient's survival or follow-up, it is impossible to determine if cancer-related mortality is expected within 5 years. The timeline only shows the initial diagnosis and treatment plan, not the outcome. Therefore, based *only* on the provided timeline, I cannot answer the question with certainty. However, the question asks for a definitive "Yes" or "No" based *only* on the timeline. Since there is no information about survival or follow-up, I cannot confirm a "Yes". The absence of follow-up information makes it impossible to definitively say "No" either, but the lack of positive information leans towards not being able to answer with certainty. Given the strict instruction to base the answer *only* on the timeline and the lack of survival data, the most accurate answer is that the information is insufficient to determine the expected mortality. However, the prompt requires a strict "Yes" or "No" answer. Since there is no evidence *in the timeline* suggesting a high likelihood of death within 5 years (e.g., documented recurrence, metastasis, or death), the most reasonable answer, while acknowledging the limitations, is "No". The timeline shows a diagnosis and treatment plan, not necessarily a poor prognosis. 7. ****Final Answer Selection:**** Based on the reasoning above, the answer is "No".<unused95>No | The timeline shows a diagnosis of lung adenocarcinoma on May 4, 2013, and a treatment plan (lobectomy) discussed at a tumor board on May 22, 2013. However, there is no information provided about the patient's survival status or follow-up, making it impossible to determine if cancer-related mortality is expected within 5 years based solely on the given timeline.

[illegible]

100 axial images (no timeline): [INCORRECT] FINDINGS_IMAGING_1 | 2019-03-18 00:00 |

[illegible]

CT_Chest_Abdomen_Pelvis_1 FINDINGS_IMAGING_1 | 2019-03-18 00:00 |
CT_Chest_Abdomen_Pelvis_1 FINDINGS_IMAGING_1 | 2019-03-18 00:00 |
CT_Chest_Abdomen_Pelvis_1 FINDINGS_IMAGING_1 | 2019-03-18 00:00 |
CT_Chest_Abdomen_Pelvis_1 FINDINGS_IMAGING_1 | 2019-03-18 00:00 |

Model: google/medgemma-4b-it

middle image from each view: [CORRECT] No

middle axial image: [CORRECT] No

no image: [CORRECT] No

no radiology report: [CORRECT] No

100 axial images (no timeline): [CORRECT] The images show a well-defined, homogeneous mass within the breast tissue. The presence of a mass and the lack of any mention of metastasis or other concerning features suggests a localized, potentially treatable cancer. Given the absence of information about the stage, grade, or treatment plan, it is impossible to determine the expected cancer-related mortality within 5 years. No

Subtask: has_recurrence_1_yr

Average unique events: 87.18

Question:

Based on the patient's clinical history and current cancer-related evidence, will the patient achieve an initial treatment response but experience cancer recurrence within 1 year of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastatic lymph nodes in the internal mammary region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient would achieve an initial treatment response. However, the presence of metastatic disease and the aggressive nature of the tumor increase the likelihood of recurrence within one year of treatment initiation. Therefore, based on the evidence from the timeline, the patient is likely to experience cancer recurrence within a year. | <answer>Yes</answer>

middle axial image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastatic lymph nodes in the internal mammary region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient would achieve an initial treatment response. However, the presence of metastatic disease and the aggressive nature of the tumor increase the likelihood of recurrence within one year of treatment initiation. Therefore, based on the evidence from the timeline, the patient is likely to experience cancer recurrence within a year. | <answer>Yes</answer>

no image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a left lung mass measuring 4.8 x 5.2 x 7.1 cm, which was biopsied and found to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastatic lymph nodes in the left internal mammary chain and left cardiophrenic region suggests advanced disease. Given the size and characteristics of the primary tumor and the presence of metastases, the patient is likely to achieve an initial treatment response. However, the presence of metastatic disease and the aggressive nature of the tumor suggest a high likelihood of recurrence within 1 year of treatment initiation. | <answer>Yes</answer>

no radiology report: **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> Reasoning: The provided timeline includes imaging studies from 2013, but there is no explicit evidence of cancer diagnosis, treatment response, or recurrence within 1 year of treatment initiation. Without specific details on cancer-related findings or treatment outcomes, it is not possible to determine if the patient will achieve an initial treatment response and experience cancer recurrence within 1 year. <answer>No</answer>

100 axial images (no timeline): **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not contain any clinical history, imaging, pathology, or treatment-related information regarding cancer or its treatment outcomes. Without specific evidence of cancer diagnosis, treatment response, or

recurrence, it is not possible to determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 1 year of treatment initiation. |
<answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I carefully reviewed the entire patient timeline provided, focusing on the relevant imaging and clinical notes. The patient was diagnosed with a left lung mass, which was biopsied and confirmed to be malignant. The PET CT scan on 04/09/2013 showed intense hypermetabolism in the left lung mass and additional hypermetabolic lymph nodes in the left internal mammary chain and left anterior costophrenic region, indicating metastatic spread. This suggests that the cancer had already spread beyond the primary site at the time of diagnosis. Next, I examined the follow-up imaging and clinical course. The patient underwent multiple procedures including a CT-guided biopsy of the lung mass and lymph nodes, but there is no mention of any definitive treatment such as surgery, chemotherapy, or radiation therapy in the timeline. The timeline does not indicate any treatment initiation or response assessment. The last entry is from 2013-03-15, which is before the PET CT on 04/09/2013, showing progression or metastasis. Since the question asks whether the patient achieved an initial treatment response but experienced recurrence within one year, I must consider if any treatment was initiated. The timeline does not show any treatment records or responses. The patient underwent diagnostic and staging procedures but no therapeutic interventions are documented. Therefore, there is no evidence of treatment response or recurrence within one year because no treatment was administered. Hence, the correct answer is "No" because the patient did not receive any treatment to achieve a response, and thus recurrence cannot be assessed in the context of treatment.</think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to determine if the patient will achieve an initial treatment response but experience cancer recurrence within 1 year of treatment initiation. The key factors to consider are the stage of the cancer, tumor biology, treatment intent, margins, nodal status, biomarkers, and any documented outcomes from the timeline. Looking at the timeline, the patient was diagnosed with a left lingular lung mass in 2013. The CT scans show a large mass measuring 5.1 cm x 5.5 cm x 6.4 cm. The PET scan on 04/09/2013 indicates intense hypermetabolism of the mass with SUV max 18.21, suggesting high metabolic activity consistent with malignancy. Additionally, there are hypermetabolic lymph nodes in the left internal mammary chain and left anterior costophrenic region, which are suspicious for metastases. The biopsy of the lymph nodes confirmed metastatic disease, indicating that the cancer has spread regionally. The presence of metastatic lymph nodes at diagnosis typically suggests a more advanced stage and a higher risk of recurrence. The patient underwent a CT-guided biopsy of the lung mass and the lymph nodes, confirming the diagnosis of lung cancer with nodal involvement. The treatment timeline does not specify the exact treatment initiated after diagnosis, but given the presence of metastatic lymph nodes, systemic therapy (such as chemotherapy or targeted therapy) would likely be the treatment of choice. The question is whether the patient achieved an initial treatment response but then had recurrence within one year. The timeline does not show any treatment initiation or response assessment after the initial diagnosis. The last imaging study mentioned is on 04/09/2013, which is the PET scan confirming metastatic disease. There is no evidence of treatment response or recurrence documented in the timeline. Since the timeline does not provide any information on treatment or subsequent outcomes, it is impossible to determine if the patient achieved an initial response and then recurred within one year. The available data only confirms the presence of a large lung mass and metastatic lymph nodes at the time of diagnosis but does not include any post-treatment imaging or clinical outcomes. Therefore, based solely on the provided patient timeline, there is no evidence to support either a treatment response followed by recurrence or the absence of such an event. The correct answer must be "No" because the timeline does not

provide sufficient information to confirm the scenario described in the question.</think>
<answer>No</answer>

no image: [INCORRECT] <think>First, I need to determine if the patient achieved an initial treatment response but experienced cancer recurrence within 1 year of treatment initiation. The key points to consider are the timeline of events, the nature of the cancer, treatments administered, and any evidence of recurrence. Looking at the patient's timeline: - The patient was diagnosed with a left lung mass in February 2013 based on CT scans. - A biopsy was performed on March 31, 2013, confirming the presence of a lung mass. - A PET-CT scan on April 9, 2013, showed the mass and indicated possible metastases to lymph nodes (left internal mammary and left cardiophrenic nodes). - A CT-guided biopsy of the internal mammary lymph node was done on April 17, 2013, confirming metastatic disease. - There is no mention of any treatment (like surgery, chemotherapy, or radiation) being initiated after these findings. - The last entry in the timeline is from March 15, 2013, which is before the biopsy on April 17, 2013, indicating that no treatment had started yet. Since the patient was diagnosed with lung cancer and metastatic lymph nodes but no treatment was initiated, there is no evidence of an initial treatment response. The question asks if the patient achieved an initial treatment response but then had recurrence within a year. However, without any treatment, there can be no response to evaluate. Therefore, the answer must be "No" because there is no treatment to assess a response, and recurrence cannot be determined without treatment initiation. Additionally, the timeline does not show any subsequent treatments or follow-up that would indicate a response or recurrence. The last imaging is from March 15, 2013, and the next is on April 9, 2013, which is after the biopsy but before any treatment. Hence, the patient had not yet started treatment, so the premise of the question does not apply.</think> <brief reasoning trace with explanation for answer selection> | <answer> </answer> </brief reasoning trace>

no radiology report: [CORRECT] <think>To determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 1 year of treatment initiation, I must carefully analyze the provided patient timeline and clinical data. The timeline includes imaging studies from 2013, such as CT scans of the abdomen, pelvis, and chest, as well as MR imaging of the head. These studies likely reflect the patient's cancer staging, treatment planning, and follow-up. However, the timeline does not explicitly mention any recurrence events, treatment modalities, or outcomes. Without specific evidence of recurrence within 1 year, such as documented progression or metastasis, I cannot definitively conclude recurrence. The absence of detailed clinical notes or recurrence data in the timeline suggests that the answer is "No."</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>To determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 1 year of treatment initiation, I must carefully analyze the provided timeline and any relevant clinical data. However, the timeline provided does not contain any specific information about the patient's cancer diagnosis, treatment history, or recurrence status. There are no documented events, treatments, or outcomes that would allow me to assess the likelihood of initial response followed by recurrence within 1 year. Without this critical information, I cannot make an informed decision based on the timeline alone. Therefore, I must conclude that the question cannot be answered definitively with the given data.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows a large, hypermetabolic left lung mass (4.9 x 5.4 x 6.7 cm) with confirmed metastases to the left internal mammary lymph node and another node in the left cardiophrenic angle, as identified by PET-CT on 04/09/2013. This indicates stage IV disease at diagnosis. The timeline does not contain any evidence of an initial treatment response (e.g., tumor shrinkage, disease stabilization, or clinical

improvement) following any treatment. Furthermore, there is no documentation of any cancer recurrence within 1 year of treatment initiation, as the timeline ends with the biopsy and staging findings in 2013, and no subsequent follow-up is provided. Therefore, the patient did not achieve an initial treatment response and there is no evidence of recurrence within the specified timeframe. No

middle axial image: [CORRECT] The provided patient timeline documents a left lung mass (lingular) diagnosed in March 2013, with subsequent imaging and biopsy confirming malignancy. A PET-CT scan in April 2013 revealed intense hypermetabolism in the lung mass and new, FDG-avid lymph nodes in the left internal mammary chain and left cardiophrenic angle, which are suspicious for metastases. The timeline does not contain any documentation of treatment initiation, response assessment, or follow-up imaging beyond the initial staging. Therefore, there is no evidence to support that the patient achieved an initial treatment response, nor is there any evidence of cancer recurrence within 1 year of treatment initiation, as no treatment has been documented. <brief reasoning trace with explanation for answer selection> | <answer></answer> No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows a large left lung mass (5.0–6.4 cm) identified in March 2013, with subsequent imaging (CT and PET) confirming its presence and identifying FDG-avid metastatic nodes in the left internal mammary chain and left cardiophrenic angle. The PET scan (April 2013) shows intense hypermetabolism (SUV max 18.21) in the lung mass and metastatic nodes, indicating active malignancy. No evidence of distant metastases beyond these sites is noted. The patient underwent biopsy of the lung mass and internal mammary node, but no treatment initiation is documented in the timeline. Since treatment has not yet begun, there is no "initial treatment response" to evaluate, and no recurrence can be assessed within 1 year of treatment initiation because treatment has not occurred. Therefore, the question cannot be answered as "Yes" or "No" based on the provided evidence — but per the rules, we must select from the allowed options. Given that the patient has not yet received treatment, the condition of "achieving an initial treatment response but experiencing recurrence within 1 year" cannot be met. The most accurate answer under the constraints is "No", as there is no treatment response to evaluate and no recurrence can be documented without treatment initiation. <answer>No</answer>

no radiology report: [CORRECT] The provided PATIENT_TIMELINE contains imaging studies (CT and MR scans) from 2013, but it lacks any explicit documentation of the patient's cancer diagnosis, treatment initiation, treatment response, or any evidence of recurrence within 1 year of treatment. There is no information regarding the clinical history, treatment intent, or outcomes. Therefore, it is impossible to determine whether the patient achieved an initial treatment response or experienced recurrence within the specified timeframe based solely on the given data. <brief reasoning trace with explanation for answer selection> | <answer></answer> The PATIENT_TIMELINE only includes imaging studies from 2013 without any documentation of cancer diagnosis, treatment, or follow-up outcomes. There is no evidence to support or refute the claim of an initial treatment response or recurrence within 1 year. Therefore, the question cannot be answered with the provided information. | No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no clinical history, cancer diagnosis, treatment records, imaging findings, or any evidence of cancer-related events. It only includes birth date and demographic information. Without any evidence of cancer or treatment, it is impossible to determine whether the patient will achieve an initial treatment response or experience recurrence. <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. The patient has undergone multiple imaging studies including CT scans and PET CT scans. The PET CT scan shows hypermetabolic activity in the left lung mass, left internal mammary lymph node, and left anterior costophrenic region. The patient has also undergone a biopsy of the left internal mammary lymph node, which is suspicious for metastasis. The patient has also undergone treatment for the lung cancer, including a biopsy and likely chemotherapy/radiation therapy, although the treatment details are not explicitly stated in the timeline. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 1 year. Given the evidence of metastatic disease (left internal mammary node and left anterior costophrenic region) and the biopsy confirming metastasis, it is highly likely that the patient will not achieve an initial treatment response. The presence of metastatic disease indicates that the cancer is advanced and likely resistant to initial treatment. Therefore, recurrence within 1 year is a significant possibility. <answer>No</answer>

middle axial image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. This mass was confirmed by CT scans and biopsy. The biopsy revealed metastatic disease, with the presence of a left internal mammary lymph node metastasis and another suspicious node in the left anterior cardiophrenic region. The PET CT scan confirms the hypermetabolic nature of the lung mass and the identified lymph node metastasis, indicating active cancer. The patient has already received treatment (biopsy) for the metastatic disease. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 1 year. Given the confirmed metastatic disease and the PET scan findings, the patient has already experienced a treatment response (biopsy of the metastatic node). However, the presence of multiple metastatic sites (lung mass and lymph node) suggests a high likelihood of recurrence, especially within the first year, even after treatment. The PET scan confirms the active nature of the cancer. Therefore, the patient is likely to experience a treatment response but also likely to experience cancer recurrence within 1 year. <answer>Yes</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of a left lung mass, confirmed by CT scans and biopsy. The initial CT scan in February 2013 showed a 5.0 cm mass in the lingula. A biopsy was performed on March 31, 2013, confirming malignancy. Subsequent CT scans in April 2013 show the mass is unchanged in size (4.9 x 5.4 x 6.7 cm). Furthermore, the PET CT scan from April 9, 2013, shows intense hypermetabolism in the lung mass (SUV max 18.21) and also identifies hypermetabolic lymph nodes in the left internal mammary chain (SUV max 2.44) and left anterior costophrenic region (SUV max 3.59). These findings strongly suggest metastatic disease. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 1 year. Given the confirmed malignancy, the presence of metastatic disease (lung mass and lymph nodes), and the lack of any mention of treatment initiation or response, it is highly likely that the patient will experience cancer recurrence within 1 year. The evidence points towards advanced stage disease (at least Stage IV due to metastasis). Therefore, recurrence is expected. <answer>No</answer>

no radiology report: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of breast cancer diagnosed in 2013. The CT scan from 2013 shows no evidence of metastatic disease in the abdomen or chest. The MRI from 2013 shows no evidence of brain metastases. The patient has been treated for breast cancer. There is no mention of recurrence or treatment failure. Therefore, the patient is expected to achieve an initial treatment response but experience cancer recurrence within 1 year of treatment initiation. <answer>Yes</answer>

[illegible]

Model: google/medgemma-4b-it

middle image from each view: **[CORRECT]** The patient was diagnosed with lung cancer in 2013. A biopsy of the lung mass and the internal mammary lymph node was performed. The biopsy confirmed the presence of cancer in both the lung and the lymph node. The patient is currently undergoing treatment for lung cancer. Based on the information provided, the patient has a confirmed diagnosis of lung cancer with metastasis to the internal mammary lymph node. The patient is undergoing treatment for lung cancer. Given the presence of metastasis, it is likely that the patient will experience cancer recurrence within 1 year of treatment initiation. Final Answer: No

middle axial image: [CORRECT] The patient's initial CT scan in February 2013 revealed a 5 cm mass in the lingula of the left lung. Subsequent PET/CT in April 2013 showed hypermetabolic activity in the lung mass and a suspicious lymph node in the internal mammary chain. A biopsy of the lymph node was performed in March 2013, and the pathology report confirmed metastasis. The patient's clinical history indicates a diagnosis of lung cancer with metastasis. Given the presence of metastasis, the patient is likely to experience cancer recurrence within 1 year of treatment initiation. <answer>No</answer>

no image: [INCORRECT] The patient was diagnosed with lung cancer in 2013. A biopsy of the lung mass and internal mammary lymph node was performed in April 2013. The biopsy confirmed metastatic disease. The patient's cancer is likely to recur within 1 year of treatment initiation. <Yes>

no radiology report: **[INCORRECT]** The provided timeline does not contain information about the patient's cancer history, treatment, or recurrence. Therefore, it is impossible to answer the

question based on the given information. <No answer>

100 axial images (no timeline): [CORRECT] The images show a large, homogenous mass within the abdomen, likely representing a tumor. The presence of multiple "eyes" within the mass suggests a cystic component. The images also show the presence of a device, likely a catheter, within the abdomen. Given the appearance of the mass and the presence of a catheter, it is possible that the patient has a tumor with cystic components, which can sometimes be associated with a better initial response to treatment. However, the presence of a catheter suggests a possible drainage procedure, which could affect the tumor's response. Without further information about the patient's history, staging, and treatment plan, it is difficult to definitively say whether the patient will achieve an initial treatment response but experience cancer recurrence within 1 year. No

Subtask: has_recurrence_2_yr

Average unique events: 87.18

Question:

Based on the patient's clinical history and current cancer-related evidence, will the patient achieve an initial treatment response but experience cancer recurrence within 2 years of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastases to the internal mammary node and another node in the left cardiophrenic region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient would achieve an initial treatment response. However, the presence of metastatic disease and the aggressive nature of the tumor increase the likelihood of recurrence within 2 years of treatment initiation. Therefore, based on the evidence from the timeline, the patient is likely to experience cancer recurrence within 2 years. | <answer>Yes</answer>

middle axial image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastasis to the internal mammary node and another node in the left cardiophrenic region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient will experience cancer recurrence within 2 years of treatment initiation, despite an initial treatment response. | <answer>Yes</answer>

no image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be a malignancy with metastasis to the internal mammary node and another node in the left cardiophrenic region. The PET CT scan showed intense hypermetabolism associated with the mass and the metastatic nodes, indicating an advanced stage of cancer. Given the stage and the presence of metastasis, it is likely that the patient will experience cancer recurrence within 2 years of treatment initiation. Therefore, the answer is "Yes". | <answer>Yes</answer>

no radiology report: **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> Reasoning: The provided timeline does not include any specific evidence of cancer diagnosis, treatment response, or recurrence within 2 years of treatment initiation. The entries are mostly related to medical imaging procedures without clear indications of cancer-related findings or outcomes. Therefore, there is insufficient information to determine whether the patient will achieve an initial treatment response and experience cancer recurrence within 2 years. | <answer>No</answer>

100 axial images (no timeline): **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not contain any clinical history, imaging, pathology, or treatment outcomes related to cancer. There is no evidence to suggest an initial treatment response or cancer recurrence within 2 years of

treatment initiation. Therefore, based on the available information, it is not possible to determine the treatment response or recurrence. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I carefully reviewed the entire patient timeline provided to understand the clinical course and cancer-related evidence. The patient was diagnosed with a left lingular lung mass in 2013, which was further evaluated with CT scans and confirmed to be a suspicious lesion. The mass was biopsied, and PET-CT showed hypermetabolic activity indicating malignancy with possible metastasis to an internal mammary lymph node and another node in the left cardiophrenic region. This suggests the presence of metastatic disease at diagnosis. Next, I examined the follow-up imaging and clinical notes. The PET-CT on 04/09/2013 confirmed the presence of a hypermetabolic left lung mass and two FDG-avid lymph nodes suspicious for metastases. The patient underwent a CT-guided biopsy of the internal mammary lymph node, which was successful without complications. However, the timeline does not mention any subsequent treatment or response assessment beyond these initial findings. Crucially, there is no evidence in the provided timeline of the patient receiving any treatment (such as surgery, chemotherapy, or radiation) after the initial diagnosis and biopsy. The timeline ends in late March 2013, with the last imaging in early April 2013 showing the presence of the hypermetabolic mass and lymph nodes. There is no indication of treatment initiation or any subsequent imaging to assess treatment response or recurrence. Since the question asks whether the patient achieved an initial treatment response but experienced cancer recurrence within 2 years of treatment initiation, and there is no documented treatment or recurrence event in the timeline, it is impossible to answer "Yes" based on the provided data. The timeline only shows the diagnostic and staging process without any treatment or follow-up post-treatment. Therefore, based solely on the patient's timeline and the lack of treatment or recurrence data, the correct answer is "No." </think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to determine if the patient will achieve an initial treatment response but experience cancer recurrence within 2 years of treatment initiation. The key factors to consider are the stage of the cancer, tumor biology, treatment intent and completeness, margins, nodal status, biomarkers, and any documented outcomes from the timeline. Looking at the timeline, the patient was diagnosed with a left lingular lung mass in February 2013. The CT scans show a large mass measuring 4.8-6.7 cm, which is concerning for malignancy. The PET-CT scan on April 9, 2013, confirmed intense hypermetabolism of the mass with SUV max 18.21, indicating high metabolic activity typical of cancer. Additionally, there are hypermetabolic lymph nodes in the left internal mammary chain and left cardiophrenic region, suggesting metastatic spread. The patient underwent a CT-guided biopsy of the lung mass and the internal mammary lymph node on April 17, 2013, which confirmed malignancy. The biopsy results would be critical here, but the timeline does not specify the pathology results. However, the presence of FDG-avid lymph nodes strongly suggests metastatic disease. Given that the patient had a confirmed malignant lung mass with nodal involvement at diagnosis, this is likely stage III or higher lung cancer. The standard treatment for such cases typically involves a combination of surgery, chemotherapy, and/or radiation. However, the timeline does not mention any treatment details such as surgery, chemotherapy, or radiation therapy. Without treatment initiation, it is impossible to assess treatment response or recurrence. Moreover, the timeline ends in March 2013, with the last imaging on March 6 and the biopsy on April 17. There is no mention of any treatment being administered after the biopsy. Therefore, there is no evidence in the timeline that the patient received any treatment. Without treatment, the question of initial response and recurrence within 2 years is not applicable. Since the timeline does not include any treatment data or outcomes post-treatment, I cannot conclude whether the patient achieved an initial response or recurred. The question requires evidence from the patient's timeline, and the timeline lacks such information. Thus, based solely on the provided data, the

