

# AMSER Case of the Month

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“55yo male presenting for  
esophageal cancer restaging”

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# Patient Presentation

A 55 yo male with PMH significant for recurrent signet ring cell adenocarcinoma of the gastroesophageal junction presents for tumor restaging. Patient is undergoing downstaging for possible further resection of esophageal tumor. He was recently admitted for oxaliplatin-induced hypersensitivity and has felt well since discharge without any adverse symptoms.

PMHx - signet ring cell adenocarcinoma of gastro-esophageal junction,  
hypertension

Surg Hx - esophagogastrectomy, Roux en Y esophagojejunostomy, splenectomy

Social Hx - never smoker

What Imaging Should We Order?

# Select the applicable ACR Appropriateness Criteria

**Variant 4:** Esophageal cancer. Posttreatment imaging. Suspected or known recurrence.

Procedure	Appropriateness Category	Relative Radiation Level
CT chest and abdomen with IV contrast	Usually Appropriate	⊕⊕⊕⊕
FDG-PET/CT skull base to mid-thigh	Usually Appropriate	⊕⊕⊕⊕
CT chest abdomen pelvis with IV contrast	May Be Appropriate (Disagreement)	⊕⊕⊕⊕
Radiography chest	Usually Not Appropriate	⊕
Fluoroscopy upper GI series	Usually Not Appropriate	⊕⊕⊕
MRI chest and abdomen without and with IV contrast	Usually Not Appropriate	○
MRI chest and abdomen without IV contrast	Usually Not Appropriate	○
MRI head without and with IV contrast	Usually Not Appropriate	○
MRI head without IV contrast	Usually Not Appropriate	○
FDG-PET/MRI skull base to mid-thigh	Usually Not Appropriate	⊕⊕⊕
CT chest abdomen pelvis without and with IV contrast	Usually Not Appropriate	⊕⊕⊕⊕
CT chest abdomen pelvis without IV contrast	Usually Not Appropriate	⊕⊕⊕⊕
CT chest and abdomen without and with IV contrast	Usually Not Appropriate	⊕⊕⊕⊕
CT chest and abdomen without IV contrast	Usually Not Appropriate	⊕⊕⊕⊕

This imaging modality was ordered by the oncologist.



# Findings

- There is persistent eccentric mural thickening of the distal esophagus which has not significantly changed, corresponding to known local recurrence.

