

# Tracheal Bronchus

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## Chief complaint

Status epilepticus and abnormal lung sounds after intubation

## HPI

A 47 year-old-male with a past medical history of chronic alcoholism and possible seizure disorder presented to the Emergency Department (ED) via ambulance for a grand mal seizure witnessed by a bystander. It was reported that he had been having multiple episodes of seizures preceding this event. While in the ED, the patient continued to be altered and suffered multiple subsequent seizures. The patient was intubated for airway protection. A chest radiograph was taken before and after intubation. The patient had normal lung sounds before intubation and absent lung sounds in the right upper lobe afterwards.

## Initial Physical Exam:

VITALS: BP: 116/75, Pulse: 104, Temp: 101, RR: 16, SpO2: 100% on room air

GENERAL: Patient was nonresponsive and post-ictal. No distress

NEURO: Altered, unresponsive, nonverbal with minimal moans and eye opening to noxious stimuli, withdrawal noted in all extremities.

RESPIRATORY: Breath sounds clear and equal bilaterally, no respiratory distress

## Physical exam after intubation

VITALS: BP: 119/76, Pulse: 105, Temp: 98.3, RR: 16, SpO2: 100% on 100 percent FiO2

GENERAL: Patient intubated and sedated

RESPIRATORY: absent breath sounds right upper lung

## Physical exam after endotracheal tube retracted two cm

RESPIRATORY: Clear and equal lungs sounds throughout

## Pertinent radiology

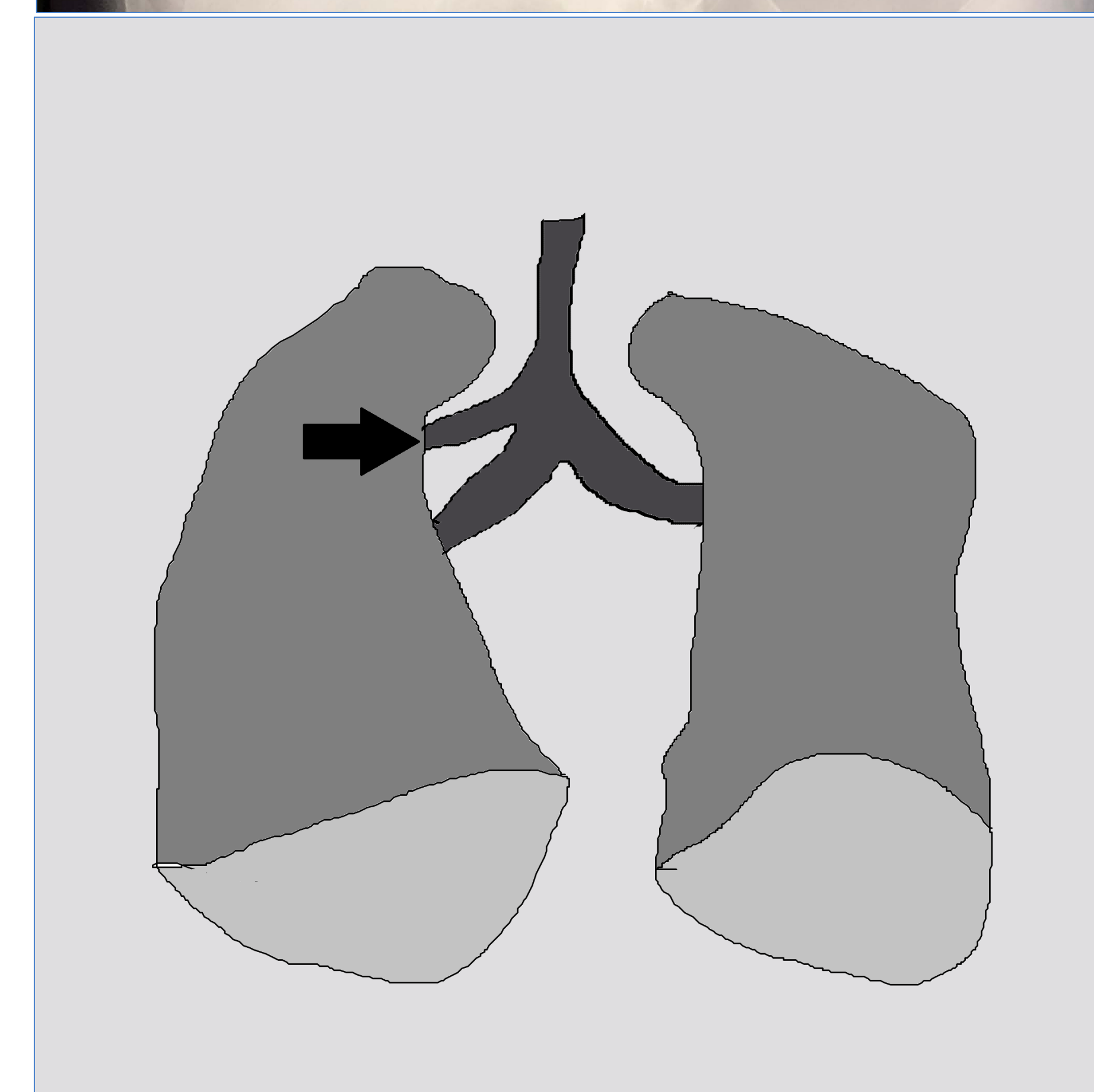
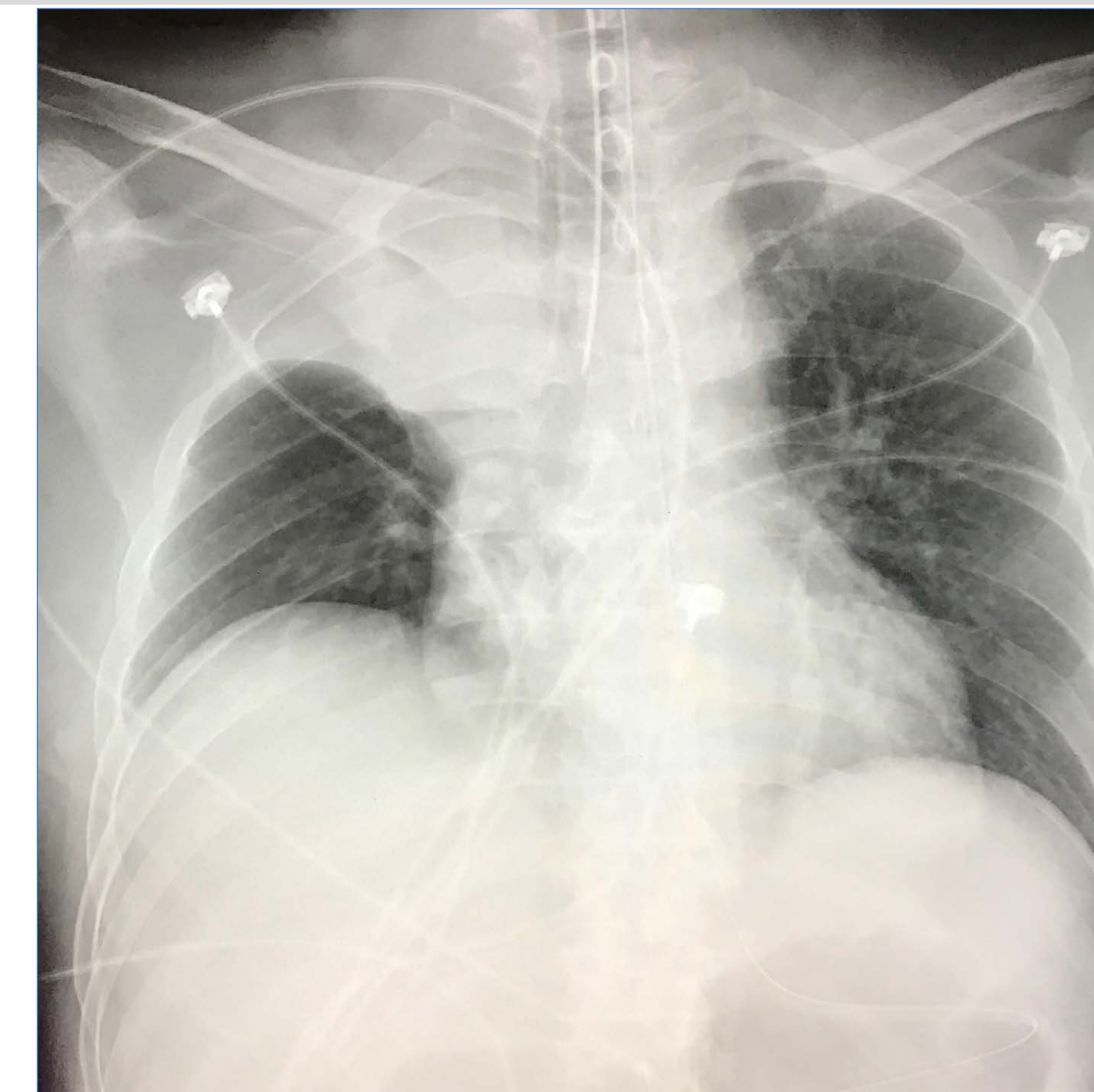
Initial Chest radiograph showed no acute disease. Post-intubation chest radiograph demonstrated right upper lobe consolidation with volume loss. This was not present on the initial film. Tip of the endotracheal tube was 10 mm above the carina. Chest radiograph after endotracheal tube retracted two cm showed partial resolution of the right upper lobe consolidation.