answer must be "No" because there is no evidence of treatment initiation or subsequent recurrence within 2 years.</think> <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no image: [CORRECT] <think>First, I need to determine if the patient achieved an initial treatment response but experienced cancer recurrence within 2 years of treatment initiation. The key points to consider are the timeline of events, the nature of the cancer, treatments administered, and any evidence of recurrence. Looking at the patient's timeline: - The patient was diagnosed with a left lung mass in February 2013 based on CT scans. - A biopsy was performed on March 28, 2013, which confirmed the presence of a mass. - A PET-CT scan on April 9, 2013, showed the mass and indicated possible metastases to lymph nodes (left internal mammary and left cardiophrenic nodes). - A CT-guided biopsy of the internal mammary lymph node was done on April 17, 2013, confirming metastatic disease. - There is no mention of any treatment (like surgery, chemotherapy, or radiation) being initiated after these findings. - The last entry in the timeline is from March 15, 2013, which is before the biopsy on April 17, 2013, indicating that no treatment had started yet. Since the patient was diagnosed in February 2013 and no treatment was initiated until April 2013, there is no evidence that the patient received any treatment. Therefore, the question about achieving an initial treatment response and then recurrence within 2 years does not apply because no treatment was given. The options are "Yes" or "No". Given that no treatment was administered, the patient could not have had a treatment response or recurrence. Thus, the correct answer is "No".</think> <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no radiology report: [CORRECT] <think>To determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 2 years of treatment initiation, I must carefully analyze the provided patient timeline and clinical data. The timeline includes imaging studies from 2013, such as CT scans of the abdomen, pelvis, and chest, as well as MR imaging of the head. These studies are likely part of the patient's cancer staging and follow-up. However, the timeline does not explicitly mention any recurrence events, treatment modalities, or outcomes. Without specific evidence of recurrence within 2 years, I cannot definitively conclude that the patient will experience recurrence. The available data does not provide sufficient information to confirm or deny recurrence within the specified timeframe.</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>First, I note that the question asks whether the patient will achieve an initial treatment response but experience cancer recurrence within 2 years of treatment initiation. This requires knowledge of the patient's cancer stage, treatment type, and follow-up outcomes. However, the provided PATIENT_TIMELINE only includes birthdate, ethnicity, and race, with no clinical or treatment data. There is no mention of cancer diagnosis, treatment dates, recurrence, or response to therapy. Without this critical information, it is impossible to determine recurrence risk or treatment response. Given the lack of clinical or oncologic data in the timeline, I cannot make a definitive prediction about treatment response or recurrence. The question requires evidence-based inference, which is not available here. Therefore, the correct answer is "No" because there is no evidence to support the claim of initial response followed by recurrence within 2 years.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The patient's timeline shows a large, hypermetabolic left lung mass (4.6 x 5.3 cm) with confirmed metastases to the left internal mammary lymph node and another node in the left cardiophrenic angle, as evidenced by PET-CT findings on 04/09/2013. The timeline documents a biopsy of the lung mass and lymph node, but does not contain any information regarding the initiation of treatment, the patient's response to treatment, or any subsequent recurrence. The timeline ends with imaging findings that confirm metastatic disease, but there is no documentation of treatment outcomes or

follow-up beyond the initial staging. Therefore, it is impossible to determine if the patient achieved an initial treatment response or experienced recurrence within 2 years based on the provided evidence. No

middle axial image: [CORRECT] The provided PATIENT_TIMELINE documents a patient with a left lung mass (lingular) diagnosed in March 2013. Imaging (CT and PET-CT) from April 2013 shows the mass is intensely hypermetabolic (SUV max 18.21) and has spread to ipsilateral internal mammary lymph nodes and a node in the left cardiophrenic angle, consistent with metastatic disease. The timeline includes biopsy of the lung mass and lymph node, but there is no documentation of any treatment (surgery, radiation, chemotherapy) being initiated or completed. The question asks whether the patient will achieve an initial treatment response but experience recurrence within 2 years. Since no treatment has been administered, there is no evidence of a treatment response, and therefore no evidence of recurrence can be assessed. The timeline only shows initial staging and diagnosis, not any subsequent treatment or follow-up for recurrence. No | No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows a large left lung mass (5.0–6.4 cm) with biopsy performed in March 2013, followed by PET/CT in April 2013 showing intense hypermetabolism (SUV max 18.21) and new FDG-avid lymph nodes in the left internal mammary chain and left cardiophrenic angle — consistent with metastatic disease. No evidence of distant metastases beyond these sites was found at that time. However, the timeline does not include any documentation of treatment initiation, response assessment, or follow-up imaging beyond April 2013. Therefore, there is no evidence of an initial treatment response, nor is there any documentation of recurrence within 2 years. The question requires both an initial response AND recurrence within 2 years — neither is supported by the timeline. Hence, the answer is "No". <answer>No</answer>

no radiology report: [CORRECT] The provided PATIENT_TIMELINE contains imaging studies (CT and MR scans) from 2013, but it lacks any explicit documentation of the patient's cancer diagnosis, treatment initiation, treatment response, or any evidence of recurrence within 2 years of treatment. There is no information regarding the clinical history, treatment intent, or outcomes. Therefore, it is impossible to determine whether the patient achieved an initial treatment response or experienced recurrence within the specified timeframe based solely on the given data. <brief reasoning trace with explanation for answer selection> | <answer></answer> The PATIENT_TIMELINE only includes imaging and procedure records from 2013 without any documentation of cancer diagnosis, treatment, or follow-up outcomes. Therefore, there is insufficient evidence to determine if the patient achieved an initial treatment response or experienced recurrence within 2 years. | No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no clinical history, cancer diagnosis, treatment records, imaging findings, or any evidence of cancer-related events. It only includes birth date and demographic information. Without any evidence of cancer or treatment, it is impossible to determine whether the patient will achieve an initial treatment response or experience recurrence. <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. The patient has undergone multiple imaging studies including CT scans and PET CT scans. The PET CT scan shows hypermetabolic activity in the left lung mass and also in a left internal mammary lymph node, as well as another node in the left anterior costophrenic region. These findings are highly suggestive of metastatic disease. The patient has also undergone a biopsy of the left internal mammary lymph node, which confirmed

the presence of cancer. Given the presence of metastatic disease (lung cancer with spread to internal mammary lymph node and another node), the patient is at high risk for recurrence. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 2 years. The presence of metastatic disease indicates that the cancer is not localized and is likely to recur if not treated appropriately. Therefore, the patient is at high risk for recurrence within 2 years. <answer>Yes</answer>

middle axial image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. This mass was confirmed by CT scans and biopsy. The biopsy revealed metastatic disease, with the presence of a left internal mammary lymph node metastasis and another suspicious node in the left anterior cardiophrenic region. The PET CT scan confirms the hypermetabolic nature of the lung mass and the identified lymph node metastasis, indicating active cancer. The patient has already received treatment (biopsy) for the metastatic disease. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 2 years. Given the confirmed metastatic disease and the PET scan findings, the patient has already experienced a treatment response (biopsy of the metastatic node). However, the presence of multiple metastatic sites (lung mass and lymph node) suggests a higher risk of recurrence. The PET scan confirms the active nature of the cancer. While the biopsy represents a treatment response, the overall clinical picture points towards a higher likelihood of recurrence within 2 years, especially given the multiple metastatic sites. The question asks about initial treatment response *and* recurrence. The biopsy itself is a treatment response. The recurrence is likely. <answer>Yes</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of a left lung mass, diagnosed as cancer, with a biopsy confirming malignancy. The biopsy also revealed a metastasis in an ipsilateral internal mammary lymph node. The patient underwent a PET CT scan, which showed intense hypermetabolism in the lung mass and the internal mammary lymph node, confirming metastatic disease. The patient also has a hypodense lesion in the liver, which is difficult to assess on the prior noncontrast study. The patient has received treatment for the lung cancer, including a biopsy. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 2 years. The patient has received a biopsy, which is part of the initial treatment. The PET CT scan shows evidence of metastatic disease (lung mass and internal mammary node). While the biopsy confirms cancer, it doesn't necessarily indicate a complete initial treatment response, especially given the presence of metastasis. The presence of metastasis suggests the cancer is not confined to the primary site and is likely to recur if not treated appropriately for metastatic disease. The PET CT scan showing hypermetabolism in both the primary tumor and the metastatic node indicates active cancer growth. Therefore, it is likely that the patient will not achieve a complete initial treatment response, and recurrence is expected within 2 years, especially without further treatment directed at the metastatic disease. The patient has received a biopsy, which is part of the initial treatment. The PET CT scan shows intense hypermetabolism in the lung mass and the internal mammary lymph node, confirming metastatic disease. The presence of metastasis indicates that the cancer is not confined to the primary site and is likely to recur if not treated appropriately for metastatic disease. The PET CT scan showing hypermetabolism in both the primary tumor and the metastatic node indicates active cancer growth. Therefore, it is likely that the patient will not achieve a complete initial treatment response, and recurrence is expected within 2 years, especially without further treatment directed at the metastatic disease. <answer>No</answer>

no radiology report: [INCORRECT] <reasoning trace with explanation for answer selection> The patient has a history of breast cancer, diagnosed in 2013. The patient has undergone imaging studies including CT scans of the abdomen/pelvis and chest, as well as an MRI of the brain. The patient has also undergone a biopsy of the breast cancer. The patient has received treatment for the breast cancer. The patient has also undergone a biopsy of the brain lesion.

[illegible]

received treatment for the brain lesion. The patient has received treatment for the breast cancer. The patient has received treatment for the brain lesion. The patient has received treatment for the breast cancer. The patient has received treatment for the brain lesion. The patient has received treatment

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FINDINGS_IMAGING_1 | 2

Model: google/medgemma-4b-it

middle image from each view: [INCORRECT] The patient was diagnosed with lung cancer in 2013. A biopsy of the lung mass and the internal mammary lymph node was performed. The biopsy confirmed the presence of cancer in both the lung and the lymph node. The patient's clinical history indicates that the cancer has spread to the lymph node. Given the presence of cancer in both the lung and the lymph node, it is likely that the cancer will recur within 2 years of treatment initiation. <Yes>

middle axial image: [CORRECT] The patient's initial CT scan in February 2013 revealed a 5 cm mass in the lingula of the left lung. Subsequent PET/CT in April 2013 showed hypermetabolic activity in the lung mass and a suspicious lymph node in the internal mammary chain. A biopsy of the lymph node was performed in March 2013, and the pathology report confirmed metastasis. The patient's clinical history indicates a diagnosis of lung cancer with metastasis. Given the presence of metastasis, the patient is likely to experience cancer recurrence within 2 years of treatment initiation. <answer>No</answer>

no image: [INCORRECT] The patient was diagnosed with lung cancer in 2013. A biopsy of the lung mass and internal mammary lymph node was performed in April 2013. The biopsy confirmed the presence of cancer in both the lung mass and the lymph node. The patient's PET scan in April 2013 showed hypermetabolic lesions in the lung and internal mammary lymph node, indicating metastasis. The patient underwent a CT-guided biopsy of the internal mammary lymph node in March 2013, which confirmed the presence of cancer. The patient's initial treatment was likely surgery to remove the lung mass and lymph node. The patient's cancer has metastasized to the internal mammary lymph node. Given the presence of metastasis, the patient will likely experience cancer recurrence within 2 years of treatment initiation. <Yes>

no radiology report: **[INCORRECT]** The provided timeline does not contain information about the patient's cancer history, treatment, or recurrence. Therefore, it is impossible to answer the question based on the given information. <No answer>

100 axial images (no timeline): **[CORRECT]** The image shows a cross-sectional view of the pelvis, with a large, well-defined mass occupying most of the field of view. The mass appears to be composed of a homogeneous, high-density material. The presence of a large mass with a clear border suggests a possible tumor. The image also shows a device (likely a catheter) in the lower abdomen. Based on the image, it is difficult to determine the exact nature of the mass or the patient's cancer history. However, the presence of a large, well-defined mass raises suspicion for a possible tumor. Further investigation, such as a biopsy, would be needed to confirm the diagnosis and determine the appropriate treatment plan. Given the limited information, it is impossible to definitively determine if the patient will achieve an initial treatment response but experience cancer recurrence within 2 years. No

Subtask: has_recurrence_3_yr

Average unique events: 87.18

Question:

Based on the patient's clinical history and current cancer-related evidence, will the patient achieve an initial treatment response but experience cancer recurrence within 3 years of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastases to the internal mammary node and another node in the left cardiophrenic region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient will experience cancer recurrence within 3 years of treatment initiation, despite achieving an initial treatment response. | <answer>Yes</answer>

middle axial image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastasis to the internal mammary node and another node in the left cardiophrenic region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient will experience cancer recurrence within 3 years of treatment initiation, despite an initial treatment response. | <answer>Yes</answer>

no image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be a malignancy with metastasis to the internal mammary node and another node in the left cardiophrenic region. The PET CT scan indicated intense hypermetabolism associated with the mass and the metastatic nodes, suggesting an aggressive tumor. Given the presence of metastatic disease at the time of diagnosis and the aggressive nature of the tumor, it is likely that the patient will experience cancer recurrence within 3 years of treatment initiation. Therefore, the answer is "Yes". <answer>Yes</answer>

no radiology report: **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> Reasoning: The provided timeline does not include any specific evidence of cancer diagnosis, treatment response, or recurrence. The imaging and procedures listed are from 2013, but there is no indication of cancer-related findings or outcomes. Without explicit evidence of cancer diagnosis, treatment, or recurrence within the timeline, it is not possible to determine if the patient will achieve an initial treatment response and experience cancer recurrence within 3 years. <answer>No</answer>

100 axial images (no timeline): **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not contain any clinical history, imaging, pathology, or treatment outcomes related to cancer. There is no evidence to suggest an initial treatment response or cancer recurrence within 3 years of treatment initiation. Therefore, based on the available information, it is not possible to determine the treatment response or recurrence. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [INCORRECT] <think>First, I carefully reviewed the entire patient timeline provided, focusing on the relevant imaging and clinical notes. The patient was diagnosed with a left lung mass in February 2013, which was further evaluated with CT scans and confirmed as a suspicious lesion. A biopsy was performed in April 2013, which confirmed malignancy, specifically lung cancer, with evidence of metastasis to the left internal mammary lymph node and another node in the left cardiophrenic region. This indicates that the cancer had already spread regionally at the time of diagnosis. The PET-CT scan in April 2013 showed intense hypermetabolism in the primary lung mass and the involved lymph nodes, confirming active malignancy. There was no evidence of distant metastasis at that time. The patient underwent treatment, but the timeline does not specify the exact treatment modality or response. However, the presence of metastatic lymph nodes at diagnosis suggests a more advanced stage, which is associated with a higher risk of recurrence. Given that the patient had a confirmed lung cancer with regional lymph node involvement at diagnosis, and considering the natural history of such cancers, recurrence within 3 years is a significant possibility. The timeline does not show any indication of long-term remission or sustained response beyond the initial treatment period. The absence of further imaging or clinical data beyond the initial diagnosis and treatment suggests that the patient likely experienced recurrence within the first 3 years. Therefore, based on the evidence of metastatic lymph node involvement at diagnosis and the typical progression of lung cancer, the most likely answer is that the patient achieved an initial treatment response but experienced cancer recurrence within 3 years of treatment initiation.</think> <answer>Yes</answer>

middle axial image: [CORRECT] <think>First, I need to analyze the patient's timeline and imaging findings to determine if they achieved an initial treatment response but then experienced cancer recurrence within 3 years of treatment initiation. Looking at the timeline: - The patient had a CT scan on 2013-02-22 showing a left hemithorax mass in the lingula measuring approximately 5 cm. - A CT-guided biopsy was performed on 2013-03-06, confirming the presence of a lung mass. - On 2013-03-07, a PET-CT scan showed intense hypermetabolism in the left lung mass and new FDG-avid lymph nodes in the left internal mammary chain and left cardiophrenic region, indicating metastatic disease. - The biopsy results (from 2013-03-15) confirmed malignancy, supporting the diagnosis of lung cancer with nodal involvement. The patient underwent biopsy and likely started treatment around this time. The question is whether they achieved an initial treatment response but then had recurrence within 3 years. However, the timeline provided does not include any information about treatment initiation or response. There are no follow-up scans or reports indicating treatment response or recurrence after treatment. The last imaging mentioned is from 2013-03-15, which is the biopsy report, and no subsequent imaging or clinical outcomes are provided. Without evidence of treatment initiation, response assessment, or recurrence within 3 years, it is impossible to conclude whether the patient achieved an initial response and then recurred. The available data only confirms the presence of a lung mass and nodal metastases at the time of diagnosis and biopsy. Therefore, based solely on the provided patient timeline and imaging findings, there is no evidence to support the claim that the patient achieved an initial treatment response followed by recurrence within 3 years. The timeline does not include any post-treatment data or recurrence events. Hence, the correct answer is "No" because the necessary evidence for such a conclusion is absent.</think> <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no image: [INCORRECT] <think>First, I need to determine if the patient achieved an initial treatment response but experienced cancer recurrence within 3 years based on the provided timeline. Looking at the timeline, the patient was diagnosed with a left lingular mass in February 2013. The CT scans from March 2013 show a 5.1 cm mass, and a PET scan in April 2013 confirmed intense hypermetabolism in the left lung mass and metastases to an ipsilateral

internal mammary node and another node in the left cardiophrenic region. This indicates that the cancer was present and aggressive at diagnosis. The patient underwent a CT-guided biopsy of the lung mass and the internal mammary lymph node in April 2013, which confirmed malignancy. There is no mention of any treatment initiated after these findings. The timeline does not include any records of treatment such as surgery, chemotherapy, radiation, or targeted therapy. Without treatment, the cancer would likely progress. The PET scan in April 2013 already showed metastatic disease, suggesting that the cancer was not localized and had spread to lymph nodes. This implies that even if treatment had been given, the presence of metastases at diagnosis would likely lead to recurrence. Moreover, the timeline extends to March 2014 (the last entry is March 06, but the last date is March 06, 2013, and the next is March 15, 2013). There is no evidence of any treatment or follow-up beyond these dates. Therefore, there is no indication that the patient received any therapy that could have induced a response. Since the patient was diagnosed with metastatic lung cancer and no treatment was administered, it is clear that the cancer would have progressed. The question asks if the patient achieved an initial treatment response but then recurred within 3 years. However, without any treatment, there was no initial response to evaluate. The recurrence would have occurred due to untreated disease progression. Therefore, the correct answer is "No" because there is no evidence of any treatment response, and the patient's cancer was already advanced at diagnosis, leading to inevitable progression and recurrence without intervention.

</think> <brief reasoning trace with explanation for answer selection> | <answer> </answer> </brief reasoning trace>

no radiology report: [CORRECT] <think>To determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 3 years of treatment initiation, I must carefully analyze the provided patient timeline and clinical data. The timeline includes imaging studies from 2013, such as CT scans of the abdomen, pelvis, and chest, as well as MR imaging of the head. These studies are likely part of the patient's cancer staging and follow-up. However, the timeline does not explicitly mention any recurrence events, treatment modalities, or outcomes. Without specific evidence of recurrence within 3 years, I cannot definitively conclude that the patient will experience recurrence. The absence of detailed clinical outcomes or recurrence data in the timeline leads me to conclude that there is insufficient evidence to confirm recurrence within 3 years. Therefore, the most appropriate answer is "No."

</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>To determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 3 years of treatment initiation, I must carefully analyze the provided timeline and any relevant clinical data. However, the timeline provided does not contain any specific information about the patient's cancer diagnosis, treatment history, or recurrence status. There are no documented events, treatments, or outcomes that would allow me to assess the likelihood of initial response followed by recurrence within 3 years. Without this critical information, I cannot make an informed decision based on the timeline alone. Therefore, I must conclude that the data provided is insufficient to answer the question.

</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The patient's timeline shows a large, hypermetabolic left lung mass (4.6 x 5.3 cm) with confirmed metastases to the left internal mammary lymph node and another node in the left cardiophrenic angle, as evidenced by PET-CT findings on 04/09/2013. The timeline documents a biopsy of the lung mass and lymph node, but does not contain any information regarding the initiation of treatment, the patient's response to treatment, or any subsequent recurrence. The timeline ends with imaging findings from April 2013, and there is no documentation of follow-up or outcomes beyond that point. Therefore, it is impossible to determine whether the patient achieved an initial treatment

response or experienced recurrence within 3 years based on the provided evidence. No | No

middle axial image: [CORRECT] The provided patient timeline documents a left lung mass (lingular) diagnosed in March 2013, with subsequent imaging and biopsy confirming malignancy. A PET-CT scan in April 2013 revealed intense hypermetabolism in the lung mass and new, FDG-avid lymph nodes in the left internal mammary chain and left cardiophrenic angle, which are suspicious for metastases. The timeline does not contain any documentation of treatment initiation, response assessment, or follow-up imaging beyond the initial staging. There is no evidence of any treatment being administered, nor is there any record of a treatment response or recurrence. Therefore, the question about achieving an initial treatment response and experiencing recurrence within 3 years cannot be answered based on the available evidence. <brief reasoning trace with explanation for answer selection> | <answer></answer> No | No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows a large left lung mass (5.0–6.4 cm) with biopsy performed in March 2013, followed by PET/CT in April 2013 showing intense hypermetabolism (SUV max 18.21) and new FDG-avid lymph nodes in the left internal mammary chain and left cardiophrenic angle — consistent with metastatic disease. No evidence of distant metastases beyond these sites was found at that time. However, the timeline does not include any documentation of treatment initiation, response assessment, or follow-up imaging beyond April 2013. Therefore, there is no evidence of an initial treatment response, nor is there any documentation of recurrence within 3 years. The question requires both an initial response AND recurrence within 3 years — neither is supported by the timeline. Hence, the answer is "No". <answer>No</answer>

no radiology report: [CORRECT] The provided PATIENT_TIMELINE contains imaging studies (CT and MR scans) from 2013, but it lacks any explicit documentation of the patient's cancer diagnosis, treatment history, treatment response, or any evidence of recurrence within 3 years. There are no clinical notes, pathology reports, or follow-up imaging results that confirm an initial treatment response or a subsequent recurrence. Therefore, it is impossible to determine the answer based solely on the given evidence. <brief reasoning trace with explanation for answer selection> | <answer></answer> The PATIENT_TIMELINE only includes imaging studies from 2013 without any documentation of cancer diagnosis, treatment, response, or recurrence. No evidence exists to support either "Yes" or "No" for the question. | No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no clinical history, cancer diagnosis, treatment records, imaging findings, or any evidence of cancer-related events. It only includes birth date and demographic information. Without any evidence of cancer or treatment, it is impossible to determine whether the patient will achieve an initial treatment response or experience recurrence. <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. The patient has undergone multiple imaging studies including CT scans and PET CT scans. The PET CT scan shows hypermetabolic activity in the left lung mass, left internal mammary lymph node, and left anterior costophrenic region. The patient has also undergone a biopsy of the left internal mammary lymph node, which is suspicious for metastasis. The patient has also had a CT scan of the abdomen and pelvis, which showed no evidence of metastatic disease in the abdomen or pelvis. The patient has also had a CT scan of the brain, which showed no evidence of metastatic disease in the brain. The patient has also had a CT scan of the chest, which showed no evidence of metastatic disease in the chest. The patient has also had a CT scan of the abdomen and pelvis, which showed no evidence of

[illegible]

middle axial image: [CORRECT] <brief reasoning trace with explanation for answer selection>
| <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. This mass was confirmed by CT scans and biopsy. The biopsy revealed metastatic disease, with the presence of a left internal mammary lymph node metastasis and another suspicious node in the left anterior cardiophrenic region. The PET CT scan confirms the hypermetabolic nature of the lung mass and the identified lymph node metastases. The patient has received treatment for the lung cancer, including a biopsy. The question asks if the patient

will achieve an initial treatment response but experience cancer recurrence within 3 years. Given the confirmed metastatic disease (lung mass and internal mammary node), the patient has already experienced a treatment response (biopsy confirmation of metastasis). However, the presence of metastatic disease indicates a high likelihood of recurrence, especially within a 3-year timeframe. The patient has received treatment, but the disease is not cured. Therefore, the patient will likely experience cancer recurrence. <answer>No</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of a left lung mass, diagnosed as cancer, with a biopsy confirming malignancy. The biopsy also revealed a metastasis in the left internal mammary lymph node. The patient underwent a PET CT scan, which showed intense hypermetabolism in the lung mass and the left internal mammary lymph node, indicating active cancer. The PET CT also identified a second hypermetabolic node in the left anterior costophrenic region, suggesting further metastatic disease. The patient has received treatment for the lung cancer (biopsy). The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 3 years. The PET CT scan shows active cancer in multiple locations (lung mass, internal mammary node, costophrenic node). This indicates ongoing disease activity despite the biopsy. While the biopsy represents a treatment response, the presence of multiple metastatic sites suggests the cancer is not controlled and is likely to recur. Therefore, the patient is unlikely to achieve a complete initial treatment response and is expected to experience recurrence within 3 years. <answer>No</answer>

no radiology report: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of breast cancer diagnosed in 2013. The CT scan from 2013 shows no evidence of metastatic disease in the abdomen or chest. The MRI from 2013 shows no evidence of brain metastases. The patient has been treated for breast cancer. There is no mention of recurrence in the timeline. Therefore, the patient is unlikely to experience recurrence within 3 years. No | No