# Findings (unlabeled)

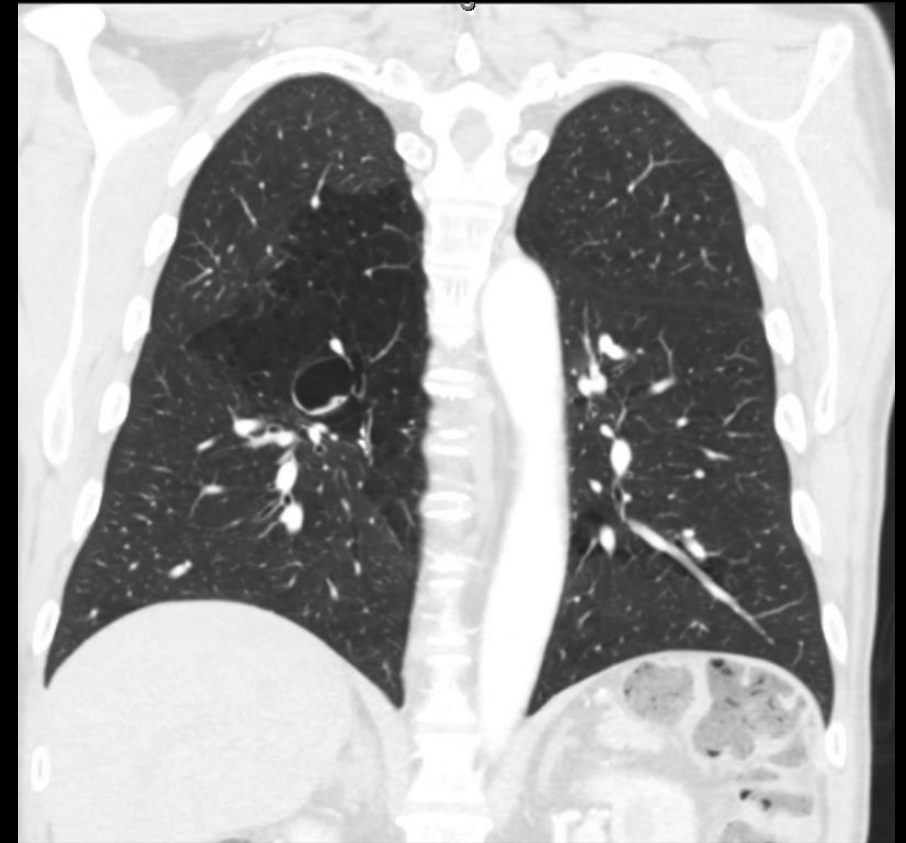
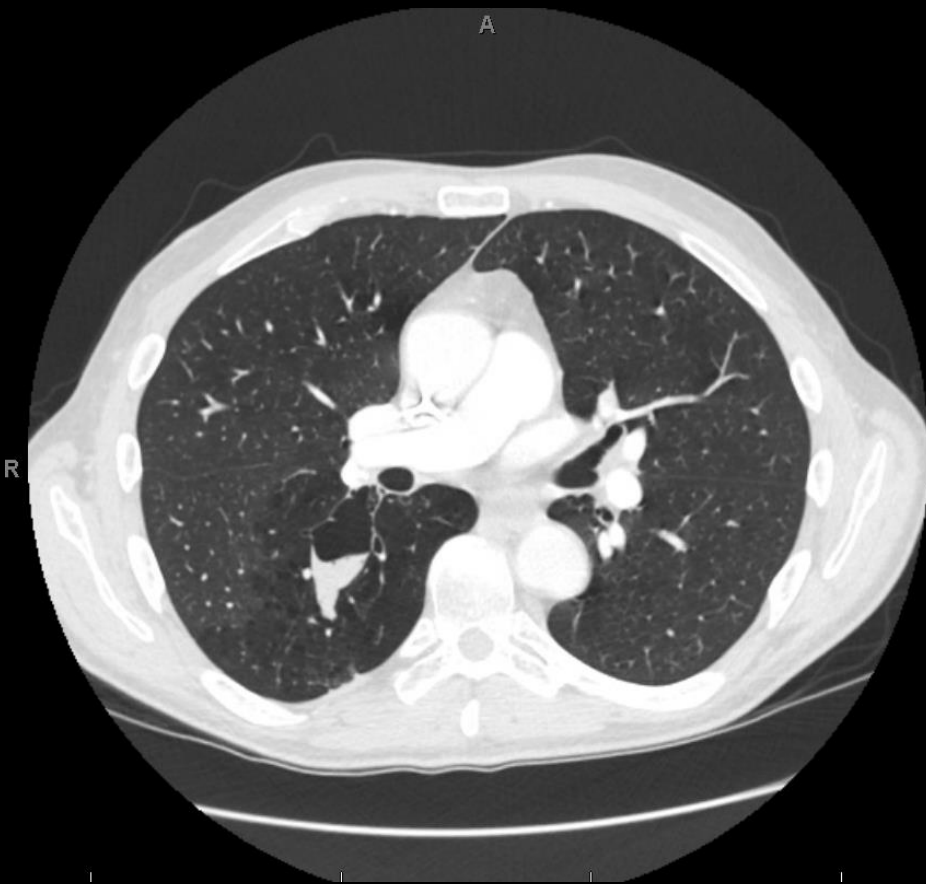


