## **Prompt:**

Assuming you are a radiation oncologist, please provide as detailed an analysis as possible of the following lung CT images, including anatomical structures and potential cancerous regions and features. You must give the possible T-Stage and N-Stage from these images.



## GPT-4V:

Here's what I observe from the provided images:

- 1. Anatomical Structures:
  - **Trachea:** Centrally located, allowing for air to flow to the lungs.
  - Mainstem Bronchi: The division of the trachea leading into the left and right lungs.
  - **Heart:** Positioned centrally and slightly to the left.
  - **Aorta:** The main arterial trunk.
  - **Ribs:** Bony framework surrounding the thoracic cavity.
  - **Spine:** Posterior bony structure.
  - **Lungs:** Comprise the right and left lung fields.
- 2. **Observations**:
  - Opacity in the Right Lung: There appears to be an opacity or lesion in the right lung. This is evident in multiple slices, which means it has a certain depth.
  - **Lymph Nodes**: I can't discern specific lymph nodes in these images, but enlarged lymph nodes could be a consideration for N-Stage evaluation.
  - Other Structures: The images also show the diaphragm, vessels, and some mediastinal structures, but I'm focusing on the potential pathology.
- 3. **Potential T-Stage**: Based on the TNM system for staging lung cancer: **T1**: Tumor is in the lung only and is 3 cm or smaller. **T2**: Tumor is larger than 3 cm or it involves the main bronchus, but not the carina, or it invades the visceral pleura, or it causes partial lung atelectasis or pneumonitis. **T3**: Tumor has any of the following features: It is larger than 7 cm, it invades the chest wall, diaphragm, phrenic nerve, mediastinal pleura, or parietal pericardium, etc. **T4**: Tumor invades any of the following: Mediastinum, heart, great vessels, trachea, recurrent laryngeal nerve, esophagus, vertebral body, etc.

The opacity in the right lung, if assumed to be a tumor, would need measurements for accurate staging. From the images alone, it seems larger than 3 cm but without exact measurements and additional information, it's challenging to definitively assign a T-Stage.

4. **Potential N-Stage**: **N0**: No lymph nodes involved. **N1**: Lymph nodes within the lung or around the bronchus of the same lung are involved. **N2**: Lymph nodes around the carina or between the lungs are involved. **N3**: Lymph nodes farther away, such as above the collarbone or on the opposite side of the chest, are involved.

Without clear visualization of the lymph nodes and their potential involvement, it's difficult to assign an N-Stage



Reference answer:

Γ-Stage is 4. N-Stage is