[illegible]

Model: google/medgemma-4b-it

middle image from each view: **[INCORRECT]** The patient was diagnosed with lung cancer in 2013. Subsequent imaging and biopsy confirmed the presence of metastasis to the internal mammary lymph node. The patient underwent a CT-guided biopsy of the internal mammary lymph node. The biopsy was successful. The patient's clinical history and current cancer-related evidence indicate that the patient will experience cancer recurrence within 3 years of treatment initiation. <answer>Yes</answer>

middle axial image: [INCORRECT] The patient has a lung mass and lymph node involvement. The lung mass has been biopsied and the lymph node biopsy is pending. The patient has a history of lung cancer. The lymph node biopsy is likely to show metastatic disease. <Yes>

[illegible]

no radiology report: [INCORRECT] The provided timeline does not contain information about the patient's cancer history, treatment, or recurrence. Therefore, it is impossible to answer the question based on the given information. <No answer>

Subtask: has_recurrence_4_yr

Average unique events: 87.18

Question:

Based on the patient's clinical history and current cancer-related evidence, will the patient achieve an initial treatment response but experience cancer recurrence within 4 years of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastases to the internal mammary node and another node in the left cardiophrenic region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient will experience cancer recurrence within 4 years of treatment initiation, despite achieving an initial treatment response. | <answer>Yes</answer>

middle axial image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastatic lymph nodes in the internal mammary region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient would achieve an initial treatment response. However, the presence of metastatic disease and the aggressive nature of the tumor increase the likelihood of recurrence within 4 years of treatment initiation. Therefore, based on the evidence from the imaging and clinical findings, the patient is likely to experience cancer recurrence within 4 years. | <answer>Yes</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left upper lobe lung mass, which was later confirmed to be a malignancy with metastasis to the internal mammary lymph nodes. The imaging and biopsy results indicate that the patient achieved an initial treatment response. However, the timeline does not provide information on the patient's treatment outcomes beyond the initial diagnosis and biopsy. Given the lack of explicit evidence regarding recurrence within 4 years of treatment initiation, the answer is based on the absence of such information in the provided timeline. <answer>No</answer>

no radiology report: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> Reasoning: The provided timeline does not include any specific evidence of cancer diagnosis, treatment response, or recurrence. The imaging and procedures listed are from 2013, but there is no indication of cancer-related findings or outcomes. Without explicit evidence of cancer diagnosis, treatment, or recurrence within the timeline, it is not possible to determine if the patient will achieve an initial treatment response and experience cancer recurrence within 4 years. <answer>No</answer>

100 axial images (no timeline): [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not contain any clinical history, imaging, pathology, or treatment outcomes related to cancer. There is no evidence to suggest an initial treatment response or cancer recurrence within 4 years of treatment initiation. Therefore, based on the available information, it is not possible to determine

the treatment response or recurrence. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I carefully reviewed the entire patient timeline provided to understand the clinical course and cancer-related evidence. The patient was diagnosed with a left lung mass in February 2013, which was further evaluated with CT scans and confirmed as a 5.1 cm mass in the lingula. A biopsy was performed, and the PET CT scan in April 2013 showed intense hypermetabolism in the left lung mass and additional FDG-avid lymph nodes in the left internal mammary chain and left anterior costophrenic angle, indicating metastatic disease. The key point here is the presence of metastatic lymph nodes confirmed by biopsy and PET imaging. This suggests that the cancer had already spread beyond the primary site at the time of diagnosis. The patient underwent treatment, but the question is whether they achieved an initial treatment response and then experienced recurrence within 4 years. However, the timeline does not provide any information about subsequent treatment response or recurrence. The last documented event is the CT-guided biopsy of the lymph node in April 2013, with no follow-up imaging or clinical data beyond that. There is no mention of treatment initiation, response assessment, or recurrence within the 4-year window. Without evidence of recurrence or treatment response documented in the timeline, it is not possible to conclude whether the patient achieved an initial response and then recurred. Therefore, based solely on the provided patient timeline, there is insufficient data to confirm or deny the scenario described in the question.</think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to determine if the patient will achieve an initial treatment response but experience cancer recurrence within 4 years of treatment initiation. The key factors to consider are the stage of the cancer, tumor biology, treatment intent and completeness, margins, nodal status, biomarkers, and any documented outcomes from the timeline. Looking at the timeline, the patient was diagnosed with a left lingular lung mass in 2013. The CT scans show a large mass measuring up to 5.1 cm x 5.5 cm x 6.4 cm. The PET scan on 04/09/2013 indicates intense hypermetabolism of the mass with SUV max 18.21, suggesting high metabolic activity consistent with malignancy. Additionally, there are hypermetabolic lymph nodes in the left internal mammary chain and left anterior costophrenic region, which are suspicious for metastases. The biopsy of the lymph nodes confirmed metastatic disease, indicating that the cancer has spread regionally. The presence of FDG-avid lymph nodes suggests aggressive tumor behavior and possible systemic involvement. The patient underwent CT-guided biopsy of the lung mass and lymph nodes, confirming the diagnosis of lung cancer with nodal metastasis. The timeline does not mention any definitive treatment such as surgery, chemotherapy, or radiation beyond the biopsy. There is no indication of adjuvant therapy or systemic treatment initiation in the provided timeline. Since the timeline ends in March 2013 and the last imaging is from 04/09/2013, there is no data on treatment response or recurrence beyond that point. The question asks about recurrence within 4 years of treatment initiation, but no treatment has been documented in the timeline. Without evidence of treatment, it is impossible to assess treatment response or recurrence. Therefore, based solely on the provided patient timeline, there is no information to confirm whether the patient achieved an initial treatment response or experienced recurrence within 4 years. The timeline lacks treatment details, making it impossible to answer "Yes" or "No" definitively.</think> <answer>No</answer>

no image: [CORRECT] <think>First, I need to determine if the patient will achieve an initial treatment response but experience cancer recurrence within 4 years of treatment initiation. The key points to consider are the patient's clinical history, imaging findings, and any evidence of metastasis or recurrence. Looking at the timeline, the patient was diagnosed with a left lingular mass in February 2013. The CT scans show a large mass measuring 5.1 cm x 5.5 cm x 6.4 cm. The PET-CT in April 2013 confirmed intense hypermetabolism of the mass and identified

metastatic spread to an ipsilateral internal mammary node and another node in the left cardiophrenic region. This indicates that the cancer was already metastatic at diagnosis. The patient underwent a CT-guided biopsy of the lung mass and the internal mammary lymph node, confirming malignancy. The biopsy results would be critical, but the timeline doesn't specify the pathology results, so I must rely on the imaging and clinical course. The patient's treatment timeline isn't fully detailed here. The last entry is from March 15, 2013, about a biopsy, but there's no mention of subsequent treatments like surgery, chemotherapy, or radiation. Without knowing the treatment initiated, it's challenging to assess response or recurrence. However, the PET-CT in April 2013 already showed metastatic disease, suggesting an advanced stage. If the patient received treatment, the initial response might be assumed, but recurrence within 4 years would depend on the treatment efficacy and disease biology. But the question is whether the patient will achieve an initial treatment response but then recur within 4 years. Given that the disease was metastatic at diagnosis, the prognosis is likely poor, and recurrence is probable. However, without specific treatment details, I can't confirm the response or recurrence timeline. The options are "Yes" or "No". Since the patient already had metastatic disease at diagnosis, and assuming standard treatment, recurrence within 4 years is likely. But the timeline doesn't show any treatment initiation or follow-up beyond the biopsy. Therefore, based solely on the provided timeline, there's no evidence of treatment response or recurrence yet. The timeline ends in March 2013, with the last imaging in April 2013 showing metastases. There's no data on treatment or subsequent events. Therefore, the correct answer is "No" because the timeline does not provide evidence of treatment initiation or recurrence within 4 years. The patient's disease was already advanced at diagnosis, and without treatment details, we cannot confirm an initial response followed by recurrence.

</think> <brief reasoning trace with explanation for answer selection> | <answer> </answer> <answer> No </answer>

no radiology report: [CORRECT] <think>To determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 4 years of treatment initiation, I must carefully analyze the provided patient timeline and correlate it with the clinical evidence. The timeline includes imaging studies from 2013, such as CT scans of the abdomen, pelvis, and chest, as well as MR imaging of the head. These studies likely reflect the patient's cancer progression, treatment response, and recurrence status. However, the timeline does not explicitly mention any recurrence events or treatment outcomes. Without documented evidence of recurrence within 4 years, I cannot definitively conclude that the patient experienced recurrence. Therefore, based on the available data, the most appropriate answer is "No."

</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>First, I note that the question asks whether the patient will achieve an initial treatment response but experience cancer recurrence within 4 years of treatment initiation. This requires knowledge of the patient's cancer stage, treatment type, and recurrence status within the first 4 years. However, the provided PATIENT_TIMELINE only includes the date of birth (1988-11-22) and ethnicity/race information, with no clinical or treatment data. There is no mention of cancer diagnosis, treatment dates, or recurrence events. Without this critical information, it is impossible to determine the patient's treatment response or recurrence status. Given the lack of clinical or oncologic data in the timeline, I cannot make a definitive assessment about treatment response or recurrence. Therefore, the correct answer must be based solely on the absence of relevant clinical evidence. Since the question requires selecting "Yes" or "No" based on the patient's timeline, and the timeline does not provide any evidence of treatment or recurrence, the answer must be "No" because there is no documented evidence to support a recurrence within 4 years of treatment initiation.

</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows a large, hypermetabolic left lung mass (4.6 x 5.3 cm) with confirmed metastases to the left internal mammary lymph node and another node in the left cardiophrenic angle, as identified by PET-CT on 04/09/2013. This indicates stage IV disease at diagnosis. The timeline documents a biopsy of the lung mass and lymph node, but there is no evidence of any subsequent treatment (surgery, radiation, chemotherapy) or any documentation of an initial treatment response. Furthermore, the timeline ends with the 2013 imaging findings, and there is no information about any follow-up or recurrence events beyond 4 years. Therefore, based on the provided evidence, the patient did not achieve an initial treatment response, and there is no evidence of recurrence within 4 years. The question asks if the patient will achieve an initial treatment response but experience recurrence within 4 years. Since the patient did not achieve an initial treatment response, the answer is "No". No

middle axial image: [CORRECT] The provided PATIENT_TIMELINE documents a left lung mass (lingular) diagnosed in 2013, with subsequent imaging and biopsy confirming malignancy. The timeline includes a PET-CT scan (04/09/2013) that identified the primary lung mass and also revealed FDG-avid metastases to the left internal mammary lymph node and a node in the left cardiophrenic angle. This indicates stage IV disease at diagnosis. The timeline does not contain any documentation of treatment initiation, response, or follow-up beyond the initial staging. There is no evidence of any treatment being administered, nor is there any documentation of a treatment response or recurrence within 4 years. Therefore, based on the available evidence, the patient has not yet achieved an initial treatment response, and there is no evidence of recurrence within 4 years. The question asks whether the patient will achieve an initial treatment response but experience recurrence within 4 years. Since no treatment has been initiated and no recurrence is documented, the answer is "No". <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows a diagnosis of stage IV lung cancer with metastases to lymph nodes in 2013, but no treatment initiation or response is documented. There is no evidence of recurrence within 4 years. The question asks if the patient will achieve an initial treatment response but experience recurrence within 4 years. Since no treatment has been administered and no recurrence is documented, the answer is "No". | <answer>No</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows a large left lung mass (5.0–6.0 cm) with biopsy performed in March 2013, and subsequent imaging (PET-CT, CT) in April 2013 reveals FDG-avid internal mammary lymph nodes and a new soft tissue lesion in the left cardiophrenic angle — both suspicious for metastases. The PET-CT also confirms intense hypermetabolism of the lung mass (SUV max 18.21), indicating active malignancy. No evidence of distant metastases beyond the internal mammary nodes and cardiophrenic lesion is noted at this time. However, the timeline does not include any documentation of treatment initiation, response assessment, or follow-up beyond April 2013. Therefore, there is no evidence of an initial treatment response, nor is there any documentation of recurrence within 4 years. The question requires both an initial response AND recurrence within 4 years — neither is supported by the timeline. Hence, the answer is "No". <answer>No</answer>

no radiology report: [CORRECT] The provided PATIENT_TIMELINE contains imaging studies (CT and MR scans) from 2013, but it lacks any explicit documentation of the patient's cancer diagnosis, treatment history, treatment response, or any evidence of recurrence within 4 years. There is no information regarding initial treatment response or subsequent recurrence. Therefore, it is impossible to determine whether the patient will achieve an initial treatment response and experience recurrence within 4 years based solely on the given timeline. <brief reasoning trace with explanation for answer selection> | <answer></answer> The PATIENT_TIMELINE only includes imaging studies from 2013 without any documented cancer diagnosis, treatment, or follow-up outcomes. There is no evidence to support or refute the claim

of an initial treatment response or recurrence within 4 years. Therefore, the question cannot be answered with the provided data. | No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no clinical history, cancer diagnosis, treatment records, imaging findings, or any evidence of cancer-related events. It only includes birth date and demographic information. Without any evidence of cancer or treatment, it is impossible to determine whether the patient will achieve an initial treatment response or experience recurrence. <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

Model: google/medgemma-1.5-4b-it

[illegible]

no evidence of metastatic disease in the chest. The patient has also had a CT scan of the abdomen and pelvis, which showed no evidence of metastatic disease in the abdomen or pelvis. The patient has also had a CT scan of the brain, which showed no evidence of metastatic disease in the brain. The patient has also had a CT scan of the chest, which showed no evidence of metastatic disease in the chest. The patient has also had a CT scan of the abdomen and pelvis, which showed no evidence of metastatic disease in the abdomen or pelvis. The patient has also had a CT scan of the brain, which showed no evidence of metastatic disease in the brain. The patient has also had a CT scan of the chest, which showed no evidence of metastatic disease in the chest. The patient has also had a CT scan of the abdomen and pelvis, which showed no evidence of metastatic disease in the abdomen or pelvis. The patient has also had a CT scan of the brain, which showed no evidence of metastatic disease in the brain. The patient has also had a CT scan of the chest, which showed no evidence of metastatic disease in the chest. The patient has also had a CT scan of the abdomen and pelvis, which showed no evidence of metastatic disease in the abdomen or pelvis. The patient has also had a CT scan of the brain, which showed no evidence of

middle axial image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. This mass was confirmed by CT scans and biopsy. The biopsy revealed metastatic disease, with the presence of a left internal mammary lymph node metastasis and another suspicious node in the left anterior cardiophrenic region. The PET CT scan confirms the hypermetabolic nature of the lung mass and the identified lymph node metastases. The patient has received treatment for the lung cancer, including a biopsy. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 4 years. Given the confirmed metastatic disease (lung mass and internal mammary node), the patient has already experienced a treatment response (biopsy confirmation of metastasis). However, the presence of metastatic disease indicates a high likelihood of recurrence, especially within a 4-year timeframe. The patient has received treatment, but the disease is not cured. Therefore, the patient will likely experience cancer recurrence. <answer>No</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of a left lung mass, diagnosed as cancer, with a biopsy confirming malignancy. The biopsy also revealed a metastasis in an ipsilateral internal mammary lymph node. The patient underwent a PET CT scan, which showed intense hypermetabolism in the lung mass and the internal mammary lymph node, confirming metastatic disease. The patient also has a hypodense lesion in the liver, which is difficult to assess on the prior noncontrast study. The patient has received treatment for the lung cancer, including a biopsy. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 4 years. The patient has received a biopsy, which is a form of treatment. The PET CT scan shows evidence of metastatic disease (lung mass and internal mammary node). While the biopsy itself is a treatment, it doesn't necessarily represent the *initial* treatment response in the sense of curative intent therapy like surgery or chemotherapy/radiation. However, the question asks about achieving an *initial* treatment response. A biopsy is a form of treatment. The PET scan shows evidence of disease activity (hypermetabolism) in the primary tumor and a metastatic site. This suggests the disease is not completely controlled by the biopsy alone. The presence of metastatic disease (internal mammary node) indicates the cancer has spread beyond the initial site. The question asks about recurrence within 4 years. The PET scan showing hypermetabolism in the lung mass and the internal mammary node suggests ongoing disease activity. While the biopsy was performed, it doesn't necessarily mean the disease is controlled. The presence of metastatic disease makes recurrence likely, especially within a short timeframe like 4 years, even if the initial biopsy was performed. The question is slightly ambiguous about "initial treatment response". If it means the response to the biopsy, then the PET scan showing hypermetabolism suggests the disease is not fully controlled. If it means the response to the *overall* treatment plan initiated,

the biopsy is just the first step. The PET scan showing hypermetabolism in the primary tumor and a metastatic site indicates ongoing disease activity and suggests that the disease is not controlled by the biopsy alone. The presence of metastatic disease (internal mammary node) makes recurrence likely. Therefore, the patient is likely to experience cancer recurrence within 4 years. <answer>No</answer>

no radiology report: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of breast cancer diagnosed in 2013. The CT scan from 2013 shows no evidence of metastatic disease in the abdomen or chest. The MRI from 2013 shows no evidence of brain metastases. The patient has been treated for breast cancer, but there is no information about the current status of the cancer or if the patient is currently undergoing treatment. Without information on the current status of the cancer, it is impossible to determine if the patient will achieve an initial treatment response but experience cancer recurrence within 4 years. <answer>No</answer>

[illegible]

Model: google/medgemma-4b-it

middle image from each view: [INCORRECT] The patient was diagnosed with lung cancer in 2013. Subsequent imaging and biopsy confirmed the presence of metastasis to the internal mammary lymph node. The patient underwent a CT-guided biopsy of the internal mammary lymph node. The biopsy was successful. The patient's clinical history and current cancer-related evidence indicate that the patient will experience cancer recurrence within 4 years of treatment initiation. <answer>Yes</answer>

middle axial image: [INCORRECT] The patient's initial CT scan in February 2013 revealed a 5 cm mass in the lingula of the left lung. Subsequent PET/CT in April 2013 showed metastasis to an internal mammary lymph node and another node in the left cardiophrenic region. A biopsy of the internal mammary lymph node was performed in March 2013, confirming metastasis. The patient's clinical history indicates a diagnosis of lung cancer with metastasis. Given the presence of metastasis, the patient is likely to experience cancer recurrence within 4 years of treatment initiation. <Yes>

no image: **[INCORRECT]** The patient was diagnosed with lung cancer in 2013. A biopsy of the lung mass and internal mammary lymph node was performed in April 2013. The biopsy confirmed metastatic disease. The patient's cancer is likely to recur within 4 years of treatment initiation. <Yes></answer>

no radiology report: **[INCORRECT]** The provided timeline does not contain information about the patient's cancer history, treatment, or recurrence. Therefore, it is impossible to answer the question based on the given information. <No answer>

100 axial images (no timeline): **[CORRECT]** The image shows a cross-sectional view of the pelvis, with a large, well-defined mass occupying most of the field of view. The mass appears to be composed of a homogeneous, high-density material. The presence of a large mass with a clear border suggests a possible tumor. The image also shows a device (likely a catheter) in the lower abdomen. Based on the image, it is difficult to determine the exact nature of the mass or the patient's cancer history. However, the presence of a large, well-defined mass raises suspicion for a possible tumor. Further investigation, such as a biopsy, would be needed to confirm the diagnosis and determine the appropriate treatment plan. Given the limited information, it is impossible to definitively determine if the patient will achieve an initial treatment response but experience cancer recurrence within 4 years. No

Subtask: has_recurrence_5_yr

Average unique events: 87.18

Question:

Based on the patient's clinical history and current cancer-related evidence, will the patient achieve an initial treatment response but experience cancer recurrence within 5 years of treatment initiation?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left upper lobe lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastatic lymph nodes in the internal mammary region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient will achieve an initial treatment response. However, the presence of metastatic disease and the aggressive nature of the tumor increase the likelihood of recurrence within 5 years of treatment initiation. | <answer>Yes</answer>

middle axial image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be hypermetabolic on PET-CT, indicating malignancy. The presence of metastases to the internal mammary node and another node in the left cardiophrenic region suggests an advanced stage of cancer. Given the stage and the nature of the tumor, it is likely that the patient will experience cancer recurrence within 5 years of treatment initiation, despite achieving an initial treatment response. | <answer>Yes</answer>

no image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient was diagnosed with a left lung mass, which was later confirmed to be a malignancy with metastasis to the internal mammary node and another node in the left cardiophrenic region. The PET CT scan indicated intense hypermetabolism associated with the mass and the metastatic nodes, suggesting an aggressive tumor. Given the presence of metastatic disease at the time of diagnosis and the aggressive nature of the tumor, it is highly likely that the patient will experience cancer recurrence within 5 years of treatment initiation. Therefore, the answer is "Yes". <answer>Yes</answer>

no radiology report: **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> Reasoning: The provided timeline includes imaging studies from 2013, but there is no explicit evidence of cancer diagnosis, treatment response, or recurrence within 5 years. Without specific details on cancer staging, treatment outcomes, or follow-up findings, it is not possible to determine whether the patient will achieve an initial treatment response and experience cancer recurrence within 5 years. <answer>No</answer>

100 axial images (no timeline): **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not contain any clinical history, imaging, pathology, or treatment outcomes related to cancer. There is no evidence to suggest an initial treatment response or cancer recurrence within 5 years of treatment initiation. Therefore, based on the available information, it is not possible to determine the treatment response or recurrence. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I carefully reviewed the entire patient timeline provided to understand the clinical course and cancer-related evidence. The patient was diagnosed with a left lung mass in February 2013, which was further evaluated with CT scans and confirmed as a 5.1 cm mass in the lingula. A biopsy was performed, and the PET-CT scan in April 2013 showed intense hypermetabolism of the mass and additional FDG-avid lymph nodes in the left internal mammary chain and left anterior costophrenic angle, indicating metastatic disease. The key point here is the presence of metastatic lymph nodes confirmed by biopsy and PET imaging. This suggests that the cancer had already spread beyond the primary site at the time of diagnosis. The patient underwent treatment, but the question is whether they achieved an initial treatment response and then experienced recurrence within 5 years. However, the timeline does not provide any information about subsequent treatment response or recurrence. The last documented event is the CT-guided biopsy of the lymph node in April 2013, with no follow-up imaging or clinical data beyond that. There is no mention of treatment response assessment, recurrence, or survival outcomes in the provided records. Since the question asks specifically about achieving an initial treatment response and recurrence within 5 years, and the timeline does not include any data beyond the initial diagnosis and biopsy, it is impossible to determine the answer based solely on the provided information. The necessary clinical data to confirm recurrence or response is missing. Therefore, based on the available patient timeline, there is insufficient evidence to conclude whether the patient achieved an initial treatment response followed by recurrence within 5 years.</think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to analyze the patient's timeline and imaging findings to determine if they achieved an initial treatment response but then experienced cancer recurrence within 5 years of treatment initiation. Looking at the timeline, the patient was born in 1988, and the first significant event is a CT scan in February 2013 showing a left hemithorax pulmonary mass. The mass was further evaluated with a CT chest in March 2013, which confirmed a 5.1 cm x 5.5 cm x 6.4 cm mass in the left lingula. The CT chest with contrast noted that the mass was abutting the left anterior chest wall and the major fissure, with no evidence of bony destruction or chest wall invasion. This suggests a localized lung mass at this stage. Then, on March 25, 2013, a CT-guided biopsy of the left lung mass was performed, which confirmed the presence of a lung mass. The biopsy was successful, and no complications were noted. The patient underwent a PET-CT scan on April 9, 2013, which showed intense hypermetabolism of the left lung mass and new FDG-avid lymph nodes in the left internal mammary chain and left cardiophrenic region, indicating metastatic spread. This suggests that the cancer had already spread to regional lymph nodes at this point. The patient's clinical history indicates lung cancer, and the PET-CT confirmed metastatic disease. The timeline does not show any treatment initiation after these findings. The next procedure was a biopsy of the internal mammary lymph node on April 17, 2013, which confirmed metastatic disease. There is no mention of any treatment (such as surgery, chemotherapy, or radiation) being administered after these findings. Since the patient's timeline does not include any treatment initiation, it is impossible to assess whether there was an initial treatment response or any subsequent recurrence. The question asks if the patient achieved an initial treatment response but experienced recurrence within 5 years. Without any treatment data, there is no evidence to support either an initial response or recurrence. Therefore, based solely on the provided patient timeline and imaging findings, there is no information about treatment or its outcomes. The answer must be "No" because the necessary data to confirm an initial treatment response and subsequent recurrence within 5 years is absent.</think> <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no image: [CORRECT] <think>First, I need to determine if the patient will achieve an initial treatment response but experience cancer recurrence within 5 years based on the provided timeline. Looking at the timeline, the patient was diagnosed with a left lingular mass in February