# Findings (unlabeled)



**Eccentric mural thickening  
of distal esophagus**

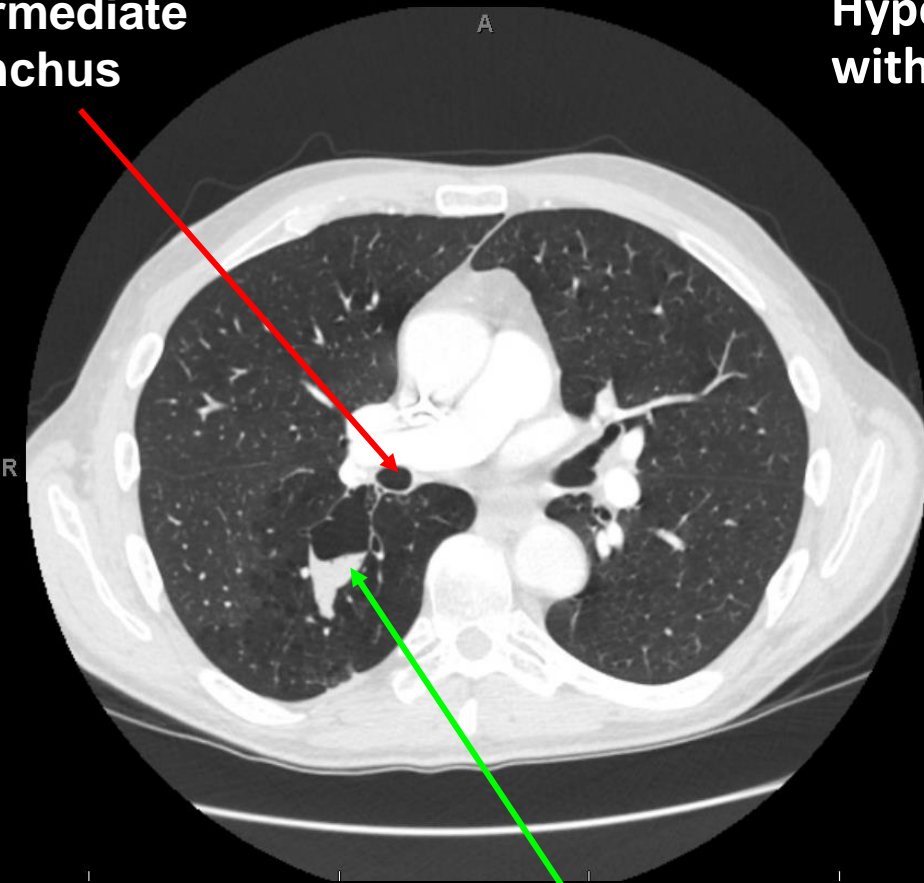
# Findings (unlabeled)