## Questions:

1. What etiologies can explain this post-intubation radiographic finding?
2. What kind of lung sounds or physical exam findings would you expect with this abnormal chest radiograph?

## Answers:

1. Aspiration or anatomical abnormality such as tracheal bronchus.
2. Increased fremitus on the side with consolidation, dullness to percussion, absent breath sounds or crackles, or increased vocal resonance.



## Case Discussion

It is generally important to repeat radiographs after certain procedures, especially with intubation. In our case, the patient was found to have an anatomical variant called a tracheal bronchus. In 0.1 to 5% of the population there is a right superior lobe bronchus arising directly from the trachea proximal to the carina.

It can have multiple variations and, although usually asymptomatic, it can be the root cause of emphysema, atelectasis, hemoptysis and persistent or recurrent pneumonia.

Computed tomography is the best modality for assessing the anatomy and allows direct visualization and orientation of the anomalous bronchus.

It is important for physicians whom perform advanced airway management to be knowledgeable about this anatomical variant, so that prompt recognition can prevent delays in diagnosis and management in the acute care setting.

## Pearls

1. Significant change in lung sounds after intubation can alert us to complications and if lungs sound are abnormal in the Right upper lobe it could be due to a tracheal bronchus.
2. Knowledge of anatomical variations and complications of procedures can allow for quick identification, management and improved outcomes.

## References

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