2013. The CT scans show a large mass measuring 5.1 cm x 5.5 cm x 6.4 cm. The biopsy confirmed lung cancer, and there was evidence of metastasis to an ipsilateral internal mammary node and another node in the left cardiophrenic region, as seen on the PET-CT scan on April 9, 2013. This indicates that the cancer had already spread to lymph nodes at the time of diagnosis. The patient underwent a CT-guided biopsy of the lung mass and the internal mammary lymph node. The PET-CT showed intense hypermetabolism in these areas, confirming malignancy. The presence of metastatic lymph nodes at diagnosis suggests that the cancer was at least stage III, which is considered locally advanced. Treatment for stage III lung cancer typically involves a combination of chemotherapy and radiation, sometimes followed by surgery if feasible. However, the timeline does not mention any specific treatment details beyond the biopsy. The patient's follow-up imaging on March 26, 2013, shows the mass is unchanged, indicating no immediate response to any treatment yet, as treatment had not been initiated. Since the patient had metastatic disease at diagnosis (stage III), the prognosis is poorer, and recurrence is likely. The question is whether the patient achieved an initial response but then recurred within 5 years. However, the timeline does not show any treatment or response data. The last imaging mentioned is on March 15, 2013, which is before any treatment, and the mass is unchanged. There is no evidence of treatment response or recurrence within the 5-year window provided in the timeline. Therefore, based solely on the provided timeline, there is no indication that the patient achieved an initial treatment response. The timeline does not mention any treatment initiation or response assessment. The recurrence status is not documented either. Without evidence of treatment or recurrence, it is not possible to conclude that the patient had an initial response followed by recurrence within 5 years. Hence, the answer must be "No" because the timeline does not support the scenario described in the question.</think> <brief reasoning trace with explanation for answer selection> | <answer> </answer> <answer>No</answer></think>

no radiology report: [CORRECT] <think>To determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 5 years of treatment initiation, I must carefully analyze the provided patient timeline and correlate it with the clinical evidence. The timeline includes imaging studies from 2013, such as CT scans of the abdomen, pelvis, and chest, as well as MR imaging of the head. These studies likely reflect the patient's cancer progression, treatment response, and recurrence status. However, the timeline does not explicitly mention any recurrence events or treatment outcomes. Without documented evidence of recurrence within 5 years, I cannot definitively conclude that the patient experienced recurrence. Therefore, based on the available data, the most appropriate answer is "No."</think> <answer>No</answer>

100 axial images (no timeline): [CORRECT] <think>To determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 5 years of treatment initiation, I must carefully analyze the provided timeline and clinical data. The timeline only includes the date of birth and ethnicity/race, with no specific cancer-related events, treatments, or outcomes documented. There is no information about tumor stage, treatment modalities, or recurrence status. Without these critical details, it is impossible to assess the likelihood of initial response or recurrence within 5 years. Therefore, I cannot make a definitive prediction based solely on the provided data.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The patient's timeline shows a large, hypermetabolic left lung mass (4.6 x 5.3 cm) with confirmed metastases to the left internal mammary lymph node and another node in the left cardiophrenic angle, as evidenced by PET-CT findings on 04/09/2013. The imaging also shows no distant metastatic disease at this time. The patient underwent a biopsy of the internal mammary lymph node on 04/17/2013, which would be part of the diagnostic workup to determine the primary tumor type and guide

treatment. However, the timeline does not contain any documentation of subsequent treatment (e.g., surgery, chemotherapy, radiation) or any follow-up imaging or clinical assessments that would indicate an initial treatment response or recurrence within 5 years. The timeline ends with the biopsy, and there is no evidence of any treatment being administered or its outcome being evaluated. Therefore, it is impossible to determine if the patient achieved an initial treatment response or experienced recurrence within 5 years based on the provided information. No

middle axial image: [CORRECT] The provided PATIENT_TIMELINE documents a patient with a left lung mass (lingular) diagnosed in March 2013. Imaging (CT and PET-CT) from April 2013 shows the mass is intensely hypermetabolic (SUV max 18.21) and has spread to ipsilateral internal mammary lymph nodes and a node in the left cardiophrenic angle, indicating metastatic disease. The timeline includes a biopsy of the lung mass and internal mammary node, but there is no documentation of any treatment (surgery, radiation, chemotherapy) being initiated or completed. The question asks whether the patient will achieve an initial treatment response but experience recurrence within 5 years. Since no treatment has been administered, there is no evidence of an initial treatment response. Furthermore, recurrence cannot be assessed without a baseline for treatment response or follow-up imaging post-treatment. The timeline only shows initial staging and diagnosis, not any therapeutic intervention or its outcomes. Therefore, based on the evidence provided, the answer is "No". <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows initial diagnosis of a metastatic lung mass with lymph node involvement in March-April 2013, but no treatment has been administered. Without treatment, there is no evidence of an initial treatment response, and recurrence cannot be assessed. Therefore, the scenario described in the question (initial response followed by recurrence) cannot be confirmed or inferred from the provided evidence. | No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a 6 cm left lung mass with confirmed FDG-avid internal mammary and cardiophrenic lymph node metastases on PET-CT (April 2013), indicating metastatic disease at diagnosis. No evidence of distant metastases beyond these nodes is noted. The timeline shows no documentation of treatment initiation or response assessment (e.g., chemotherapy, surgery, or response imaging) beyond diagnostic workup. Since no treatment is documented, there is no evidence of an initial treatment response. Furthermore, recurrence within 5 years cannot be assessed without evidence of treatment and follow-up. Therefore, the question cannot be answered as "Yes" (no treatment response documented) or "No" (no recurrence data available). However, per strict rules, we must select from "Yes" or "No". Given the absence of any treatment or response data, and the fact that recurrence cannot be confirmed or denied without follow-up, the safest inference is that recurrence is not yet documented — but the question asks if recurrence will occur within 5 years. Since the patient has metastatic disease at diagnosis and no treatment is recorded, recurrence is highly likely, but the timeline does not provide evidence of recurrence. However, the question is phrased as a future prediction based on current evidence. Since no treatment has occurred, there is no "initial treatment response" to evaluate, making the premise of the question unfulfilled. But per the rules, we must select one of the two options. Given that the patient has metastatic disease and no treatment is documented, recurrence is expected — but the timeline does not show recurrence. However, the question is not asking if recurrence has occurred, but if it will occur within 5 years. Since the patient has metastatic disease, recurrence is statistically likely, but the timeline does not provide evidence of it. However, the question is grounded in the patient's clinical history and current evidence. The current evidence shows metastatic disease at diagnosis, but no treatment has been initiated. Therefore, the patient has not yet achieved an initial treatment response, and recurrence is not yet documented. But the question is asking if the patient will achieve a response and then experience recurrence. Since no treatment is documented, the patient has not achieved a response. Therefore, the answer is "No" — because the patient has not achieved an initial treatment response, the condition for the "Yes"

answer is not met. The question is a compound condition: "will the patient achieve an initial treatment response but experience cancer recurrence within 5 years?" Since the first part (treatment response) is not documented, the entire condition is not met. Therefore, the answer is "No". <answer>No</answer>

no radiology report: [CORRECT] The provided PATIENT_TIMELINE contains imaging studies (CT and MR scans) from 2013, but it lacks any explicit documentation of a cancer diagnosis, treatment initiation, treatment response, or any evidence of cancer recurrence within 5 years. There is no information regarding the patient's oncological history, treatment outcomes, or follow-up findings. Therefore, it is impossible to determine whether the patient achieved an initial treatment response or experienced recurrence based solely on the given timeline. <brief reasoning trace with explanation for answer selection> | <answer></answer> No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no clinical history, cancer diagnosis, treatment records, imaging findings, or any evidence of cancer-related events. It only includes birth date and demographic information. Without any evidence of cancer or treatment, it is impossible to determine whether the patient will achieve an initial treatment response or experience recurrence. <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. The patient has undergone multiple imaging studies including CT scans and PET CT scans. The PET CT scan shows hypermetabolic activity in the left lung mass, left internal mammary lymph node, and left anterior costophrenic region. The patient has also undergone a biopsy of the left internal mammary lymph node, which is suspicious for metastasis. The patient has also undergone treatment for the lung cancer, including a biopsy and likely chemotherapy/radiation therapy (though not explicitly stated, the presence of metastatic disease suggests treatment). The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 5 years. Given the evidence of metastatic disease (left internal mammary node and left anterior costophrenic region) and the biopsy confirming metastasis, the patient is likely to experience cancer recurrence within 5 years. <answer>Yes</answer>

middle axial image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of lung cancer, specifically a mass in the lingula of the left lung. This mass was confirmed by CT scans and biopsy. The biopsy revealed metastatic disease, with the presence of a left internal mammary lymph node metastasis and another suspicious node in the left anterior cardiophrenic region. The PET CT scan further confirms the hypermetabolic nature of the lung mass and the identified lymph node metastasis, indicating active cancer. The patient has already received treatment (biopsy) for the metastatic disease. The question asks if the patient will achieve an initial treatment response but experience cancer recurrence within 5 years. Given the confirmed metastatic disease and the PET scan findings, the patient has already experienced a treatment response (biopsy of the metastatic node). However, the presence of multiple metastatic sites (lung mass and lymph node) indicates that the cancer is not cured and is likely to recur. The question asks about initial treatment response and recurrence within 5 years. The patient has already had a treatment response (biopsy). The recurrence is likely, given the metastatic nature of the disease. The question is about the *initial* response and recurrence. The biopsy itself is a form of treatment response. The recurrence is expected. <answer>No</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of a left lung mass, diagnosed as cancer, with a biopsy confirming malignancy. The biopsy also revealed a metastasis in the left internal

no radiology report: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of breast cancer diagnosed in 2013. The CT scan from 2013 shows no evidence of metastatic disease in the abdomen or chest. The MRI from 2013 shows no evidence of brain metastases. The patient has been followed up with imaging. There is no mention of recurrence in the timeline. Therefore, the patient is expected to achieve an initial treatment response but not experience cancer recurrence within 5 years. <answer>No</answer>

Model: google/medgemma-4b-it

middle image from each view: [INCORRECT] The patient was diagnosed with lung cancer in 2013. Subsequent imaging and biopsy confirmed the presence of metastasis to the internal mammary lymph node. The patient underwent a CT-guided biopsy of the internal mammary lymph node. The biopsy was successful. The patient's clinical history and current cancer-related evidence indicate that the patient will experience cancer recurrence within 5 years of treatment initiation. <answer>Yes</answer>

[illegible]

no radiology report: **[INCORRECT]** The provided timeline does not contain information about the patient's cancer history, treatment, or recurrence. Therefore, it is impossible to answer the question based on the given information. <No answer>

100 axial images (no timeline): **[CORRECT]** The image shows a cross-sectional view of the pelvis, with a large, well-defined mass occupying most of the field of view. The mass appears to be composed of a homogeneous, white material. The presence of a large mass with a clear border suggests a possible tumor. The image also shows a device (likely a catheter) in the lower abdomen. Based on the image, it is difficult to determine the exact nature of the mass or the patient's cancer history. However, the presence of a large, well-defined mass in the pelvis raises suspicion for a possible tumor. Further investigation, such as a biopsy, would be needed to confirm the diagnosis and determine the appropriate treatment plan. Given the limited information, it is impossible to definitively determine whether the patient will achieve an initial treatment response but experience cancer recurrence within 5 years. No

Dataset: tb_v1_1_tb_classification_tasks

Subtask: early_stage_management_answer

Average unique events: 93.72

Question:

Based on the provided medical history and cancer evidence, what is optimal curative-intent treatment for stage I-III NSCLC?

Correct Answer: Surgery alone

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> <reasoning trace> 1. The patient's medical timeline indicates a diagnosis of shortness of breath, chest pain, and a mass in the chest, which led to a CT scan of the chest. 2. The imaging findings suggest the presence of a mass, which is consistent with a diagnosis of non-small cell lung cancer (NSCLC). 3. The stage of the cancer is specified as stage I-III, which is considered early-stage NSCLC. 4. According to standard oncology guidelines, the optimal curative-intent treatment for stage I-III NSCLC is typically surgery alone, as the cancer is localized and has not spread extensively. 5. The timeline does not mention any systemic therapy or adjuvant therapy, supporting the idea that surgery alone is the primary treatment at this stage. </reasoning trace> <answer>Surgery alone</answer>

middle axial image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> <reasoning trace> 1. The patient's medical timeline indicates a diagnosis of non-small cell lung cancer (NSCLC) based on the chest imaging and biopsy. 2. The stage of the cancer is specified as stage I-III, which is considered early-stage NSCLC. 3. For stage I-III NSCLC, the standard curative-intent treatment is typically surgery alone, as these stages are often localized and resectable. 4. The timeline does not mention any systemic therapy or adjuvant treatments, supporting the idea that surgery alone is the primary treatment. 5. Therefore, based on the stage and typical treatment protocols for early-stage NSCLC, "Surgery alone" is the optimal curative-intent treatment. </reasoning trace> <answer>Surgery alone</answer>

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's medical timeline indicates a series of imaging studies and clinical assessments, but there is no explicit mention of a diagnosis of stage I-III non-small cell lung cancer (NSCLC). The imaging studies and clinical notes focus on chest pain, shortness of breath, and coronary atherosclerosis, with a preliminary report after a lung biopsy. However, the timeline does not provide definitive evidence of a cancer diagnosis or stage. Given the lack of explicit evidence of a stage I-III NSCLC diagnosis in the timeline, the optimal curative-intent treatment for stage I-III NSCLC cannot be determined from the provided information. The standard treatment for stage I-III NSCLC typically involves surgery, with or without adjuvant therapy, depending on the stage and other factors. Since the timeline does not provide sufficient evidence to confirm the diagnosis or stage, the most appropriate answer based on the available information is: <answer>Surgery alone</answer>

no radiology report: [INCORRECT] <think> The patient's timeline indicates a diagnosis of stage I-III non-small cell lung cancer (NSCLC). For curative intent in this stage, the standard treatment is surgery, often followed by adjuvant therapy to reduce the risk of recurrence. The timeline does not mention any prior treatments, suggesting that the patient is at an early stage where surgical intervention is the primary approach. Adjuvant therapy, such as chemotherapy, may be recommended post-surgery based on the stage and other factors like lymph node involvement or tumor size. </think> <brief reasoning trace with explanation for answer selection> | <answer> The patient is diagnosed with stage I-III NSCLC, which typically requires surgical resection as the primary curative treatment. Adjuvant therapy may follow surgery to address any residual microscopic disease. | Surgery followed by systemic therapy </answer>

100 axial images (no timeline): [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer> The provided PATIENT_TIMELINE does not include specific medical history, imaging, pathology, or treatment details related to the patient's cancer diagnosis or stage. Without explicit evidence from the timeline regarding the stage of NSCLC, treatment margins, nodal status, or biomarkers, it is not possible to determine the optimal curative-intent treatment based solely on the given information. However, for stage I-III NSCLC, the typical approach often involves surgery as the primary treatment, potentially followed by adjuvant therapy depending on specific factors such as tumor stage and margins. Given the lack of specific details, the most conservative and commonly accepted approach for early-stage NSCLC is "Surgery alone" if there are no high-risk features indicating the need for additional therapy. | Surgery alone</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [INCORRECT] <think>First, I carefully examine the provided patient timeline and imaging data to understand the clinical context. The patient has a history of symptoms including shortness of breath, chest pain, and a mass or swelling in the chest. The imaging studies include multiple CT scans of the chest, which are likely used to evaluate the lung mass and surrounding structures. The CT images show a large mass in the chest, which is consistent with a lung tumor. The absence of pneumothorax and normal heart and pulmonary vasculature size suggest no immediate life-threatening complications. The presence of a mass and symptoms like chest pain and shortness of breath raise suspicion for a malignant process, likely non-small cell lung cancer (NSCLC), given the clinical scenario. The timeline does not mention any prior systemic therapy or radiation therapy. The patient underwent coronary angiography, which is relevant for assessing cardiac status but does not directly impact lung cancer treatment decisions. The imaging findings are consistent with a localized or locally advanced lung tumor (stage I-III), but there is no mention of distant metastases or extensive nodal involvement. For stage I-III NSCLC, the standard curative-intent treatment is surgery when feasible, provided the tumor is resectable and the patient is a surgical candidate. Adjuvant therapy (such as chemotherapy) is often recommended post-surgery to reduce recurrence risk, especially in higher stages (II-III). Neoadjuvant systemic therapy or definitive chemoradiation may be considered in certain cases, but surgery remains the cornerstone for resectable disease. Given the absence of prior systemic therapy or radiation, and the presence of a localized mass without evidence of distant spread, the optimal treatment would be surgery followed by systemic therapy (adjuvant chemotherapy) to maximize curative potential. This aligns with standard guidelines for stage I-III NSCLC. Therefore, the correct answer is "Surgery followed by systemic therapy."</think> <answer>Surgery followed by systemic therapy</answer>

middle axial image: [INCORRECT] <think>First, I carefully examine the provided patient timeline for any indications of cancer diagnosis, staging, or treatment history. The timeline shows multiple entries related to chest symptoms (shortness of breath, chest pain, swelling/mass in chest) and coronary atherosclerosis. There are several CT chest scans and

angiography studies, but no explicit mention of a lung cancer diagnosis or biopsy results. The note mentions a post-lung biopsy, but the biopsy results are not detailed here. Since the question is about optimal curative-intent treatment for stage I-III NSCLC, I need to identify if there is any evidence confirming NSCLC diagnosis and staging. The timeline does not explicitly state a confirmed NSCLC diagnosis or stage. The imaging findings do not mention a mass or tumor, only symptoms and coronary issues. Without a confirmed diagnosis and staging, it is not possible to determine the appropriate treatment strategy. Therefore, based solely on the provided timeline, there is insufficient evidence to confirm NSCLC or its stage. The correct answer must reflect that the timeline lacks definitive cancer evidence required to select a curative-intent treatment option.</think> <answer>Systemic therapy followed by surgery +/- adjuvant therapy</answer>

no image: [INCORRECT] <think>First, I need to analyze the patient's timeline to understand their medical history and current status. The patient is a 72-year-old (based on birth in 1940 and current date 2012) with a history of coronary atherosclerosis (ICD9 414.01) and symptoms of shortness of breath, chest pain, and a chest mass (ICD9 786.50, 786.6). Imaging studies (CT-CHEST) were performed multiple times, showing no pneumothorax post-biopsy, but the presence of a mass is noted. The key here is the stage of non-small cell lung cancer (NSCLC). The question asks for the optimal curative-intent treatment for stage I-III NSCLC. For these stages, the standard approach is surgery when feasible, followed by adjuvant therapy if indicated. Looking at the imaging and notes, there is no mention of distant metastasis or contraindications to surgery. The CT scans show a mass but no evidence of spread beyond the chest. The patient underwent a lung biopsy, which is a precursor to surgical resection. In stage I-III NSCLC, the primary treatment is surgical resection (lobectomy or pneumonectomy) if the patient is a candidate. Adjuvant therapy (chemotherapy or radiation) is added based on pathology findings such as lymph node involvement or positive margins. The options include "Surgery alone" or "Surgery followed by systemic therapy" (which could be adjuvant chemotherapy). The patient's coronary atherosclerosis (ICD9 414.01) is a comorbidity but does not preclude surgery if the patient is otherwise fit. The imaging does not show any contraindications like severe cardiopulmonary compromise. Therefore, the optimal curative-intent treatment would be surgery first, followed by systemic therapy (adjuvant chemotherapy) if indicated by pathology. The option "Surgery followed by systemic therapy" aligns with this approach. Other options like "Systemic therapy followed by surgery" are not standard for curative intent in early to locally advanced NSCLC. "Surgery alone" might be considered for very early stages (like IA) without nodal involvement, but without specific pathology details here, the safer choice is to include adjuvant therapy. "Radiation alone" is typically for inoperable cases or palliative settings. "Definitive chemoradiation" is more for stage III with nodal involvement when surgery is not feasible, but again, no evidence here suggests that. Since the patient's timeline does not indicate inoperability or distant metastasis, the best answer is "Surgery followed by systemic therapy."</think> <brief reasoning trace with explanation for answer selection> | <answer> The patient's timeline indicates a localized NSCLC without evidence of distant metastasis or contraindications to surgery. Imaging and clinical data support surgical resection as the primary curative approach. Adjuvant systemic therapy is typically recommended post-surgery for stage I-III NSCLC to reduce recurrence risk, aligning with standard guidelines. Coronary atherosclerosis (ICD9 414.01) is noted but does not preclude surgery if the patient is otherwise fit. No evidence suggests inoperability or need for definitive chemoradiation. Thus, "Surgery followed by systemic therapy" is the optimal choice. <answer>Systemic therapy followed by surgery +/- adjuvant therapy</answer></think> <answer>Systemic therapy followed by surgery +/- adjuvant therapy</answer>

no radiology report: [INCORRECT] <think>First, I carefully examine the provided CT images and the patient timeline. The images show a cross-sectional view of the thorax, including the heart, lungs, and surrounding structures. The lungs appear mostly clear with no obvious masses or nodules visible. The heart and mediastinum are visible, but there is no clear

evidence of a mass or abnormality in these structures. The patient timeline indicates a history of shortness of breath, chest pain, and coronary atherosclerosis, but no definitive diagnosis of lung cancer or other malignancy is mentioned. There is no indication of stage I-III non-small cell lung cancer (NSCLC) in the timeline or imaging. Without a confirmed diagnosis of NSCLC, the optimal curative-intent treatment cannot be determined based solely on the provided data. The options provided include various treatment strategies for NSCLC, but since there is no evidence of NSCLC in the patient timeline or imaging, the most appropriate answer would be the one that aligns with the absence of a confirmed diagnosis. However, the question asks for the optimal treatment for stage I-III NSCLC, which implies that the patient has been diagnosed with NSCLC. Given the lack of specific details about the stage, tumor biology, or treatment history, the most general and widely accepted approach for stage I-III NSCLC is surgery followed by systemic therapy if indicated. This aligns with standard guidelines for curative-intent treatment in this stage group.

</think> <answer>B: Surgery followed by systemic therapy</answer>

100 axial images (no timeline): [INCORRECT] <think>First, I note that the question asks about the optimal curative-intent treatment for stage I-III non-small cell lung cancer (NSCLC). The options provided include various combinations of systemic therapy, surgery, and radiation. The patient timeline provided is minimal and does not include any specific clinical details such as tumor size, location, histology, biomarkers, or treatment history. There is no mention of imaging findings, surgical reports, or pathology results. Without this critical information, it is impossible to determine the stage or tumor characteristics that would guide treatment decisions. For stage I-III NSCLC, treatment typically depends on tumor size, nodal involvement, and patient fitness. Surgery is often the mainstay for early stages (I-II), while definitive chemoradiation is preferred for stage IIIA-IIIB. Systemic therapy (chemotherapy or immunotherapy) is often used in combination with surgery or radiation depending on stage and biomarkers. However, without specific patient data, I cannot infer which option is appropriate. Given the lack of patient-specific clinical or pathological data, I cannot definitively select an answer. The question requires evidence from the patient timeline, which is not provided here. Therefore, the most appropriate response is to state that the information is insufficient to determine the optimal treatment.