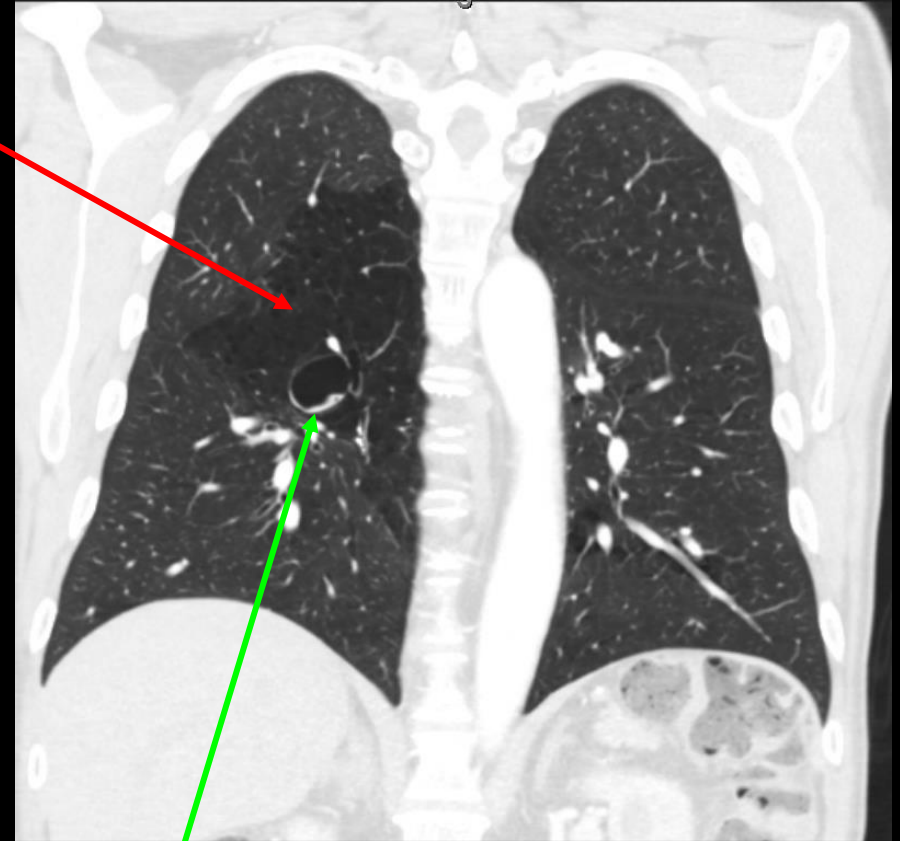


# Findings (labeled)

Intermediate  
bronchus

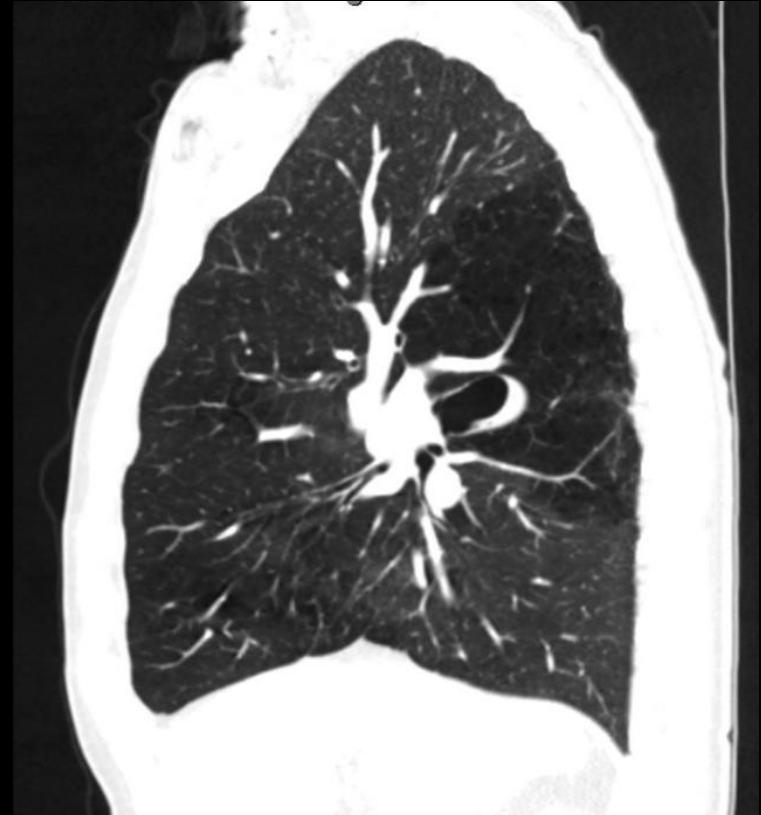


Hyperlucency of RLL  
with hyperinflation



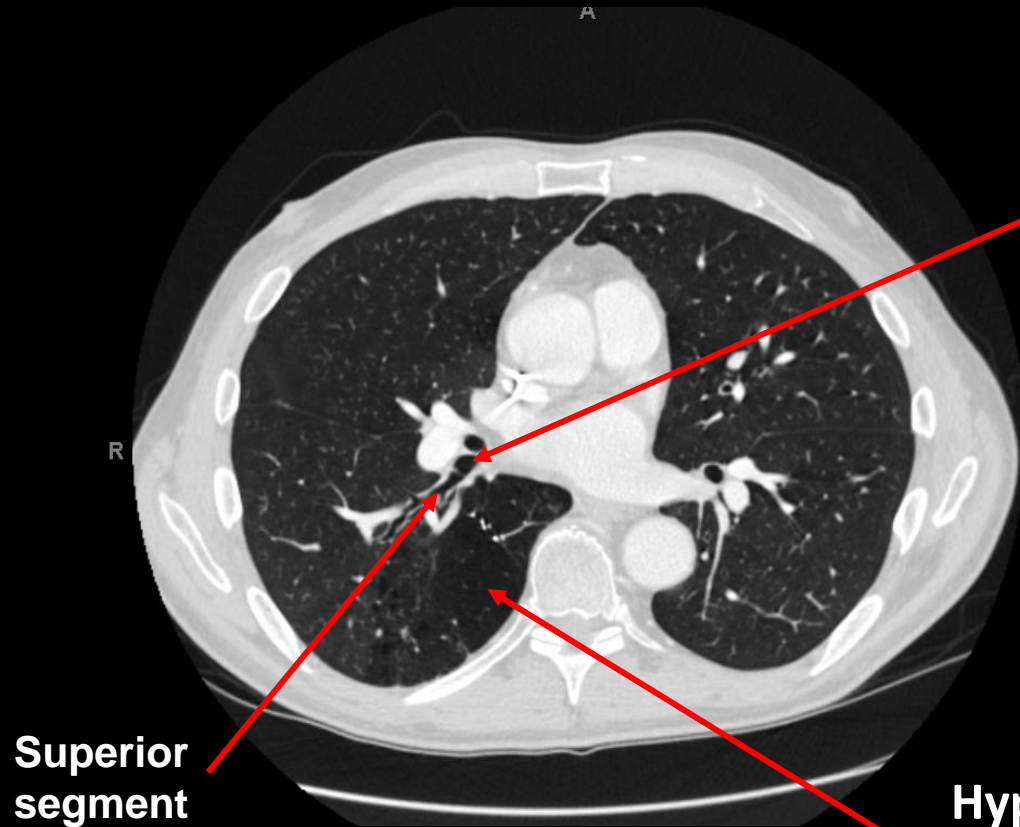
Tubular air-filled structure with dependent  