</think> <answer>C: Surgery alone</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [INCORRECT] The provided PATIENT_TIMELINE contains multiple CT-CHEST imaging entries from March 1, 2012, and March 14, 2012, along with a chest X-ray (SR-) and a note referencing a "post-lung biopsy" context. However, the timeline does not contain any explicit documentation of a cancer diagnosis, tumor stage (I-III NSCLC), histopathology, biomarker status, or any treatment plan (surgery, radiation, systemic therapy, or adjuvant therapy). The imaging findings are described as unremarkable for consolidation, pleural effusion, or pneumothorax, and the clinical codes (ICD9CM) relate to symptoms like chest pain and coronary atherosclerosis, not malignancy. Since the timeline lacks definitive evidence of a stage I-III NSCLC diagnosis and no treatment has been documented, it is impossible to determine the optimal curative-intent treatment based on the provided information. The question requires selecting an option grounded in the patient's timeline, but no such evidence exists. <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline lacks any documentation of a confirmed NSCLC diagnosis, stage, or treatment. Therefore, no optimal curative-intent treatment can be selected based on the provided evidence. | <answer>None of the options can be selected with certainty based on the provided timeline.</answer>

middle axial image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE includes multiple chest CT scans (e.g., 2012-03-01, 2012-03-14) and a chest X-ray (2012-03-28) with findings that do not indicate active cancer or metastatic disease. The timeline documents symptoms like chest pain

and shortness of breath, and a history of coronary atherosclerosis, but no definitive diagnosis of NSCLC is present. There is no evidence of cancer staging (I-III), no biopsy confirmation, and no treatment history. Therefore, no curative-intent treatment for NSCLC can be determined from the timeline. However, since the question requires selecting from the given options based on the assumption of stage I-III NSCLC, the standard of care for curative-intent treatment for stage I-III NSCLC is surgery followed by systemic therapy (adjuvant chemotherapy or immunotherapy) if indicated. The timeline does not provide evidence to support any other option as optimal. | "Surgery followed by systemic therapy"

no image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The PATIENT_TIMELINE contains no evidence of a cancer diagnosis, staging, or treatment. There are imaging studies (CT-CHEST, SR-, etc.) and symptoms (chest pain, shortness of breath, mass in chest), but no confirmed diagnosis of NSCLC, no stage information (I-III), no biopsy results, no surgical or systemic therapy records, and no biomarker data. Therefore, no optimal curative-intent treatment for stage I-III NSCLC can be determined from the provided timeline. However, since the question requires selecting from the OPTIONS, and the timeline does not provide any evidence to support any of the listed treatment options, the most appropriate default answer under strict rules is to select the option that is most commonly aligned with standard guidelines for stage I-III NSCLC — which is "Surgery alone" for early-stage disease (I-II) without high-risk features, or "Surgery followed by systemic therapy" for higher-risk stage II/III. But since no stage or risk factors are documented, and the timeline does not specify any systemic therapy or adjuvant therapy, the only option that is not contradicted by the timeline (and is consistent with standard practice for early-stage NSCLC) is "Surgery alone" — though this is not ideal without further evidence. However, the timeline does not contain any evidence to support any of the listed options, so the answer must be selected from the given options based on the most plausible default. Given that the timeline contains no evidence of systemic therapy or radiation, and no definitive cancer diagnosis or staging, the safest answer under strict rules is to select the option that is most commonly recommended for early-stage NSCLC without high-risk features — "Surgery alone". But note: the timeline does not contain any evidence of cancer diagnosis or staging, so this is a default selection under constraints. However, the question requires selecting from the OPTIONS, and the timeline does not provide evidence to support any of the listed options. Therefore, the answer must be selected from the OPTIONS based on the most plausible default. Since the timeline contains no evidence of cancer diagnosis or staging, and no treatment has been documented, the most appropriate answer under strict rules is to select the option that is most commonly aligned with standard guidelines for stage I-III NSCLC — which is "Surgery alone" for early-stage disease (I-II) without high-risk features, or "Surgery followed by systemic therapy" for higher-risk stage II/III. But since no stage or risk factors are documented, and the timeline does not specify any systemic therapy or adjuvant therapy, the only option that is not contradicted by the timeline (and is consistent with standard practice for early-stage NSCLC) is "Surgery alone". However, the timeline does not contain any evidence of cancer diagnosis or staging, so this is a default selection under constraints. But note: the question requires selecting from the OPTIONS, and the timeline does not provide evidence to support any of the listed options. Therefore, the answer must be selected from the OPTIONS based on the most plausible default. Since the timeline contains no evidence of cancer diagnosis or staging, and no treatment has been documented, the most appropriate answer under strict rules is to select the option that is most commonly recommended for early-stage NSCLC without high-risk features — "Surgery alone". But note: the timeline does not contain any evidence of cancer diagnosis or staging, so this is a default selection under constraints. However, the question requires selecting from the OPTIONS, and the timeline does not provide evidence to support any of the listed options. Therefore, the answer must be selected from the OPTIONS based on the most plausible default. Since the timeline contains no evidence of cancer diagnosis or staging, and no treatment has been documented, the most appropriate answer under strict rules is to select the

no radiology report: [INCORRECT] The provided PATIENT_TIMELINE contains multiple CT-CHEST imaging entries (e.g., on 2012-03-01 and 2012-03-14) which are critical for assessing thoracic pathology. However, the timeline does not contain any explicit documentation of a cancer diagnosis, staging (specifically stage I-III NSCLC), or any treatment decisions. There is no mention of systemic therapy, surgery, radiation, or adjuvant therapy. The imaging findings are not described in detail to confirm or rule out malignancy, and no biomarkers or pathology reports are present. Given the absence of any evidence of a cancer diagnosis, staging, or treatment plan within the provided timeline, it is impossible to determine the optimal curative-intent treatment for stage I-III NSCLC. The question requires evidence of cancer and its stage to select an appropriate treatment option. <brief reasoning trace with explanation for answer selection> | <answer></answer>

Model: google/medgemma-1.5-4b-it

[illegible]

[illegible][illegible]

no image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of chest pain and shortness of breath, along with imaging findings including CT scans of the chest. The CT scans show no pneumothorax and no focal areas of consolidation or large pleural fluid collections. The patient underwent a chest CT scan on March 28, 2012, which was interpreted by Dr. Baila Weiss. The report indicates the heart size is within normal limits, the pulmonary vasculature is normal, and no pneumothorax is identified. There is no mention of a lung biopsy or subsequent findings related to a lung cancer diagnosis. Therefore, the provided timeline does not support a diagnosis of NSCLC requiring curative-intent treatment. <answer>Systemic therapy followed by surgery +/- adjuvant therapy</answer>

[illegible]

100 axial images (no timeline): [INCORRECT] FINDINGS: [1940-09-06 00:00] | Chest X-ray
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Model: google/medgemma-4b-it

middle image from each view: [INCORRECT] The provided images show a chest CT scan. The images show a mass in the lung. The patient has a history of coronary atherosclerosis. The patient is being evaluated for a possible lung mass. Given the presence of a lung mass and the patient's age, definitive treatment is likely needed. The most appropriate treatment for stage I-III NSCLC is definitive chemoradiation with or without adjuvant systemic therapy. Definitive chemoradiation with or without adjuvant systemic therapy

no image: [INCORRECT] The patient has a history of chest pain, shortness of breath, and coronary atherosclerosis. The imaging shows a chest CT with no pneumothorax. The patient had a chest biopsy. The most appropriate treatment for stage I-III NSCLC is definitive chemoradiation with or without adjuvant systemic therapy. Definitive chemoradiation with or without adjuvant systemic therapy

no radiology report: [INCORRECT] The provided medical history indicates a patient with a history of coronary atherosclerosis and shortness of breath. The CT chest images show a large mass in the chest. Given the presence of a mass and the patient's age, the most appropriate treatment is definitive chemoradiation with or without adjuvant systemic therapy. Definitive chemoradiation with or without adjuvant systemic therapy

[illegible]

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Subtask: pneumonitis_infection_answer

Average unique events: 163.81

Question:

Based on the provided medical history, cancer evidence, and imaging findings, which diagnosis is most consistent with the imaging differential?

Correct Answer: -1

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: **[INCORRECT]** <think> The timeline shows multiple emergency room visits and radiology reports over several years, indicating a recurring issue. The imaging findings, particularly the CT scans, suggest a chronic condition. The absence of any specific infection markers or normalcy in cytology reports makes infection less likely. The repeated imaging and emergency visits point towards a progressive condition, most consistent with cancer progression. </think> <brief reasoning trace with explanation for answer selection> The timeline includes multiple emergency room visits and radiology reports, indicating a recurring issue. The absence of specific infection markers and normalcy in cytology reports makes infection less likely. The repeated imaging and emergency visits suggest a progressive condition, most consistent with cancer progression. | <answer>Cancer Progression</answer>

middle axial image: **[INCORRECT]** <think> The timeline shows multiple emergency room visits and radiology reports over several years, indicating a history of imaging studies. The most recent imaging studies are from 2017, which include CT scans of the chest and whole body. The patient's history includes normal cytology and negative HPV test results, suggesting no recent cervical or vaginal cancer. The repeated imaging and emergency visits could indicate ongoing monitoring for cancer progression. The absence of specific evidence for infection or pneumonitis, such as fever or positive cultures, makes "Cancer Progression" the most consistent diagnosis given the patient's history and imaging findings. </think> <brief reasoning trace with explanation for answer selection> The patient has a history of multiple imaging studies and emergency room visits, suggesting ongoing monitoring. The absence of evidence for infection or pneumonitis, combined with the need for repeated imaging, points towards cancer progression. | <answer>Cancer Progression</answer>

no image: **[INCORRECT]** <think> The timeline shows multiple emergency room visits with radiology assessments, particularly focusing on chest imaging. The repeated imaging studies suggest a concern for changes in the chest area. The absence of specific findings related to infection or pneumonitis, and the presence of multiple imaging studies over time, could indicate a progression of a condition, likely cancer given the context of oncology. The normal cytology report and negative HPV test do not support an infection diagnosis, making "Cancer Progression" the most consistent diagnosis based on the imaging differential. </think> <brief reasoning trace with explanation for answer selection> The timeline includes multiple chest imaging studies over several years, with no specific evidence of infection or pneumonitis. The repeated imaging and emergency visits suggest a progressive condition, consistent with cancer progression. The normal cytology and negative HPV test further support this over an infectious cause. | <answer>Cancer Progression</answer>

no radiology report: **[INCORRECT]** <think> The timeline shows multiple radiology visits and imaging studies, particularly focusing on the chest area. The repeated visits to the emergency room and the detailed imaging studies suggest a concern for abnormalities in the chest. The

presence of multiple CT scans over several years indicates ongoing monitoring for changes, which is typical in cancer patients. The absence of any specific mention of infection or normalcy in the imaging findings points towards a chronic condition rather than an acute infection. Given the repeated imaging and the context of surveillance, the most consistent diagnosis with the imaging differential is Cancer Progression. </think> <brief reasoning trace with explanation for answer selection> The timeline includes multiple radiology visits and imaging studies, particularly focusing on the chest area, indicating ongoing monitoring for abnormalities. The repeated imaging over several years suggests a chronic condition, typical in cancer patients. The absence of specific mentions of infection or normal findings points towards a chronic issue like cancer progression. | <answer>Cancer Progression</answer>

100 axial images (no timeline): [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not contain any relevant medical history, imaging findings, or clinical assessments related to cancer, infection, or pneumonitis. Without specific evidence or documentation of any medical condition or treatment outcomes, it is not possible to determine a diagnosis based on the given information. | <answer>Neither</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [INCORRECT] <think>First, I carefully examine the provided patient timeline and imaging data to identify relevant clinical and radiological findings. The timeline shows multiple dates of imaging studies, including CT scans of the chest and whole body, as well as ER visits and radiology consultations. The imaging studies are labeled with codes such as SR, CR, OT, PT, and CT, indicating different types of scans and possibly different phases or modalities. Next, I note that the patient has a history of emergency room visits and multiple imaging studies over several years, suggesting ongoing clinical concern. The imaging findings from the CT scans (noted in the timeline) would be critical to assess for any abnormalities such as masses, infiltrates, or other signs of infection or malignancy. The options provided are Pneumonitis, Infection, Both, Cancer Progression, or Neither. To choose the correct answer, I must consider the imaging findings and any clinical context that might be inferred from the timeline. Looking at the imaging studies, the CT scans of the chest (multiple entries on 2017-05-25) show detailed cross-sectional images. The axial CT image provided in the question shows a cross-sectional view of the thorax with some gas or air collections in the pleural space or lung parenchyma, which could be consistent with infection or pneumonitis. However, without clear evidence of tumor progression or new masses, cancer progression might be less likely. The presence of gas in the lung or pleural space could be due to infection (e.g., empyema or abscess) or pneumonitis (inflammation). Pneumonitis can be infectious or non-infectious, but the presence of gas and the clinical context (ER visits) might favor infection. However, the timeline does not explicitly mention biopsy or cytology results that would confirm cancer progression. Given the lack of definitive evidence of tumor progression (no mention of new or enlarging masses, no positive cytology or biomarkers indicating cancer), and the presence of imaging findings that could be consistent with infection or pneumonitis, the most likely diagnosis is either Pneumonitis or Infection. The option "Both" would require evidence of both processes coexisting, which is not clearly indicated here. Therefore, based on the imaging findings and clinical context, the most consistent diagnosis is Infection.</think> <answer>Infection</answer>

middle axial image: [INCORRECT] <think>First, I carefully examine the provided patient timeline for any relevant medical history, treatments, or diagnostic findings that could inform the imaging differential diagnosis. The timeline includes multiple dates of imaging studies, primarily chest CT scans and other radiology visits, but no explicit mention of cancer diagnosis, treatment, or pathology results. There is a cytology report and HPV test that are normal, suggesting no cervical cancer evidence. The patient was born in 1978, and the timeline spans

from 2011 to 2017 with several ER visits and imaging studies, but no clear indication of cancer progression or treatment. Next, I look for signs of pneumonitis or infection. Pneumonitis would typically show inflammatory changes on imaging, such as ground-glass opacities or consolidation. Infection might present with similar findings, possibly with fever or other clinical symptoms. However, the timeline does not provide clinical symptoms or lab results to support infection or pneumonitis. The imaging studies are labeled but lack detailed radiology reports or findings described in the timeline itself. There is no mention of cancer progression, such as tumor growth, metastasis, or recurrence. The imaging studies are repeated over time, but without specific findings or clinical notes indicating cancer progression. The patient was on montelukast, a medication for asthma or allergies, which does not directly relate to cancer or infection. Given the lack of explicit evidence for pneumonitis, infection, or cancer progression in the timeline, and no documented pathology or clinical data to support these diagnoses, the most appropriate answer is "Neither," as there is no clear evidence pointing to any of the listed conditions based solely on the provided timeline.</think> <answer>Neither</answer>

no image: [INCORRECT] <think>First, I need to analyze the patient's timeline to understand their medical history, treatments, and imaging findings. The timeline shows multiple dates with imaging studies, emergency room visits, and medication records. Looking at the imaging entries, there are several chest CT scans and other imaging studies over the years. The key is to identify any changes or abnormalities that might indicate pneumonitis, infection, cancer progression, or neither. The patient had a cervical cytology and HPV test in 2016, both normal, which might be relevant for ruling out cervical cancer but not directly related to chest issues. The medications include montelukast, which is for asthma or allergies, suggesting possible respiratory issues. The imaging from 2011 and 2016 shows some chest scans, but without specific findings described, I need to look for changes over time. The 2017 series includes multiple CT scans of the chest and whole body, which might show progression or new lesions. Since the question is about the imaging differential, I should focus on the chest imaging. The options are pneumonitis, infection, both, cancer progression, or neither. If there are signs of inflammation or infection on imaging, such as infiltrates or consolidation, that could suggest pneumonitis or infection. If there are new or enlarging masses, nodules, or lymphadenopathy, that might indicate cancer progression. The timeline doesn't provide explicit findings like "ground glass opacities" or "consolidation" for pneumonitis, nor does it mention "new mass" or "enlarged lymph nodes" for cancer progression. Without specific imaging descriptions, it's hard to definitively choose. However, the presence of multiple ER visits and CT scans over time might suggest ongoing issues. The repeated imaging could be monitoring for cancer progression or complications like infection or pneumonitis. Given the lack of clear evidence pointing to one specific diagnosis and the possibility that both infection and pneumonitis could coexist (e.g., post-treatment inflammation or infection), the most cautious choice would be "Both" if there's any ambiguity. But since the question asks for the most consistent diagnosis based on the timeline, and without explicit findings, I might lean towards "Cancer Progression" if the imaging shows worsening lesions. However, the timeline doesn't specify progression. Alternatively, if the imaging shows no clear signs of either, "Neither" could be possible. But given the repeated imaging and ER visits, there's likely some pathology. Since the options include "Both," and without specific evidence against either, "Both" might be the safest choice when uncertain. But I need to check if there's any documented outcome or clinician assessment. The timeline has "STANFORD_IMAGE/CR-CHEST" and "STANFORD_IMAGE/OT-CHEST" which might be computer-aided readings or other interpretations, but no explicit results are given. Therefore, without concrete evidence, the answer might be "Neither," but that seems unlikely given the clinical context. Alternatively, the repeated imaging could be for cancer follow-up, suggesting "Cancer Progression" is a concern. But again, without specific findings, it's challenging. Given the options and the lack of definitive evidence, I think the best answer is "Both," acknowledging that both pneumonitis and infection could be part of the differential without clear exclusion of either.</think> <brief reasoning trace

with explanation for answer selection> | <answer> The patient's timeline includes multiple chest imaging studies over several years, with no explicit documentation of findings such as infiltrates, consolidation, or new masses. The presence of repeated imaging and emergency visits suggests ongoing respiratory or oncologic concerns. However, without specific evidence of pneumonitis (e.g., inflammatory changes) or infection (e.g., fever, positive cultures), and no clear indication of cancer progression (e.g., enlarging lesions, metastases), the imaging differential remains ambiguous. Given the lack of definitive evidence for either diagnosis, the most cautious and evidence-based choice is "Both," acknowledging that both pneumonitis and infection could coexist without explicit exclusion of either. <answer>Both</answer> </think>

no radiology report: [INCORRECT] <think>First, I carefully examine the provided CT images to identify any abnormalities or features that might suggest a diagnosis. The images show axial slices progressing from the lower abdomen to the thorax. I note the presence of gas-filled structures in the abdomen, which could be bowel loops, and the lungs appear to have some patchy opacities. There is no clear evidence of a mass or lesion that would strongly suggest cancer progression. The lungs show some areas of increased density, which could be consistent with pneumonitis or infection. Given the timeline, the patient has undergone multiple imaging studies, including CT scans, which might be monitoring for cancer progression or complications. The presence of gas in the abdomen and lung changes could be related to infection or pneumonitis. However, without more specific evidence of tumor growth or metastasis, cancer progression is less likely. The findings are more consistent with an inflammatory or infectious process. Therefore, the most likely diagnosis is either pneumonitis or infection, or both.</think> <answer>Both</answer>

100 axial images (no timeline): [INCORRECT] <think>First, I note that the question asks for the most consistent diagnosis based on the patient's timeline and imaging findings. The options include pneumonitis, infection, both, cancer progression, or neither. The image provided is a CT scan showing axial slices of the body, but the exact anatomical region is not immediately clear. The scan shows soft tissue and bone structures, but no clear lung parenchyma or thoracic cavity is visible. The presence of bilateral circular structures with bright centers suggests bone (likely femoral heads or similar), and the overall shape and anatomy suggest a lower body cross-section, possibly the pelvis or upper thighs. There is no clear evidence of lung tissue, infection, or pneumonitis in this image. The scan does not show any obvious signs of cancer progression such as masses, nodules, or lymphadenopathy. Without additional clinical data or imaging of the chest or lungs, it is impossible to diagnose pneumonitis or infection. The image does not provide sufficient evidence to support cancer progression or infection. Therefore, the most appropriate answer is "Neither."</think> <answer>Neither</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [INCORRECT] The provided PATIENT_TIMELINE contains multiple imaging entries (CT scans of chest and whole body) from 2011, 2016, and 2017, along with ER visits and radiology reports. However, there is no explicit documentation of a cancer diagnosis, cancer treatment, or any specific cancer-related findings (e.g., tumor markers, biopsy results, or oncology consult notes). The imaging findings are not described in detail, and while they may show abnormalities, the timeline does not confirm or link them to cancer progression. The only relevant lab result is a normal cytology and negative HPV 16 DNA, which are not cancer-related. Without evidence of cancer diagnosis or progression, and given the lack of specific imaging interpretation, the most accurate answer is "Neither". <brief reasoning trace with explanation for answer selection> | <answer> The PATIENT_TIMELINE lacks any explicit documentation of a cancer diagnosis, treatment, or confirmed cancer progression. Imaging findings are not described or interpreted in the context of cancer. The only relevant lab result (normal cytology, negative HPV 16) is not cancer-related. Therefore, "Neither" is the most accurate choice as there is insufficient evidence to support "Cancer Progression" or to rule out

middle axial image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE contains no explicit documentation of cancer diagnosis, cancer treatment, or cancer-related imaging findings (e.g., tumor progression, metastasis, or recurrence). The imaging entries (e.g., CT-CHEST, CT-WHOLE BODY) are noted without specific findings or interpretations indicating cancer progression. There is no evidence of cancer in the timeline. Therefore, "Cancer Progression" is not supported. The timeline also lacks any documentation of infection or pneumonitis. Thus, "Infection" and "Pneumonitis" are not supported either. Since no diagnosis is supported by the timeline, the correct answer is "Neither". <answer>Neither</answer>

no radiology report: [INCORRECT] The provided PATIENT_TIMELINE contains no explicit documentation of a cancer diagnosis, cancer treatment, or cancer-related imaging findings. The imaging studies (CT scans of the chest, abdomen, and whole body) are noted, but there is no evidence in the timeline that these scans reveal cancer progression or any cancer-related pathology. The timeline includes normal cytology results and mentions of ER visits and radiology reports, but no cancer diagnosis or progression is stated. Therefore, based solely on the evidence provided, "Cancer Progression" is not supported. The timeline also does not provide evidence for "Pneumonitis" or "Infection" as definitive diagnoses. Since there is no evidence of cancer progression and no evidence of infection or pneumonitis, the most accurate answer is "Neither". <brief reasoning trace with explanation for answer selection> | <answer>Neither</answer>

Model: google/medgemma-1.5-4b-it

[illegible]

middle axial image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of chest imaging (CT chest) performed on 2017-05-25 and 2017-06-13. The CT scans show a mass in the left lung. The patient also has a history of ER visits in 2011 and 2017, suggesting potential symptoms or concerns. The presence of a lung mass on CT imaging is highly suggestive of cancer. Cancer Progression | Both

no radiology report: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of multiple emergency room visits, including chest imaging (CT and chest X-rays) in 2011, 2016, 2017, and 2017. The 2017 CT chest imaging shows multiple nodules in the lungs. The patient has been on montelukast. There is no mention of cancer diagnosis or treatment. The imaging findings are consistent with possible infection or inflammation, but given the multiple ER visits and imaging, cancer progression is a possibility. However, the provided timeline does not explicitly state a cancer diagnosis or treatment. The imaging findings are non-specific and could represent infection or inflammation. The lack of a confirmed cancer diagnosis or treatment makes "Cancer Progression" less likely than "Infection" or "Pneumonitis" based solely on the provided information. The imaging findings are non-specific and could represent infection or inflammation. The lack of a confirmed cancer diagnosis or treatment makes "Cancer Progression" less likely than "Infection" or "Pneumonitis" based solely on the provided information. Pneumonitis is an inflammation of the lung tissue. Infection is an infection of the lung tissue. Both Pneumonitis and Infection are possible given the imaging findings and history of ER visits. Cancer Progression is less likely without a confirmed cancer diagnosis or treatment history. Neither is explicitly stated. The imaging findings are non-specific and could represent infection or inflammation. The lack of a confirmed cancer diagnosis or treatment makes "Cancer Progression" less likely than "Infection" or "Pneumonitis" based solely on the provided

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Model: google/medgemma-4b-it

middle image from each view: **[INCORRECT]** The patient has a history of chest pain and visits to the ER. The imaging shows a large mass in the chest. This is most consistent with cancer progression. <answer>Cancer Progression</answer>

middle axial image: **[INCORRECT]** The patient has a history of chest pain and visits to the ER. The chest CT images show a mass in the chest. This suggests a possible malignancy. <answer>Both</answer>

no image: **[INCORRECT]** The patient has a history of chest pain and visits to the ER. There are multiple CT chest images, but no definitive diagnosis. The patient is on montelukast. There is no evidence of infection or pneumonitis. <answer>Neither</answer>

no radiology report: **[INCORRECT]** The provided timeline shows a series of chest X-rays and CT scans performed between 2011 and 2017. There are no findings suggestive of cancer progression, infection, or pneumonitis. The images show a normal chest X-ray and CT scan. <answer>Neither</answer>

100 axial images (no timeline): **[INCORRECT]** The images show a large, homogenous, white mass occupying the majority of the chest cavity. This is highly suggestive of a large mass, potentially a tumor. The presence of a "sunburst" pattern of radiating lines is also consistent with a mass effect. The images show no evidence of infection or pneumonitis. <The images show a large, homogenous, white mass occupying the majority of the chest cavity, which is highly suggestive of a large mass, potentially a tumor. The presence of a "sunburst" pattern of radiating lines is also consistent with a mass effect. The images show no evidence of infection or pneumonitis.> | Cancer Progression

Subtask: pneumonitis_infection_discussed

Average unique events: 122.90

Question:

Based on the provided medical history, cancer evidence, and imaging findings, is there sufficient diagnostic ambiguity to warrant presentation of this case at a thoracic tumor board to discuss differentiation between radiation pneumonitis and infection?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: **[INCORRECT]** <think> The patient's medical timeline indicates a complex case involving a pelvic bone tumor with potential metastasis to the lung. Imaging findings show a large mass in the right superior pubic rami and a spiculated nodule in the right lung, raising suspicion for a primary sarcomatous lesion or metastasis. The differential diagnosis includes radiation pneumonitis versus infection, given the patient's history and symptoms. The ambiguity in distinguishing between these conditions warrants further discussion at a thoracic tumor board to ensure accurate diagnosis and appropriate treatment planning. </think> <brief reasoning trace with explanation for answer selection> | <answer> The patient has a large pelvic bone tumor with a suspicious lung nodule, which could indicate metastasis. The differential diagnosis includes radiation pneumonitis versus infection, but the imaging and clinical history create diagnostic ambiguity. | Yes </answer> </think> <brief reasoning trace with explanation for answer selection> | <answer> The patient's imaging and clinical history suggest a complex case with potential metastasis from a pelvic bone tumor to the lung. The differential diagnosis includes radiation pneumonitis versus infection, but the ambiguity in these conditions necessitates further evaluation at a thoracic tumor board. | Yes </answer>

middle axial image: **[INCORRECT]** <think> The patient's medical timeline indicates a complex case involving a pelvic bone tumor with potential metastasis to the lung. Imaging findings show a large pelvic mass and a spiculated nodule in the lung, raising suspicion for a primary sarcomatous lesion or metastatic disease. The differential diagnosis includes radiation pneumonitis versus infection, given the patient's history and symptoms. The ambiguity in distinguishing between these conditions warrants further discussion at a thoracic tumor board to ensure accurate diagnosis and appropriate treatment planning. </think> <brief reasoning trace with explanation for answer selection> | <answer> The patient has a large pelvic mass and a lung nodule, with imaging findings suggestive of a primary sarcomatous lesion or metastasis. The differential diagnosis includes radiation pneumonitis versus infection, given the clinical context. The ambiguity in these findings justifies presenting the case at a thoracic tumor board for expert discussion. | Yes </answer>

no image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer> The patient's timeline indicates a complex medical history with a large pelvic tumor and a lung nodule. Imaging and biopsy results suggest a possible sarcomatous lesion or metastatic adenocarcinoma. The differential diagnosis includes both radiation pneumonitis and infection, given the presence of a lung nodule and the patient's symptoms. The ambiguity in distinguishing between these conditions, especially considering the patient's recent treatments and symptoms, warrants further discussion at a thoracic tumor board. | <answer> Yes </answer>

no radiology report: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer> Yes | Yes The patient's medical history indicates a diagnosis of a malignant neoplasm (C34.92, C79.51), and the timeline includes imaging studies (CT, MRI) and various treatments. The differential diagnosis between radiation pneumonitis and infection is complex and requires expert multidisciplinary discussion, especially given the patient's history of malignancy and recent treatments. The ambiguity in distinguishing between these conditions justifies presenting the case at a thoracic tumor board for further evaluation.

100 axial images (no timeline): [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer> The provided PATIENT_TIMELINE does not include any specific medical history, cancer evidence, or imaging findings related to the patient. Without detailed clinical information, it is not possible to determine if there is sufficient diagnostic ambiguity to differentiate between radiation pneumonitis and infection. Therefore, there is not enough information to justify presenting the case at a thoracic tumor board. | No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [CORRECT] <think>First, I carefully reviewed the entire patient timeline and imaging findings to assess whether there is sufficient diagnostic ambiguity to warrant a thoracic tumor board discussion to differentiate radiation pneumonitis from infection. The patient is a 49-year-old female with a known aggressive bone tumor in the right pelvis, confirmed by MRI and biopsy showing metastatic adenocarcinoma. She also has a 2.5 cm right lung nodule, which was initially suspicious for primary lung malignancy but later found to be metastatic. The bone scan confirmed uptake in the right pelvis consistent with known tumor involvement and a right rib fracture. Key points to consider: - The patient has a confirmed primary bone tumor with metastatic spread to the lung. - There is no mention of any new or worsening pulmonary infiltrates or clinical signs of infection (e.g., fever, leukocytosis, purulent sputum). - The lung nodule is stable and consistent with metastasis. - The patient's symptoms (pain, numbness, sweating) are attributed to the tumor and its effects. - No imaging or clinical evidence suggests infection or radiation pneumonitis. - The biopsy confirmed metastatic adenocarcinoma, not infection or radiation pneumonitis. Given the clear evidence of metastatic disease and no signs of infection or radiation pneumonitis, there is no ambiguity requiring multidisciplinary tumor board discussion for differentiation between these entities. Therefore, the answer is "No."</think> <answer>No</answer>

middle axial image: [CORRECT] <think>First, I need to determine whether there is sufficient diagnostic ambiguity to warrant a thoracic tumor board discussion to differentiate between radiation pneumonitis and infection based on the provided patient timeline and imaging findings. Looking at the patient's history and imaging: - The patient is a 49-year-old female with a history of chronic right groin and pelvic pain, leading to wheelchair dependence. - Imaging shows a large aggressive bone tumor in the right superior pubic ramus with soft tissue extension, involving the obturator neurovascular bundle and right acetabulum. - There is a 2.5 cm spiculated nodule in the right middle lobe of the lung, suspicious for primary lung malignancy. - A bone scan shows uptake in the right acetabulum and pubic rami consistent with known pelvic tumor invasion. - No evidence of osseous metastases elsewhere. - The patient has a history of rheumatoid arthritis (though workup was negative), and family history of colon and prostate cancer. - She underwent a biopsy of the pelvic tumor, which was reported as metastatic adenocarcinoma, not sarcoma. - No mention of prior radiation therapy to the chest or pelvis. - No clinical signs or symptoms specifically pointing to infection (e.g., fever, leukocytosis, purulent sputum). - The lung nodule is described as spiculated, which is more typical of malignancy than infection. - The patient's pain is localized to the right leg and pelvis, not diffuse or systemic, which would be more consistent with infection. - The imaging findings favor a primary sarcomatous lesion with lung metastasis rather than radiation pneumonitis or infection. - There is no indication of recent radiation therapy that could cause pneumonitis. - The patient's

symptoms and imaging findings align more with a neoplastic process rather than an infectious or inflammatory one. Given the clear imaging findings of a large aggressive bone tumor with lung nodule and biopsy confirming metastatic adenocarcinoma, there is no ambiguity in the diagnosis. The case does not present conflicting evidence between radiation pneumonitis and infection. Therefore, there is no need to present this case at a tumor board to differentiate these two entities.</think> <answer>No</answer>

no image: [CORRECT] <think>First, I need to determine if there is sufficient diagnostic ambiguity to warrant a thoracic tumor board discussion to differentiate between radiation pneumonitis and infection based on the provided patient timeline and medical records. Looking at the patient's history and imaging findings: - The patient has a right superior pubic rami bone tumor with aggressive features, confirmed by MRI and CT scans. The tumor involves the obturator neurovascular bundle and has a spiculated lung nodule in the right middle lobe. - The lung nodule is described as spiculated and 2.5 cm, which is suspicious for primary lung malignancy, especially given the presence of centrilobular emphysema. - There is a right anterior rib fracture noted on CT, which could be related to trauma or metastatic disease. - The bone scan shows uptake in the right acetabulum and pubic rami consistent with the known pelvic tumor, and no other osseous metastases. - The patient has a history of chronic pain and was previously diagnosed with rheumatoid arthritis, but no recent weight loss or systemic symptoms typical of infection. - The differential diagnosis includes primary sarcoma, metastatic adenocarcinoma (as per pathology pending), or other malignancies. - There is no mention of fever, leukocytosis, or other signs of infection. The patient's pain is localized and chronic, not acute or worsening rapidly. - The imaging findings favor a primary sarcomatous lesion with a lung nodule that may be metastatic rather than infection. - Radiation pneumonitis typically presents with new or worsening pulmonary infiltrates, cough, dyspnea, and systemic symptoms post-radiation, which are not described here. - The patient's symptoms (pain, numbness, weakness) are more consistent with a mass effect from the pelvic tumor rather than infection. - The presence of a spiculated lung nodule and the aggressive pelvic tumor make metastatic disease more likely than infection. - The bone scan does not show additional metastatic sites, but the lung nodule is concerning. - Given the aggressive bone tumor and lung nodule, the primary concern is malignancy rather than infection. - There is no evidence of infection such as fever, elevated WBC, or purulent sputum. - The patient's chronic pain and wheelchair dependence are more likely due to the bone tumor. - The imaging findings do not support infection as the primary issue. - Therefore, the diagnostic ambiguity is low, and the findings favor malignancy over infection. Based on this analysis, there is no sufficient ambiguity to warrant a tumor board discussion to differentiate radiation pneumonitis from infection. The findings strongly suggest malignancy.</think> <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no radiology report: [INCORRECT] <think>First, I carefully examine the provided CT images and the patient timeline to identify any evidence that would support a diagnosis of radiation pneumonitis versus infection. The CT images show axial slices of the thorax, focusing on the lungs and mediastinum. The images reveal areas of consolidation and ground-glass opacities, which can be seen in both radiation pneumonitis and infectious processes. However, there is no clear evidence of cavitation, abscess formation, or other features strongly indicative of infection. Additionally, the patient's timeline includes a history of malignancy (bone and lung), which increases the likelihood of metastatic disease or treatment-related complications. The timeline also shows recent imaging and interventions, including CT scans and possibly radiation therapy, which are consistent with a patient undergoing cancer treatment. Given the lack of definitive signs of infection and the presence of a known malignancy with recent treatment, the case likely involves differentiation between radiation pneumonitis and infection. This ambiguity necessitates a multidisciplinary approach, including thoracic tumor board discussion to evaluate all available data and determine the most appropriate next steps.</think> <answer>Yes</answer>

100 axial images (no timeline): [CORRECT] <think>First, I note that the question asks whether there is sufficient diagnostic ambiguity to warrant presentation of this case at a thoracic tumor board to differentiate between radiation pneumonitis and infection. The options are "Yes" or "No." To answer this, I must consider the imaging findings and any clinical context provided in the patient timeline. However, the timeline only provides the date of birth and ethnicity/race, with no additional clinical details, treatments, or imaging findings described. Radiation pneumonitis and infection can be challenging to differentiate on imaging alone, especially without clinical correlation such as symptoms, lab results, or biopsy findings. The image provided is a CT scan showing lung fields, but without clinical data or a detailed radiology report, it is impossible to definitively determine if there is ambiguity warranting a tumor board discussion. Given the lack of any clinical or treatment history, the timeline does not provide sufficient information to conclude that there is diagnostic ambiguity. Therefore, the answer must be "No," as there is no evidence to suggest that the case requires a tumor board discussion for differentiation between these two entities.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [CORRECT] The provided timeline documents a patient with a large, aggressive pelvic bone tumor and a concurrent lung nodule. The imaging findings (CT and MRI) are consistent with a primary sarcoma, and the biopsy results confirmed metastatic adenocarcinoma. The patient's history includes a family history of cancer (colon, prostate, head and neck) and a history of smoking. The timeline does not mention any prior radiation therapy to the chest or pelvis, nor any recent radiation exposure. The imaging findings (CT scans) show no evidence of radiation pneumonitis, which is typically characterized by a specific pattern of lung parenchymal changes (e.g., ground-glass opacities, consolidation) that would be expected following radiation therapy. The lung nodule is described as spiculated and suspicious for primary lung malignancy, which is consistent with the biopsy result of metastatic adenocarcinoma. There is no evidence in the timeline to suggest that the lung nodule or the pelvic tumor is a radiation-induced complication. Therefore, there is no diagnostic ambiguity to warrant presentation to a thoracic tumor board for differentiation between radiation pneumonitis and infection, as radiation pneumonitis is not a consideration in this case. <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a confirmed diagnosis of metastatic adenocarcinoma, with the primary site in the lung and metastasis to the pelvis. The timeline does not indicate any prior radiation therapy to the chest or pelvis, which is necessary for radiation pneumonitis to occur. The imaging findings are consistent with a primary lung malignancy and metastatic disease, not radiation-induced lung injury. Therefore, there is no diagnostic ambiguity to warrant a tumor board discussion for differentiating radiation pneumonitis from infection, as radiation pneumonitis is not a plausible diagnosis in this context. <answer>No</answer>

middle axial image: [CORRECT] The provided timeline documents a patient with a large pelvic bone tumor and a lung nodule. The CT scan of the chest, abdomen, and pelvis (03/14/2017) revealed a 2.3 cm spiculated nodule in the right middle lobe and an 8.6 cm mass in the right superior pubic rami. The radiology report noted the lung nodule as "suspicious for primary lung malignancy" and the pelvic mass as "favoring a primary sarcomatous lesion." A biopsy was performed, and pathology results (03/29/2017) indicated metastatic adenocarcinoma. The patient was then referred to thoracic oncology. The question asks whether there is diagnostic ambiguity to warrant a thoracic tumor board discussion to differentiate between radiation pneumonitis and infection. However, the timeline does not mention any prior radiation therapy to the chest or lungs. The lung nodule was identified as suspicious for primary lung malignancy, and the patient was diagnosed with metastatic adenocarcinoma. There is no evidence of radiation exposure or a history of radiation therapy that would lead to radiation pneumonitis. The imaging findings are consistent with a primary lung malignancy and metastatic disease, not

radiation injury or infection. Therefore, there is no diagnostic ambiguity regarding radiation pneumonitis or infection, as the patient's history and imaging findings point to metastatic cancer, not radiation therapy or infection. No

no image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a large pelvic mass with imaging findings consistent with a primary sarcoma, and a concurrent lung nodule. The biopsy results later indicate metastatic adenocarcinoma, leading to referral to thoracic oncology. There is no evidence of radiation therapy in the timeline, and no mention of radiation pneumonitis. The differential diagnosis at the time included infection, but imaging and clinical context favored neoplasm. The case is not ambiguous regarding radiation pneumonitis vs. infection because radiation therapy was not administered, and infection was considered less likely. Therefore, no diagnostic ambiguity exists to warrant a thoracic tumor board discussion for this specific differential. <answer>No</answer>

no radiology report: [CORRECT] The provided PATIENT_TIMELINE contains no information regarding prior radiation therapy to the thorax, nor any documentation of a known malignancy in the thorax. The imaging findings described are from a CT scan of the chest, abdomen, and pelvis, which show a large, heterogeneous mass in the right upper abdomen/pelvis (likely a pelvic mass) and multiple pulmonary nodules. The timeline documents a diagnosis of "Malignant neoplasm of unspecified part of left bronchus or lung" (ICD10CM/C34.92) and "Secondary malignant neoplasm of bone" (ICD10CM/C79.51), but does not specify if the lung lesion is primary or metastatic, nor does it indicate a history of thoracic radiation. The question asks about differentiation between radiation pneumonitis and infection, which is a differential diagnosis typically considered in patients with a history of thoracic radiation. Since there is no evidence of prior thoracic radiation therapy in the timeline, the diagnostic ambiguity for radiation pneumonitis is not applicable. The differential would be between infection and other causes of pulmonary nodules, which is a different clinical question. Therefore, there is no diagnostic ambiguity warranting a thoracic tumor board discussion for radiation pneumonitis vs. infection. No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no medical history, cancer evidence, or imaging findings. It only includes birth date and demographic information. Without any clinical context, imaging data, or diagnostic indicators, there is no basis to assess diagnostic ambiguity or determine whether a thoracic tumor board is warranted. Therefore, the answer is "No". <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [INCORRECT] <unused94>thought The user wants me to determine if there is sufficient diagnostic ambiguity to warrant a thoracic tumor board presentation based on the provided patient timeline. 1. ****Identify the core question:**** Is there diagnostic ambiguity warranting a thoracic tumor board? 2. ****Scan the timeline for relevant information:**** Look for imaging findings, pathology results, clinical assessments, and treatment plans related to the patient's condition. 3. ****Analyze the key findings:**** ****Diagnosis:**** The patient has a large, aggressive-appearing bone tumor in the right superior pubic ramus, involving the acetabulum and extending into the left pubic symphysis. This is highly suggestive of a primary bone sarcoma (e.g., chondrosarcoma, osteosarcoma, undifferentiated sarcoma). ****Staging/Metastasis:**** * CT Chest/Abdomen/Pelvis (03/14/2017): Shows a 2.3 cm spiculated nodule in the right middle lobe (RML) and a larger (2.5 cm) spiculated mass in the right upper lobe (RUL). These findings are highly suspicious for primary lung cancer, especially given the patient's smoking history (former smoker). * Whole Body Bone Scan (03/19/2017): Shows radiopharmaceutical uptake in the right pelvis (consistent with the known tumor) and a focus of uptake in the right anterior second rib (consistent with the fracture seen on CT). No other osseous metastases are identified. ****Pathology:**** The biopsy of the pelvic tumor (03/14/2017)

was reported as adenocarcinoma, suggesting metastatic disease. * **Clinical Assessment:** * The patient is symptomatic (pain, numbness, sweating) and has a poor performance status (ECOG 2). * **Treatment Plan:** * Referral to thoracic oncology and lung cancer clinic. 4. **Evaluate for diagnostic ambiguity:** * The pelvic tumor is highly suspicious for a primary bone sarcoma. * The lung nodules are highly suspicious for primary lung cancer. * The pelvic biopsy result suggests metastatic adenocarcinoma. * The question is whether the lung nodules are *metastases* from the pelvic tumor or *primary* lung cancer. * The lung nodules are spiculated, which is a feature often associated with malignancy. * The patient has a history of smoking, increasing the likelihood of primary lung cancer. * The bone scan shows uptake in the right rib, which could be due to the primary bone tumor or metastasis. * The differential diagnosis includes: * Primary bone sarcoma (pelvis) with metastasis to the lung. * Primary lung cancer with metastasis to the bone (pelvis). * Primary lung cancer with metastasis to the rib (less likely given the pelvic tumor). * Primary bone sarcoma with metastasis to the rib (less likely given the lung nodules). * The key ambiguity lies in whether the lung nodules are primary lung cancer or metastatic disease from the pelvic tumor. This is a critical distinction for treatment planning (e.g., chemotherapy vs. surgery). 5. **Determine if a tumor board is warranted:** * The diagnosis of a primary bone sarcoma is highly likely, but not definitively confirmed without pathology. * The lung nodules are highly suspicious for malignancy, but the exact origin (primary vs. metastatic) is uncertain. * The potential for metastatic disease to the lung from the pelvic tumor is significant. * The potential for primary lung cancer is also significant, especially given the smoking history. * The clinical picture (symptomatic patient, poor performance status) adds urgency. * A multidisciplinary discussion involving oncology, radiology, pathology, and potentially surgery is needed to clarify the diagnosis (primary vs. metastatic lung nodules) and determine the optimal treatment strategy. * Therefore, the diagnostic ambiguity regarding the nature of the lung nodules warrants a thoracic tumor board. 6. **Formulate the answer:** * **Reasoning Trace:** * The patient has a highly suspicious pelvic bone tumor, likely a primary sarcoma. However, imaging reveals suspicious lung nodules, and pathology from the pelvic tumor suggests metastatic adenocarcinoma. The key diagnostic question is whether the lung nodules are primary lung cancer or metastases from the pelvic tumor. This distinction is crucial for treatment planning. The patient's clinical status also warrants urgent multidisciplinary evaluation. Therefore, a thoracic tumor board is appropriate to discuss the differential diagnosis and management strategy. * **Answer:** * Yes. <brief reasoning trace with explanation for answer selection> The patient has a large, aggressive-appearing bone tumor in the right pelvis, highly suspicious for a primary bone sarcoma. However, imaging also shows suspicious lung nodules, and

middle axial image: **INCORRECT** <thought> The user wants me to determine if there is sufficient diagnostic ambiguity to warrant a thoracic tumor board presentation based on the provided patient timeline. 1. **Identify the core question:** * Is there diagnostic ambiguity warranting a thoracic tumor board? 2. **Scan the timeline for relevant information:** * Look for imaging findings, pathology results, clinical assessments, and treatment plans related to the patient's condition. 3. **Analyze the key findings:** * **Primary Diagnosis:** * The patient has a large, aggressive-appearing bone tumor in the right superior pubic ramus, involving the acetabulum and extending into the left pubic symphysis. This is consistent with a primary bone sarcoma (e.g., chondrosarcoma, osteosarcoma, undifferentiated sarcoma). * **Staging/Metastasis:** * CT Chest/Abdomen/Pelvis (03/14/2017): Shows a 2.3 cm spiculated nodule in the right middle lobe (RML), suspicious for primary lung malignancy. Also shows the pelvic tumor. * MRI Pelvis (03/24/2017): Confirms the large pelvic tumor, its extent, and involvement of neurovascular bundles. * Bone Scan (03/19/2017): Shows radiopharmaceutical uptake in the right pelvis (consistent with the known tumor) and a focus of uptake in the right anterior second rib (consistent with the fracture seen on CT). No other osseous metastases are identified. * Lung Nodule (03/24/2017): A 2.5 cm spiculated mass is identified in the right upper lobe (RUL). * **Pathology:** * The biopsy of the pelvic tumor (03/24/2017) was reported as

adenocarcinoma, suggesting metastasis from an unknown primary site. * **Clinical Assessment:** The patient has worsening pain, is wheelchair-bound, and has systemic symptoms (sweating). * **Treatment Plan:** Referral to thoracic oncology, patient contacted about pending biopsy results, referral to lung cancer clinic, plan for further staging (bone scan), pain management, and wheelchair prescription. 4. **Evaluate for diagnostic ambiguity:** * **Primary Tumor:** The pelvic tumor is highly suspicious for a primary bone sarcoma. * **Metastasis:** The RML nodule and the RUL mass are highly suspicious for lung cancer metastasis. The bone scan shows no other osseous metastases, but it doesn't rule out metastasis elsewhere. * **Differential Diagnosis:** The differential includes primary bone sarcoma, metastasis to bone from lung cancer, and potentially other primary lung cancers. The question is whether the pelvic tumor is primary or metastatic. * **Ambiguity:** The presence of a suspicious lung nodule *and* a primary bone tumor raises the question of whether the pelvic tumor is primary or metastatic. The lung nodule could be a primary lung cancer, or it could be a metastasis from the pelvic tumor. The bone scan is negative for other bone mets, but doesn't rule out metastasis elsewhere (e.g., liver, brain). 5. **Determine if ambiguity warrants a tumor board:** A tumor board is typically convened when there is diagnostic uncertainty, complex cases, or when multidisciplinary input is needed to guide management. In this case, the primary vs. metastatic question for the pelvic tumor, combined with the suspicious lung nodule, creates diagnostic ambiguity. The need for multidisciplinary input (oncology, radiation oncology, surgery, pulmonology) to determine the origin of the pelvic tumor and plan treatment (surgery, chemotherapy, radiation) makes a tumor board appropriate. 6. **Formulate the answer:** Based on the presence of a primary bone tumor and a suspicious lung nodule, raising the question of whether the pelvic tumor is primary or metastatic, there is diagnostic ambiguity. This warrants a discussion at a thoracic tumor board. 7. **Select the correct option:** "Yes". 8. **Write the reasoning:** The patient has a large, aggressive-appearing bone tumor in the right pelvis, highly suspicious for a primary bone sarcoma. Additionally, a suspicious 2.5 cm spiculated mass is present in the right upper lobe of the lung. The differential diagnosis includes primary bone sarcoma versus metastasis from lung cancer. The bone scan shows no other osseous metastases, but does not rule out metastasis elsewhere. The presence of both a primary bone tumor and a suspicious lung nodule creates diagnostic ambiguity regarding the origin of the pelvic tumor. This situation warrants a multidisciplinary discussion at a thoracic tumor board to determine the origin of the pelvic tumor and guide further management.<unused95><brief reasoning trace with explanation for answer selection> The patient presents with a large, aggressive-appearing bone tumor in the right pelvis, highly suspicious for a primary bone sarcoma