secretions and surrounding lucency

# Findings (unlabeled)



# Findings (labeled)

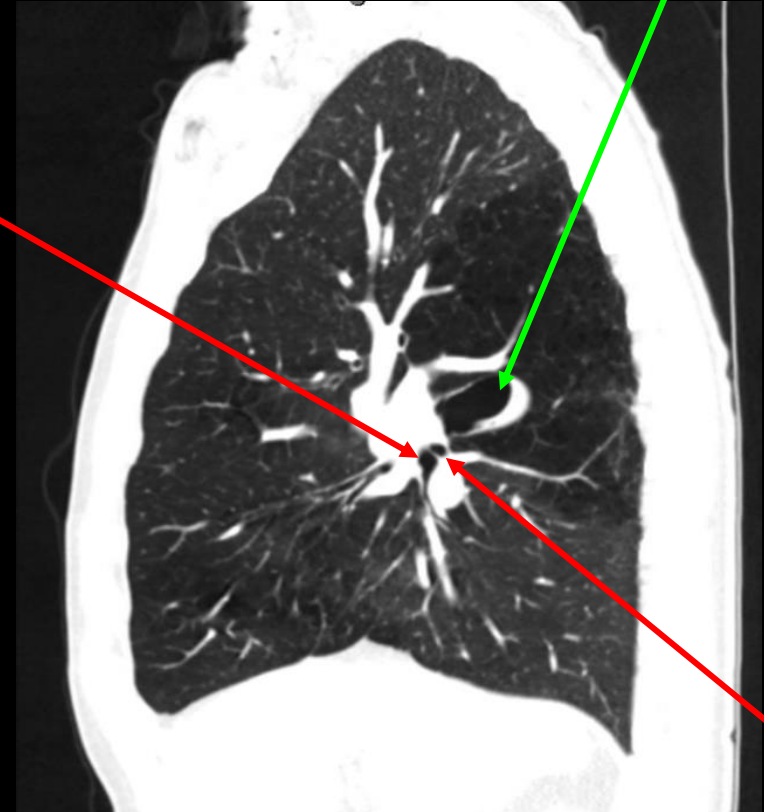
Tubular air-filled structure is adjacent to segmental lower lobe bronchi, however, direct communication is difficult to demonstrate.