no image: [CORRECT] <unused94>thought The user wants me to determine if there is sufficient diagnostic ambiguity to warrant a thoracic tumor board presentation based on the provided patient timeline. 1. **Identify the core question:** Is there diagnostic ambiguity between radiation pneumonitis and infection? 2. **Scan the timeline for relevant information:** Look for mentions of lung issues, infections, radiation history, and imaging related to the lungs. 3. **Analyze the timeline:** * The patient has a history of a right superior pubic rami bone tumor diagnosed in February 2017. * Imaging (CT chest abdomen pelvis) from March 14, 2017, shows a 2.3 cm spiculated nodule in the right middle lobe (RML) and emphysema. * Imaging (MRI pelvis) from March 14, 2017, shows a large, aggressive-appearing mass in the right superior pubic ramus, involving the acetabulum, obturator neurovascular bundle, and surrounding muscles. * Biopsy results from March 19, 2017, show metastatic adenocarcinoma, not sarcoma. * The patient is referred to thoracic oncology. * A bone scan from March 19, 2017, shows uptake in the right pelvis (consistent with the tumor) and a focus of uptake in the right anterior second rib (consistent with the fracture seen on CT). * The patient is seen again on March 29, 2017, with a new diagnosis of metastatic adenocarcinoma (likely from the lung nodule). * There is no mention of radiation therapy to the chest or lungs. * There is no mention of symptoms suggestive of radiation pneumonitis (e.g., fever, cough, dyspnea, chest pain, skin reactions) or

no radiology report: [INCORRECT] The patient presents with a history of right hip pain, diagnosed as right hip pain (M25.551) and localized swelling, mass and lump, left lower limb (R22.42) on March 8, 2017. Imaging (XR PELVIS 3V, CT CHEST ABDOMEN PELVIS W CONTRAST, MR PELVIS WITH AND WITHOUT CONTRAST) was performed on March 8, 2017, showing findings consistent with the patient's symptoms. The patient was subsequently diagnosed with malignant neoplasm of pelvic bones, sacrum and coccyx (C41.4) and malignant neoplasm of unspecified part of left bronchus or lung (C34.92) on March 29, 2017. The patient underwent surgical procedure (SURGICAL PROCEDURE) and received chemotherapy (gabapentin, oxycodone hydrochloride) and pain management (ibuprofen). The patient was diagnosed with malignant neoplasm of unspecified part of unspecified bronchus or lung (C34.90) on March 31, 2017. The patient was diagnosed with secondary malignant neoplasm of bone (C79.51) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of left bronchus or lung (C34.92) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of unspecified bronchus or lung (C34.90) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of unspecified bronchus or lung (C34.90) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of left bronchus or lung (C34.92) on March 31, 2017. The patient was diagnosed with secondary malignant neoplasm of bone (C79.51) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of left bronchus or lung (C34.92) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of unspecified bronchus or lung (C34.90) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of left bronchus or lung (C34.92) on March 31, 2017. The patient was diagnosed with secondary malignant neoplasm of bone (C79.51) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of left bronchus or lung (C34.92) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of unspecified bronchus or lung (C34.90) on March 31, 2017. The patient was diagnosed with malignant neoplasm of unspecified part of unspecified bronchus or lung (C34.90) on March 31, 2017. The patient was diagnosed with malignant neoplasm of

100 axial images (no timeline): [INCORRECT] FINDINGS: [1968-02-23 00:00] | Chest X-ray
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no image: [INCORRECT] The patient has a known pelvic tumor with evidence of metastasis to the lungs. The question asks if a thoracic tumor board is warranted to differentiate between radiation pneumonitis and infection. Given the presence of metastatic disease, the primary concern is the lung metastasis, and the differential diagnosis includes infection. Therefore, a thoracic tumor board is warranted to discuss the lung metastasis and its management. <brief

reasoning trace with explanation for answer selection> The patient has a known pelvic tumor with evidence of metastasis to the lungs. The question asks if a thoracic tumor board is warranted to differentiate between radiation pneumonitis and infection. Given the presence of metastatic disease, the primary concern is the lung metastasis, and the differential diagnosis includes infection. Therefore, a thoracic tumor board is warranted to discuss the lung metastasis and its management. <answer>Yes</answer>

no radiology report: **[CORRECT]** The provided medical history indicates a patient with a history of malignancy, specifically a malignant neoplasm of the bone, soft tissue, and skin, and a malignant neoplasm of the lung. The chest CT shows a large mass in the left lung. The question asks if there is sufficient diagnostic ambiguity to warrant a thoracic tumor board discussion. The presence of a large mass in the lung, along with the patient's history of malignancy, suggests a high likelihood of lung cancer. The imaging findings are consistent with a malignant process. Therefore, there is not sufficient diagnostic ambiguity to warrant a thoracic tumor board discussion. Final Answer: No

100 axial images (no timeline): **[INCORRECT]** The images show a large, well-defined, homogeneous opacity in the right upper lobe of the lung. This could be due to various factors, including infection, inflammation, or a mass. The lack of specific details about the patient's history, symptoms, or other imaging findings makes it difficult to differentiate between these possibilities. Therefore, a thoracic tumor board discussion is warranted. Yes

Subtask: progression_assessment_discussed

Average unique events: 86.31

Question:

Based on the provided medical history and cancer evidence, is there ambiguity in radiologic interpretation that warrants presentation of this case at a thoracic tumor board for progression assessment?

Correct Answer: No

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer> The patient's medical timeline indicates a history of nasopharyngeal carcinoma with evidence of recurrence and the presence of pulmonary nodules. The imaging reports and clinical notes suggest that there is a need for further evaluation to determine the nature of these nodules, as they could represent either metastatic disease or other conditions such as infection. The complexity of the case, including the potential for recurrence and the presence of ambiguous findings, supports the need for a thoracic tumor board discussion to assess progression and determine the appropriate management strategy. Therefore, there is ambiguity in the radiologic interpretation that warrants presentation at a thoracic tumor board. | No

middle axial image: [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer> The patient's medical timeline indicates a history of nasopharyngeal carcinoma with evidence of recurrence and the presence of pulmonary nodules. The imaging reports and clinical notes suggest that there is a need for further evaluation to determine the nature of these nodules, as they could represent either metastatic disease or other conditions such as infection. The complexity of the case, including the potential for recurrence and the presence of ambiguous findings on imaging, supports the need for a multidisciplinary assessment. Therefore, presenting this case at a thoracic tumor board for progression assessment is warranted. | No

no image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer> The patient has a history of nasopharyngeal carcinoma (NPC) treated with chemoradiation in 2001. Recent imaging and PET-CT scans show a hypermetabolic right nasopharyngeal mass with bony destruction, suggesting possible recurrent NPC. Additionally, there are findings of lung nodules with mixed characteristics, including a hypermetabolic right upper lobe nodule and a non-FDG avid left upper lobe nodule. The differential diagnosis for the lung nodules includes infection, inflammation, or metastasis. Given the complexity and potential progression of the disease, there is ambiguity in the radiologic interpretation that warrants further evaluation. The tumor board discussion is recommended to assess the progression and determine the appropriate management plan. <answer>Yes</answer>

no radiology report: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer> The patient's medical timeline indicates a diagnosis of a malignant neoplasm of the nasopharynx and the presence of a solitary pulmonary nodule. Imaging procedures, including CT scans, were performed to assess these findings. The timeline does not explicitly mention any ambiguity in the radiologic interpretation that would necessitate a thoracic tumor board presentation. The patient underwent a CT-guided lung biopsy, suggesting that the findings were being actively investigated and managed. Without explicit documentation

of radiologic ambiguity or the need for a multidisciplinary assessment, it is reasonable to conclude that presentation at a thoracic tumor board for progression assessment is not warranted based on the provided information. </answer>

100 axial images (no timeline): [CORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not include any specific medical history, imaging findings, pathology reports, or treatment details related to a thoracic tumor or any other condition. Without explicit evidence or documented events regarding the patient's cancer diagnosis, stage, treatment, or radiologic findings, there is insufficient information to determine if there is ambiguity in radiologic interpretation that warrants presentation at a thoracic tumor board. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [INCORRECT] <think>First, I will carefully review the provided medical history and imaging findings to assess whether there is ambiguity in the radiologic interpretation that necessitates a thoracic tumor board review for progression assessment. The patient is a 44-year-old female with a history of nasopharyngeal carcinoma (NPC) treated with chemoradiation in 2001. She now presents with a right nasal obstruction and imaging findings suggestive of a recurrent or persistent nasopharyngeal mass. The imaging (CT and PET-CT) shows a hypermetabolic lesion in the right nasopharynx with bony destruction and extension into adjacent structures, consistent with a recurrent NPC. Additionally, there are two pulmonary nodules: one in the right upper lobe and another in the left upper lobe. The right upper lobe nodule is hypermetabolic on PET-CT, while the left upper lobe nodule is non-hypermetabolic. The key question is whether these pulmonary nodules represent metastatic disease or benign findings. The left upper lobe nodule is non-hypermetabolic, which may suggest a benign etiology such as granuloma or scar, but this is not definitive. The right upper lobe nodule is hypermetabolic, raising suspicion for malignancy. However, the patient's history of NPC and prior treatment complicates the interpretation. The decision to involve a thoracic tumor board would depend on whether the pulmonary nodules' nature is ambiguous and whether further multidisciplinary input is needed to guide management. Given the presence of two pulmonary nodules with differing metabolic activity and the patient's history, there is ambiguity in determining whether these represent metastatic disease or benign changes. This ambiguity warrants a thoracic tumor board discussion to evaluate the need for biopsy, further imaging, or other interventions. Therefore, the answer is "Yes" because the radiologic findings (hypermetabolic right nodule and non-hypermetabolic left nodule) create ambiguity in determining the nature of the pulmonary nodules, necessitating a tumor board review for progression assessment.</think> <answer>Yes</answer>

middle axial image: [INCORRECT] <think>First, I will carefully review the provided medical history and imaging findings to determine if there is ambiguity in the radiologic interpretation that necessitates a thoracic tumor board review for progression assessment. The patient is a 44-year-old female with a history of nasopharyngeal carcinoma (NPC) treated with chemoradiation in 2001. She now presents with a right nasal obstruction and imaging findings suggestive of a recurrent or persistent nasopharyngeal mass. The key imaging studies include a CT scan and a PET-CT performed in August 2012. The PET-CT report notes a hypermetabolic lesion in the right upper lobe with mild hypermetabolic activity, which could represent a metastatic lesion or a second primary malignancy. Additionally, there is a non-hypermetabolic spiculated nodule in the left upper lobe. The differential diagnosis for these pulmonary nodules includes infection, metastasis, or a second primary lung cancer. The patient's history of NPC treated with radiation therapy in 2001 raises concern for recurrence or metastasis. However, the presence of a non-hypermetabolic nodule complicates the interpretation, as it may represent a benign process or a second primary tumor. The PET-CT findings are not definitive for malignancy in the left lung nodule, and the right lung nodule shows mild hypermetabolism,

which is less specific. Given the complexity of the case, including the need to differentiate between recurrence, metastasis, and a second primary tumor, and the presence of multiple pulmonary nodules with varying metabolic activity, a multidisciplinary tumor board review is warranted to assess the progression of the disease and to guide further management, including potential biopsy or systemic therapy. Therefore, the answer is "Yes" because the imaging findings and clinical context create ambiguity that requires a tumor board discussion.

Yes

no image: [INCORRECT] Okay, let's tackle this question. The user is asking whether there's ambiguity in the patient's case that warrants a thoracic tumor board review for progression assessment. The options are Yes or No. First, I need to review the patient's history and the provided data. The patient is a 44-year-old female with a history of nasopharyngeal carcinoma (NPC) treated with chemoradiation in 2001. She now presents with a right nasal obstruction since March 2012. Imaging shows a destructive mass in the right nasal cavity and nasopharynx with bony destruction and extension into adjacent structures. The PET-CT shows a hypermetabolic lesion in the right upper lobe, which is concerning for metastasis. However, the primary concern is the local recurrence of NPC. The key points here are the presence of a new lung nodule with hypermetabolic activity, which could indicate metastasis. However, the primary tumor's local recurrence is also a significant issue. The question is whether there's ambiguity in the case that requires a tumor board discussion. Given that the patient has a history of NPC and now has a new lung nodule with possible metastatic activity, plus the local recurrence, it's important to determine if these findings are related or if there's uncertainty in the diagnosis. The tumor board would help assess whether the lung nodule is a metastasis or a second primary, and how to manage the local recurrence. The presence of both a new lung lesion and local recurrence suggests complexity that needs multidisciplinary input. Therefore, the answer should be Yes.

First, I will analyze the patient's clinical history and imaging findings to determine if there is ambiguity in the case that necessitates a thoracic tumor

board review for progression assessment. The patient has a history of nasopharyngeal carcinoma (NPC) treated with chemoradiation in 2001. She now presents with a right nasal obstruction and imaging reveals a destructive mass in the right nasal cavity and nasopharynx with bony destruction and extension into adjacent structures. The PET-CT shows a hypermetabolic lesion in the right upper lobe, which is concerning for metastasis. However, the primary concern is the local recurrence of NPC. Key points to consider: 1. **Local Recurrence vs. Metastasis**: The destructive mass in the nasopharynx with bony involvement is consistent with local recurrence of NPC. However, the presence of a hypermetabolic lung nodule raises suspicion for metastatic spread, which complicates the clinical picture. 2. **Ambiguity in Diagnosis**: The hypermetabolic lung nodule could represent either a metastasis from the NPC or a second primary malignancy. This distinction is critical for treatment planning but is not definitively clear from the imaging alone. 3. **Need for Multidisciplinary Input**: Given the complexity of managing both a potential metastatic lesion and local recurrence, a tumor board discussion would help clarify the best approach for biopsy, staging, and treatment. Since the imaging findings and clinical history present ambiguity regarding the nature of the lung nodule and the optimal management of the local recurrence, a thoracic tumor board review is warranted to resolve these uncertainties.

Yes

no radiology report: [CORRECT] <think>Okay, let's analyze the question and the provided data to determine whether there is ambiguity in the radiologic interpretation that would necessitate a thoracic tumor board review for progression assessment. First, the patient's history includes a diagnosis of nasopharyngeal carcinoma (NPC), which is a head and neck cancer. The imaging provided is a CT scan of the chest, which is relevant for assessing metastatic disease, particularly to the lungs. The CT scan shows a solitary pulmonary nodule, which is a common finding in patients with a history of head and neck cancers, as these cancers can metastasize to the lungs. The key question is whether there is ambiguity in the radiologic interpretation that would require a multidisciplinary tumor board review to assess disease progression. This would typically involve uncertainty in the interpretation of the imaging findings, such as whether the nodule is malignant, whether there is progression compared to prior imaging, or whether the nodule is a benign finding. Looking at the CT scan findings, the nodule is described as a solitary pulmonary nodule. The size and characteristics of the nodule (e.g., spiculated, size, growth rate) would be critical in determining if it is suspicious for malignancy. However, the provided data does not include prior imaging for comparison, nor does it provide detailed radiologic descriptors (e.g., margins, enhancement, calcifications) that would allow for a definitive interpretation. Without prior imaging or additional clinical context, it is challenging to determine if this nodule represents progression or a new lesion. Additionally, the patient's history of NPC increases the likelihood of metastasis, but without prior imaging or biopsy confirmation, the nature of the nodule remains uncertain. The lack of prior imaging comparison

or detailed radiologic descriptors introduces ambiguity. Therefore, the ambiguity in the radiologic interpretation (due to lack of prior imaging and detailed descriptors) necessitates a multidisciplinary tumor board review to assess progression and guide further management.</think> <answer>Yes</answer>

100 axial images (no timeline): [CORRECT] <think>First, I note that the provided image is a CT scan of the chest, showing axial slices through the thorax. The scan reveals lung parenchyma, mediastinal structures, and bony thorax. The lungs appear mostly clear with no obvious masses or consolidations. The mediastinum is midline, and the heart and great vessels appear normal in size and position. The bony structures, including the ribs, clavicles, and vertebrae, show no fractures or lytic lesions. There is no visible pleural effusion or pneumothorax. However, the question asks about ambiguity in radiologic interpretation that warrants presentation at a thoracic tumor board for progression assessment. This implies the patient has a known or suspected thoracic malignancy, and the question is whether the imaging findings are unclear or require multidisciplinary review. Given the lack of any visible tumor, mass, or suspicious lesion on this CT scan, there is no radiologic evidence of progression or ambiguity. The scan appears normal or unremarkable. Therefore, there is no ambiguity in interpretation, and the case does not require presentation at a tumor board for progression assessment. Thus, the correct answer is "No."</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [INCORRECT] The radiologic interpretation is ambiguous and warrants presentation at a thoracic tumor board. The imaging findings are complex and require multidisciplinary input to determine the nature of the lesions and appropriate management. Evidence from the PATIENT_TIMELINE: 1. The initial CT (07/26/2012) showed a destructive mass eroding bone, consistent with a tumor. 2. The MRI (08/25/2012) confirmed a large, hypermetabolic mass in the nasopharynx with bony destruction, highly suggestive of recurrent nasopharyngeal carcinoma (NPC), but also noted that "other considerations such as sarcoma are not excluded given the history of radiation." 3. The PET-CT (08/25/2012) showed a hypermetabolic mass in the nasopharynx and a hypermetabolic nodule in the right upper lobe, which was described as "non-specific" and "difficult to characterize." 4. The subsequent CT (08/27/2012) confirmed the lung nodules and noted they were "necrotic appearing," which is more consistent with infection (like reactivation TB) than metastasis. 5. The QuantiFERON test (09/14/2012) was positive, strongly suggesting reactivation tuberculosis, which is a key differential diagnosis for the lung nodules. 6. The thoracic tumor board was explicitly recommended for discussion of the case, as noted in the letter from Dr. Mendenhall on 09/14/2012, which states: "We have asked Ms. Mccray to see Dr. Gebhart a few days after these biopsies have been performed. If these are benign, obviously he will have to decide how to manage the local disease. If they are malignant, then the treatment would likely be systemic therapy with possibility of some form of local therapy down the road... Finally, if they represent tuberculosis, we will refer to ID for consideration of therapy of this." This sequence of findings — a primary tumor recurrence with ambiguous lung nodules that could be metastatic, infectious, or a second primary — necessitates a tumor board to resolve diagnostic uncertainty and plan optimal treatment. <brief reasoning trace with explanation for answer selection> | <answer></answer> The radiologic interpretation is ambiguous because the lung nodules are non-specific and could represent metastasis, infection (reactivated TB, confirmed by QuantiFERON), or a second primary tumor. The tumor board is explicitly recommended to resolve this diagnostic uncertainty and plan optimal treatment. | Yes

middle axial image: [INCORRECT] The provided timeline documents a complex case of nasopharyngeal carcinoma with radiologic findings that are ambiguous and require multidisciplinary evaluation. The imaging (MRI, PET-CT, CT) reveals a hypermetabolic mass in the nasopharynx with bony destruction, consistent with recurrent NPC, but also shows lung

nodules with uncertain etiology (metastasis vs. infection). The radiology reports explicitly state that the lung nodules are "nonspecific" and "non-specific" in nature, with differential diagnoses including infection (e.g., reactivation TB) and malignancy. The timeline also shows that a biopsy was planned and performed, and the patient's QuantiFERON test was positive for latent TB, further complicating the differential diagnosis. The radiologic interpretation is not definitive and requires correlation with histopathology and multidisciplinary input. Therefore, ambiguity in radiologic interpretation warrants presentation at a thoracic tumor board for progression assessment. <brief reasoning trace with explanation for answer selection> |

<answer></answer> The radiologic findings are ambiguous: the nasopharyngeal mass is consistent with recurrent NPC, but the lung nodules are nonspecific, with differential diagnoses including infection (reactivation TB) and malignancy. The radiology reports explicitly state the need for correlation with histopathology and multidisciplinary input. This ambiguity warrants a tumor board discussion for progression assessment. <answer>Yes</answer>

no image: [INCORRECT] The radiologic interpretation is ambiguous regarding the nature of the lung nodules and the extent of nasopharyngeal tumor progression. The PET-CT report describes a hypermetabolic right nasopharyngeal mass consistent with recurrent NPC, but also notes a hypermetabolic right upper lobe nodule with SUVmax 1.7, which is described as "non-specific" and potentially metastatic. The CT scan confirms the nodules with air bronchograms, which can be seen in infection or malignancy. The radiology report explicitly states that the nodules are "non-specific in nature" and that malignancy "cannot be excluded." Furthermore, the patient's history of prior radiation therapy and tuberculosis complicates interpretation, as radiation changes and TB can mimic malignancy. The radiology team recommends biopsy for definitive characterization, and the thoracic surgery team is actively considering the differential diagnosis. This ambiguity in interpretation — particularly regarding whether the lung nodules represent metastatic disease, infection, or other processes — warrants multidisciplinary discussion at a thoracic tumor board to guide further management. <brief reasoning trace with explanation for answer selection> | <answer></answer> The radiologic findings are ambiguous: the lung nodules are described as "non-specific" with potential for malignancy, infection, or other causes, and the nasopharyngeal mass is consistent with recurrence but requires biopsy confirmation. The tumor board is explicitly recommended for interpretation and management planning, indicating ambiguity that necessitates multidisciplinary review. <answer>Yes</answer>

no radiology report: [CORRECT] The provided PATIENT_TIMELINE contains no evidence of radiologic ambiguity or progression assessment that would warrant presentation at a thoracic tumor board. The timeline documents a history of nasopharyngeal cancer (ICD9CM/147.9) and a solitary pulmonary nodule (ICD9CM/793.11), with a CT scan of the chest performed on 2012-09-03. However, there is no mention of any radiologic findings that are unclear, equivocal, or require multidisciplinary interpretation. The timeline does not contain any radiology reports, radiologist interpretations, or discussions that would indicate ambiguity in the imaging findings. Therefore, based on the available information, there is no justification for presenting this case at a thoracic tumor board for progression assessment. No

100 axial images (no timeline): [CORRECT] The provided PATIENT_TIMELINE contains no medical history, imaging reports, pathology results, treatment records, or any evidence of cancer or thoracic tumor progression. It only includes birth date and demographic information. Without any radiologic findings, clinical context, or documented cancer evidence, there is no basis to assess ambiguity in interpretation or to determine if a thoracic tumor board is warranted. Therefore, the answer is "No". <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

Model: google/medgemma-1.5-4b-it

middle image from each view: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of nasopharyngeal carcinoma (NPC) treated with chemoradiation in 2001. She now presents with a right nasal mass and obstruction. Imaging (CT and PET/CT) reveals a large, lobulated soft tissue mass in the right nasopharynx extending into the orbital fissures, sphenoid sinus, and clivus, consistent with recurrent NPC. Additionally, there are two lung nodules, one in the right upper lobe (RUL) with a low SUVmax (1.7) and another in the left upper lobe (LUL) with a higher SUVmax (4.4). The PET/CT shows hypermetabolic activity in the RUL nodule, suggesting it might be malignant, but the low SUVmax makes it less likely. The LUL nodule is non-FDG avid. The patient has a history of tuberculosis treated in the past. The question asks if there is ambiguity in radiologic interpretation that warrants presentation at a thoracic tumor board for progression assessment. 1. **History:** The patient has a known history of NPC, which is a high-grade malignancy. Recurrence is a significant concern. 2. **Imaging Findings:** **Nasopharynx:** The large mass is highly suspicious for recurrent NPC. **Lung Nodules:** The RUL nodule is hypermetabolic on PET/CT, raising concern for malignancy. The LUL nodule is non-FDG avid, which could be due to various reasons (inflammation, infection, or less likely, malignancy). 3. **Clinical Context:** The patient is anxious and concerned. The presence of both a highly suspicious nasopharyngeal mass and lung nodules warrants further investigation and management planning. 4. **Ambiguity:** The interpretation of the LUL nodule is ambiguous. While the RUL nodule is suspicious, the LUL nodule is non-FDG avid. This could represent a benign process (like inflammation or infection, especially given the history of TB) or a less aggressive malignancy. The ambiguity necessitates further evaluation to determine the nature of the LUL nodule. 5. **Tumor Board Indication:** A thoracic tumor board is appropriate to discuss the management of the lung nodules, especially the RUL nodule, and to coordinate the next steps in evaluating the patient's overall condition, including the nasopharyngeal mass and the potential need for biopsy of the lung nodule. The board can help determine the best approach for the lung nodules (e.g., biopsy, surveillance) and integrate this information with the management of the nasopharyngeal mass. Therefore, the ambiguity regarding the LUL nodule warrants a discussion at a tumor board. <answer>Yes</answer>

middle axial image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of nasopharyngeal carcinoma (NPC) treated with chemoradiation in 2001. She now presents with a right nasal mass and obstruction. Imaging (CT and PET/CT) reveals a large, lobulated soft tissue mass in the right nasopharynx extending into the orbital fissures, sphenoid sinus, and clivus, consistent with recurrent NPC. Additionally, there are two lung nodules, one in the right upper lobe (RUL) with a low SUVmax (1.7) and another in the left upper lobe (LUL) with a higher SUVmax (4.4). The PET/CT shows hypermetabolic activity in the RUL nodule, suggesting potential malignancy, while the LUL nodule is non-FDG avid. The patient has a history of tuberculosis treated in the past. Given the history of NPC, the lung nodules, and the PET findings, there is a significant concern for metastatic disease. The presence of hypermetabolic activity in the RUL nodule, despite its low SUVmax, raises suspicion for malignancy. The combination of recurrent NPC and lung nodules warrants further investigation, including biopsy of the RUL nodule, to establish a definitive diagnosis. The PET/CT findings also suggest potential metastatic disease, which would require further evaluation and management. Therefore, the findings are ambiguous and warrant presentation at a thoracic tumor board for progression assessment and management planning. <answer>Yes</answer>

no image: [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of nasopharyngeal carcinoma (NPC) treated with chemoradiation in 2001. She presents with a right nasal mass and obstruction. Imaging (CT and MRI) reveals a large, lobulated soft tissue mass in the right nasopharynx extending into the pterygopalatine fossa, involving the right orbital fissures, cavernous sinus, and clivus, with bony destruction. This is highly suspicious for recurrent NPC. Additionally, there are two lung nodules

[illegible][illegible]

100 axial images (no timeline): [INCORRECT] FINDINGS: [1968-01-26 00:00] | Chest X-ray
[1968-01-26 00:00] | Chest X-ray [1968-01-26 00:00] | Chest X-ray [1968-01-26 00:00] | Chest
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00:00]

no radiology report: [CORRECT] The patient has a history of nasopharyngeal cancer. The most recent CT scan shows a nodule in the lung. Given the history of nasopharyngeal cancer and the presence of a lung nodule, further investigation is warranted to rule out metastasis.

Therefore, presentation at a thoracic tumor board for progression assessment is appropriate.

<No>

100 axial images (no timeline): [CORRECT] The images show a nodule in the lung. The nodule is present in multiple images, suggesting it is likely a persistent finding. The presence of a nodule warrants further investigation to rule out malignancy. No

Subtask: radiation_oligoprogession_answer

Average unique events: 138.09

Question:

TODO: Based on the provided medical history, cancer evidence, and imaging findings, is focal radiotherapy recommended for the management of this patient's oligoprogessive disease?

Correct Answer: Yes

Model: OpenGVLab/InternVL3_5-8B

middle image from each view: **[INCORRECT]** <think> The patient has a history of multiple myeloma and has undergone various treatments, including lenalidomide and dexamethasone. Imaging studies, such as MRI and PET-CT, show stable disease with no significant progression. The bone marrow biopsy and other tests indicate ongoing monitoring but no definitive evidence of disease progression. Given the stable disease and the absence of new focal lesions, focal radiotherapy may not be necessary at this stage. The patient's condition appears to be managed with current therapies without immediate need for additional focal radiotherapy. </think> <brief reasoning trace with explanation for answer selection> The patient's medical timeline shows stable disease with no significant progression of multiple myeloma. Imaging studies and bone marrow biopsy results indicate ongoing monitoring without new focal lesions. Therefore, focal radiotherapy is not immediately necessary. | <answer>No</answer>

middle axial image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> The patient's timeline indicates a history of multiple myeloma and a recent bone marrow biopsy. The imaging findings show diffuse myelomatous changes without evidence of a focal lesion or pathologic fracture. The patient has not achieved remission, as indicated by the ICD-10 code C90.00. Given the lack of focal progression and the patient's ongoing treatment, focal radiotherapy may not be the most appropriate management strategy at this time. Systemic therapy or other interventions might be considered instead. answer:No</answer>

no image: **[INCORRECT]** <brief reasoning trace with explanation for answer selection>: The patient's timeline indicates a history of multiple myeloma and lung adenocarcinoma, with recent imaging studies showing stable disease with no definite focal bone lesions or concerning soft tissue abnormalities. The patient has undergone various treatments, including lenalidomide and radiation therapy for brain metastases. The most recent imaging studies, including MRI and PET-CT, show no significant progression or new lesions. Given the stable disease and lack of new focal progression, focal radiotherapy may not be necessary at this time. <answer>No</answer>

no radiology report: **[INCORRECT]** <brief reasoning trace with explanation for answer selection> | <answer> The patient's timeline indicates a diagnosis of multiple myeloma (ICD10CM/C90.00) and a malignant neoplasm of the left bronchus or lung (ICD10CM/C34.92). The imaging findings and clinical notes suggest ongoing monitoring and management of these conditions. Oligoprogession refers to a scenario where there is limited progression of disease despite ongoing treatment. Focal radiotherapy is typically considered for localized disease progression. However, given the presence of multiple myeloma and the lack of specific evidence indicating localized progression amenable to focal radiotherapy, the appropriateness of this treatment modality for oligoprogession is questionable. The patient's multiple myeloma status and the nature of the disease progression suggest that systemic therapy might be more

appropriate than focal radiotherapy. Therefore, based on the provided timeline and the nature of the patient's conditions, focal radiotherapy is not the most appropriate management for oligoprogression in this case. </answer>

100 axial images (no timeline): [INCORRECT] <brief reasoning trace with explanation for answer selection> | <answer></answer> The provided PATIENT_TIMELINE does not include any specific medical history, cancer evidence, or imaging findings related to oligoprogression or focal radiotherapy. Without relevant clinical data, it is not possible to determine the appropriateness of focal radiotherapy for managing oligoprogression. | <answer>No</answer>

Model: OctoMed/OctoMed-7B

middle image from each view: [INCORRECT] <think>First, I will carefully review the provided patient timeline and imaging findings to understand the clinical context and determine whether focal radiotherapy is appropriate for oligoprogression. The patient has a history of multiple myeloma and lung adenocarcinoma, with recent imaging showing stable disease and no new metastatic lesions. The key point is the presence of oligoprogression, which refers to the development of a limited number of new lesions in a patient previously treated for multiple myeloma. Looking at the imaging findings, there is no mention of new focal lesions or progression of existing disease. The bone marrow biopsy and PET-CT findings do not indicate new areas of concern. The patient is undergoing treatment with lenalidomide and other supportive therapies, but there is no evidence of disease progression that would necessitate focal radiotherapy. Focal radiotherapy is typically considered when there is localized progression of disease that can be targeted with radiation, such as a single new lesion or a growing metastasis. However, in this case, the imaging does not show such findings. The patient's disease appears stable, and the treatment plan seems to be systemic rather than localized. Therefore, based on the lack of evidence for focal progression and the stable disease status, focal radiotherapy is not indicated at this time.</think> <answer>No</answer>

middle axial image: [INCORRECT] <think>First, I will carefully review the provided patient timeline and imaging findings to understand the clinical context and determine whether focal radiotherapy is appropriate for oligoprogression. The patient has a history of multiple myeloma and lung adenocarcinoma. The imaging findings show diffuse bone marrow involvement without focal lesions, and there is no evidence of new or progressive metastatic disease in the brain or other organs. The PET-CT from 02/24/2016 shows no new hypermetabolic lesions, and the bone marrow biopsy from 09/05/2016 indicates stable disease with no significant changes in free light chain ratio or immunoglobulin levels. The patient is undergoing treatment with lenalidomide and other supportive therapies. Focal radiotherapy is typically considered for oligoproliferative disease where there is a limited number of new lesions that can be targeted. However, in this case, the imaging does not demonstrate any new focal lesions or progression that would warrant localized radiation. The diffuse marrow involvement and stable disease suggest that systemic therapy should be continued rather than focal radiotherapy. Therefore, based on the lack of evidence for focal progression and the presence of diffuse marrow disease, focal radiotherapy is not indicated at this time.</think> <answer>No</answer>

no image: [INCORRECT] <think>First, I need to understand the question: Is focal radiotherapy appropriate for the management of oligoprogression in this patient? The options are "Yes" or "No". The patient has a history of multiple myeloma and lung adenocarcinoma, with recent imaging findings. Looking at the patient's timeline and imaging reports, there are several key points. The patient has multiple myeloma, which is a plasma cell disorder, and lung adenocarcinoma. The imaging studies show diffuse bone marrow involvement consistent with myeloma, but no focal lesions that would suggest progression. The PET-CT from 02/24/2016 shows no new focal lesions, and the bone marrow biopsy from 09/05/2016 indicates stable disease with no new lytic lesions or fractures. The bone marrow biopsy results show a monoclonal IgG band but a significant decrease compared to prior, suggesting stable or

improving disease. The free light chain ratio is 2.9, which is elevated but not indicative of rapid progression. The patient is on treatment with lenalidomide and other supportive medications, and there is no mention of new or progressive disease in the imaging. Focal radiotherapy is typically considered for oligoprogressive disease where a limited number of new lesions are present, and the rest of the disease is controlled. However, in this case, the imaging does not show any new focal lesions or progression. The bone marrow findings are stable, and there is no evidence of new metastatic disease. The patient's myeloma is not in remission but is stable, and the lung cancer is also stable. Therefore, there is no indication for focal radiotherapy at this time. The decision must be based solely on the provided patient timeline and imaging findings. Since there is no evidence of oligoprogression (no new focal lesions or progression of existing disease), focal radiotherapy is not appropriate.</think> <brief reasoning trace with explanation for answer selection> | <answer>No</answer>

no radiology report: [INCORRECT] <think>Okay, let's analyze the question carefully. The question asks whether focal radiotherapy is appropriate for the management of oligoprogression in a patient with a history of multiple myeloma and lung cancer. The patient's timeline shows multiple treatments, including chemotherapy, bone marrow biopsy, and imaging studies. The imaging findings include pathological fractures and abnormal bone marrow findings. The patient has a history of smoking but no current tobacco use. The imaging shows oligoprogression, which is defined as limited sites of disease progression. Focal radiotherapy is often used for oligoprogressive disease to target specific lesions while sparing the rest of the body. Given the patient's history and imaging findings, focal radiotherapy could be considered to control the oligoprogressive sites.</think> <answer>Yes</answer>

100 axial images (no timeline): [INCORRECT] <think>First, I note that the question asks whether focal radiotherapy is appropriate for managing oligoprogression. Oligoprogression refers to the presence of a limited number of progressing lesions in a patient with otherwise stable disease, often after systemic therapy. The decision to use focal radiotherapy depends on factors such as the number and location of progressing lesions, prior treatments, and the patient's overall disease burden. However, the provided PATIENT_TIMELINE only includes the date of birth and ethnicity/race information, with no clinical details, imaging findings, or treatment history. There is no evidence of cancer diagnosis, treatment modalities, or progression status. Without this critical information, it is impossible to assess whether focal radiotherapy is appropriate. Given the lack of any clinical or imaging data, I cannot determine the presence or absence of oligoprogression or the patient's treatment history. Therefore, I must conclude that the question cannot be answered based on the provided information alone.</think> <answer>No</answer>

Model: Qwen/Qwen3-VL-8B-Instruct

middle image from each view: [INCORRECT] The provided PATIENT_TIMELINE documents a patient with a history of multiple myeloma and lung adenocarcinoma. The imaging findings, particularly from the PET-CT scan on 09/02/2016, reveal a new focus of intense hypermetabolism in the subcarinal region of the mediastinum, which is interpreted as a new metastatic lesion. This represents disease progression, not oligoprogression, as oligoprogression typically implies a limited number of new lesions in a patient who is otherwise stable. The timeline shows no evidence of oligoprogression; instead, it shows a new, significant metastatic site. Focal radiotherapy is not indicated for oligoprogression, as the patient's disease is progressing with a new, likely symptomatic, lesion. Therefore, focal radiotherapy is not appropriate for this scenario. <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows a new, significant metastatic lesion in the subcarinal region (SUV max 11.4) on PET-CT, which represents disease progression, not oligoprogression. Oligoprogression is defined as a limited number of new lesions in a patient who is otherwise stable. Since the patient has a new, likely symptomatic, metastatic lesion, focal

radiotherapy is not indicated for oligoprogression. Therefore, the answer is "No". |
<answer>No</answer>

middle axial image: [INCORRECT] The provided timeline indicates the patient has a history of multiple myeloma and lung adenocarcinoma. Imaging findings (MRI, PET-CT) show stable disease with no new lesions or progression. The most recent PET-CT (09/02/2016) identified a new focus of intense hypermetabolism in the subcarinal region, which is a new finding and not described as oligoprogression. Oligoprogression typically refers to the appearance of a few new lesions in a patient with otherwise stable disease. The timeline does not provide evidence of oligoprogression, and the imaging findings do not support focal radiotherapy as an appropriate management strategy for oligoprogression. The patient's disease is described as stable or with new lesions, not oligoprogression. No <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's timeline shows stable disease with no evidence of oligoprogression. The most recent imaging (PET-CT) identified a new lesion, not oligoprogression. Focal radiotherapy is not indicated for oligoprogression without evidence of it. The answer is "No" because there is no evidence of oligoprogression in the timeline to justify focal radiotherapy.

no image: [INCORRECT] The patient has a history of multiple myeloma and lung adenocarcinoma with prior brain metastases treated with SBRT. Imaging (MRI, PET-CT) from 2016 shows stable disease with no new lesions, and the only persistent abnormality is a stable 9 mm peripherally enhancing lesion in the left frontal lobe (previously treated) and residual enhancement in the left thalamus. There is no evidence of oligoprogression (i.e., new or progressive disease) in the timeline. The patient's disease is described as "essentially stable" and "no evidence of disease recurrence or metastatic disease development" in multiple imaging reports. Focal radiotherapy is typically reserved for oligoprogression or symptomatic lesions, which are not present here. The patient's current status is stable with no new or progressive disease. <brief reasoning trace with explanation for answer selection> | <answer></answer> No

no radiology report: [INCORRECT] The provided PATIENT_TIMELINE indicates a diagnosis of multiple myeloma (ICD10CM/C90.00) and a malignant neoplasm of the lung (ICD10CM/C34.92). The timeline includes multiple imaging studies (CT, MR, PET) and lab results, but there is no mention of "oligoprogression" or any specific evidence of disease progression that would necessitate focal radiotherapy. The patient's condition is described as "not having achieved remission," which suggests ongoing disease activity, but the timeline does not provide the specific clinical context or imaging findings required to determine if focal radiotherapy is appropriate for oligoprogression. Therefore, based on the available evidence, the answer is "No". <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient's medical history includes multiple myeloma and a lung malignancy, but the timeline lacks any documentation of "oligoprogression" or specific imaging findings that would justify focal radiotherapy. The patient's condition is noted as "not having achieved remission," which implies active disease, but without evidence of isolated progression sites, focal radiotherapy is not indicated. | <answer>No</answer>

100 axial images (no timeline): [INCORRECT] The provided PATIENT_TIMELINE contains no information regarding a cancer diagnosis, imaging findings, treatment history, or any evidence of oligoprogression. The timeline only includes birth information and demographic data. Without any evidence of cancer or its progression, it is impossible to determine if focal radiotherapy is appropriate. No | No

Model: google/medgemma-1.5-4b-it

middle image from each view: [INCORRECT] <unused94>thought The user wants me to determine if focal radiotherapy is appropriate for oligoprogression based on the provided patient timeline. 1. ****Identify the core question:**** Is focal radiotherapy appropriate for oligoprogression?

2. **Define oligoprogession:** Oligoprogession is a state where a patient has multiple lesions, but only a few are growing, while the others are stable or shrinking. 3. **Analyze the patient's history:** The patient has a history of lung adenocarcinoma, status post left lower lobectomy. The patient developed metastatic disease (likely lung cancer) to the brain (2 lesions) and bone marrow (multiple myeloma). The patient is currently on treatment for metastatic lung cancer (afatinib). The patient has a history of multiple myeloma, not currently treated. The patient has a history of brain metastases (2 lesions) treated with Stereotactic Body Radiation Therapy (SBRT). The patient has a history of multiple myeloma, diagnosed in 2016. The patient has a history of bone marrow biopsy (likely for myeloma diagnosis/staging). The patient has a history of PET-CT scan (08/03/2016) showing intense hypermetabolism in the left subcarinal region with an adjacent ill-defined soft tissue density, suggesting a new focus of intense hypermetabolism in the mediastinum. This finding is concerning for a new metastatic lesion. The patient has a history of bone marrow biopsy (08/06/2016) for multiple myeloma. The patient has a history of a bone marrow aspirate and core biopsy (08/06/2016). The patient has a history of a bone marrow biopsy and aspirate, cyto + FISH (myeloma panel) and flow cytometry (08/06/2016). The patient has a history of a bone marrow biopsy and aspirate, manual differential/slide review (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, free light chain ratio (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, beta-2-microglobulin (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, IgM (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, alkaline phosphatase (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, potassium (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, calcium (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, globulin (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, protein (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, M-spike (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, anion gap (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, glomerular filtration rate (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, ALT (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, albumin (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, AST (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, bilirubin (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, CO2 (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate, WBC morphology (08/05/2016). The patient has a history of a bone marrow biopsy and aspirate,

middle axial image: **[CORRECT]** <brief reasoning trace with explanation for answer selection> | <answer></answer> The patient has a history of multiple myeloma, which is a cancer of plasma cells. The patient has also had a lung cancer diagnosis and treatment, and brain metastases. The patient has also had a bone marrow biopsy performed on 2016-09-05. The patient has also had a PET-CT scan on 2016-09-02, which showed a new focus of intense hypermetabolism in the left subcarinal region with an adjacent ill-defined soft tissue density. This finding is concerning for malignancy. Focal radiotherapy is a treatment modality used to target a specific area of cancer. Given the presence of a new focus of intense hypermetabolism on the PET-CT scan, which is highly suggestive of malignancy, focal radiotherapy could be considered as part of the management plan to treat this specific lesion. The question asks if focal radiotherapy is appropriate for the management of oligoprogession. Oligoprogession is the recurrence of cancer in multiple sites, but with limited growth. Focal radiotherapy is a treatment option for oligoprogession, especially when the lesions are localized and amenable to radiation therapy. The PET-CT findings suggest a new focus of increased metabolic activity, which could represent a new site of disease or a new focus of the existing disease. Focal radiotherapy could be used to treat this specific area. <answer>Yes</answer>

no image: **[CORRECT]** <unused94>thought The user wants me to determine if focal radiotherapy is appropriate for the patient based on the provided timeline, selecting either "Yes"

or "No". 1. **Analyze the Patient's History:** The patient has a history of lung adenocarcinoma, status post left lower lobectomy. They also have metastatic disease to the brain (metastatic lung cancer) and bone marrow (multiple myeloma). They are currently on treatment for the lung cancer (afatinib) and multiple myeloma (likely bortezomib/dexamethasone, though not explicitly stated, it's standard). 2. **Review Imaging Findings:** **MRI Brain (03/11/2016):** Shows stable 9 mm peripherally enhancing lesion in the left precentral frontal gyrus and residual enhancement in the anterior left thalamus. No new lesions. **CT Chest Abdomen Pelvis (08/22/2016):** Shows stable postsurgical changes from left lower lobectomy. No evidence of recurrent or metastatic disease in the chest, abdomen, or pelvis. **PET-CT (08/03/2016):** Shows a new focus of intense hypermetabolism in the subcarinal region of the mediastinum with an adjacent ill-defined soft tissue density. This is highly suspicious for metastatic disease. **Bone Marrow Biopsy (08/06/2016):** Shows abnormal band, decreased when compared to prior specimen, consistent with multiple myeloma. **Bone Marrow Aspirate (08/06/2016):** Shows spicules, confirming the diagnosis of multiple myeloma. 3. **Evaluate the Question:** The question asks if *focal radiotherapy* is appropriate for *oligoprogression*. Oligoprogression is defined as the development of a new, small (< 3 cm) lesion in a patient with known metastatic cancer who was previously considered stable on systemic therapy. 4. **Assess Appropriateness of Focal Radiotherapy:** **Is there oligoprogression?** Yes, the PET-CT shows a new focus of intense hypermetabolism in the subcarinal region, indicating a new metastatic lesion. **Is the new lesion small?** The description doesn't give a size, but the PET-CT finding is described as a "new focus of intense hypermetabolism". This is consistent with a new lesion. **Is focal radiotherapy an option for oligoprogression?** Yes, focal radiotherapy (stereotactic body radiation therapy - SBRT) is a standard treatment option for oligoprogression in patients with metastatic cancer, especially for small lesions (< 3 cm). It offers high local control rates with lower toxicity compared to whole-lung radiation therapy. **Is the patient a candidate?** The patient has metastatic lung cancer and multiple myeloma. Focal radiotherapy is generally considered for oligoprogression in patients with metastatic disease, including lung cancer. 5. **Conclusion:** Based on the presence of a new, small metastatic lesion (oligoprogression) identified on PET-CT, focal radiotherapy is a standard and appropriate treatment option. 6. **Format the Output:** **Brief reasoning trace:** The patient has metastatic lung cancer and multiple myeloma. A PET-CT scan revealed a new focus of intense hypermetabolism in the mediastinum, consistent with a new metastatic lesion. This condition is defined as oligoprogression. Focal radiotherapy (SBRT) is a standard treatment option for oligoprogression in patients with metastatic cancer, offering high local control with acceptable toxicity. **Answer:** Yes.<unused95><brief reasoning trace with explanation for answer selection>The patient has metastatic lung cancer and multiple myeloma. A PET-CT scan identified a new focus of intense hypermetabolism in the mediastinum, consistent with a new metastatic lesion. This condition is defined as oligoprogression. Focal radiotherapy (stereotactic body radiation therapy) is a standard and appropriate treatment option for oligoprogression in patients with metastatic cancer, particularly for small lesions, offering high local control with lower toxicity compared to whole-body radiation. <answer>Yes</answer>

no radiology report: [INCORRECT] <unused94>thought The user wants me to determine if focal radiotherapy is appropriate for the patient based on the provided timeline. 1. **Identify the core question:** Is focal radiotherapy appropriate for oligoprogression? 2. **Analyze the patient's history:** **Diagnosis:** Malignant neoplasm of unspecified part of left bronchus or lung (C34.92). **Treatment History:** **Chemotherapy** (calcium carbonate, cholecalciferol) - likely for multiple myeloma, but the timeline doesn't explicitly state this. **Radiotherapy** (implied by the imaging findings and the question). **Surgery** (implied by the imaging findings and the question). **Imaging Findings:** The images show a large, irregular mass in the chest, likely representing the lung cancer. The images also show extensive radiation fields, suggesting radiotherapy was administered. The images also show bilateral hip replacements, indicating prior surgery. **Clinical Status:** The patient has oligoprogression. This means the cancer is stable or has shrunk

[illegible][illegible]

[illegible]