Superior segment bronchus

RLL bronchus

Hyperlucency of superior segment RLL with hyperinflation



Superior segment bronchus

# Findings (unlabeled)

MIP

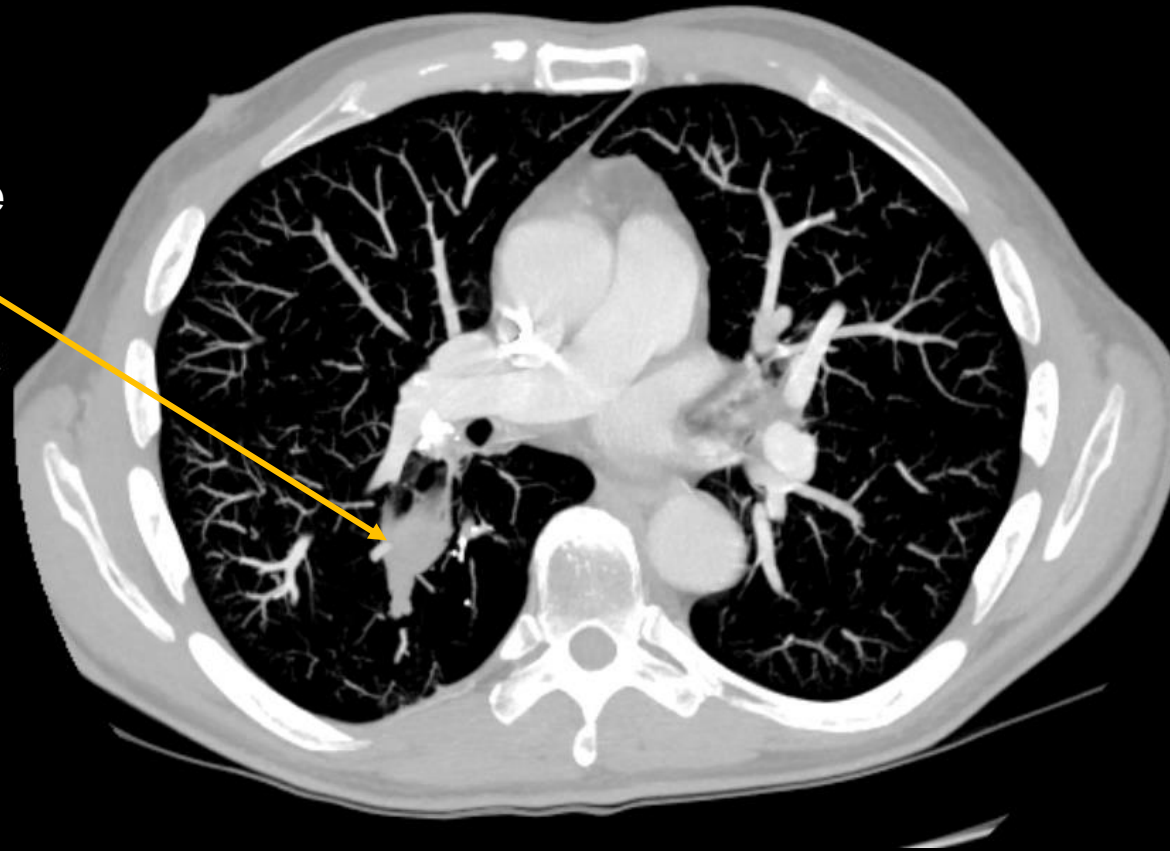


# Findings (labeled)

**MIP**

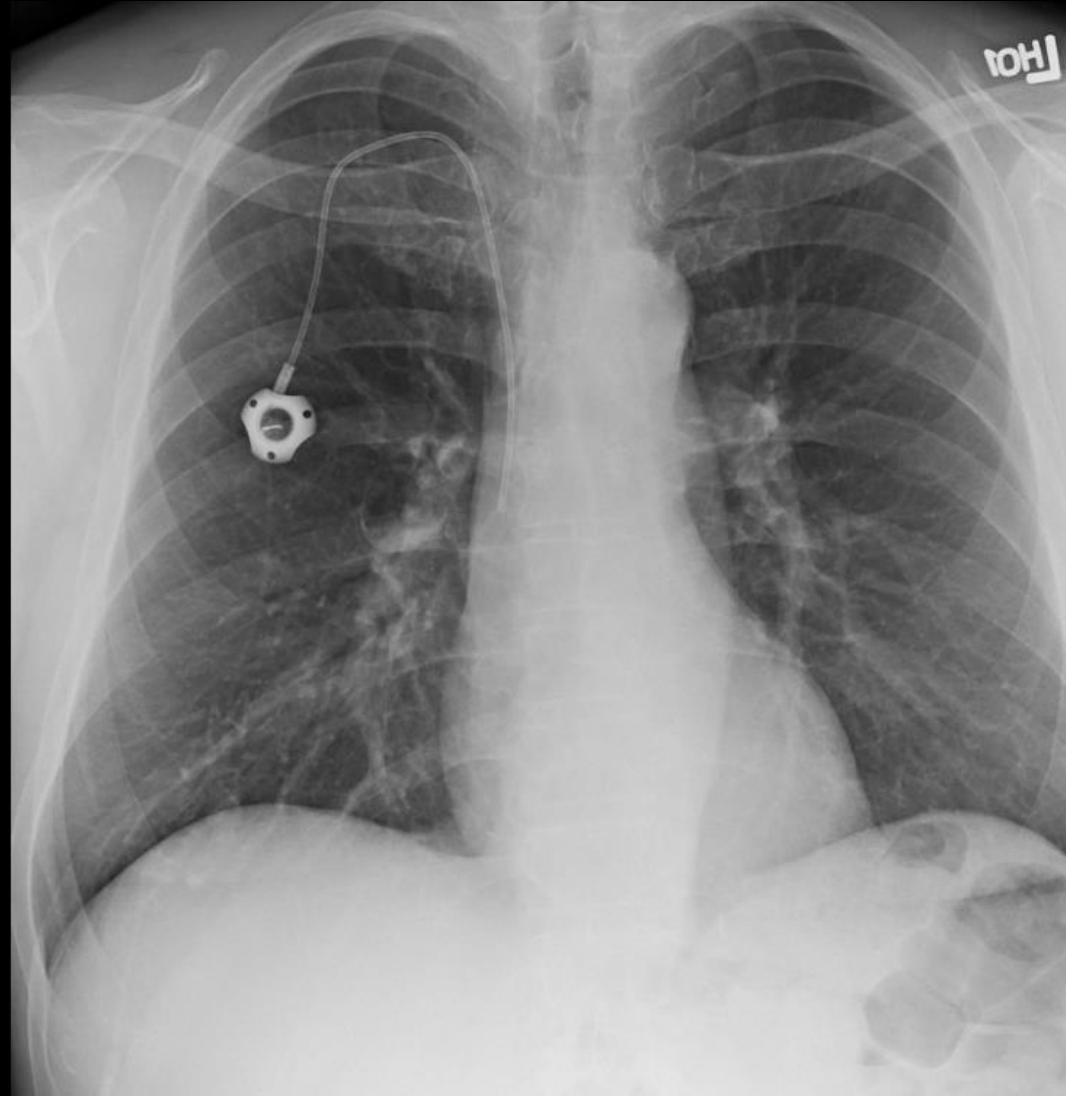
**Dilated air-filled structure  
demonstrating likely  
mucoid impaction**

R



# Findings (unlabeled)

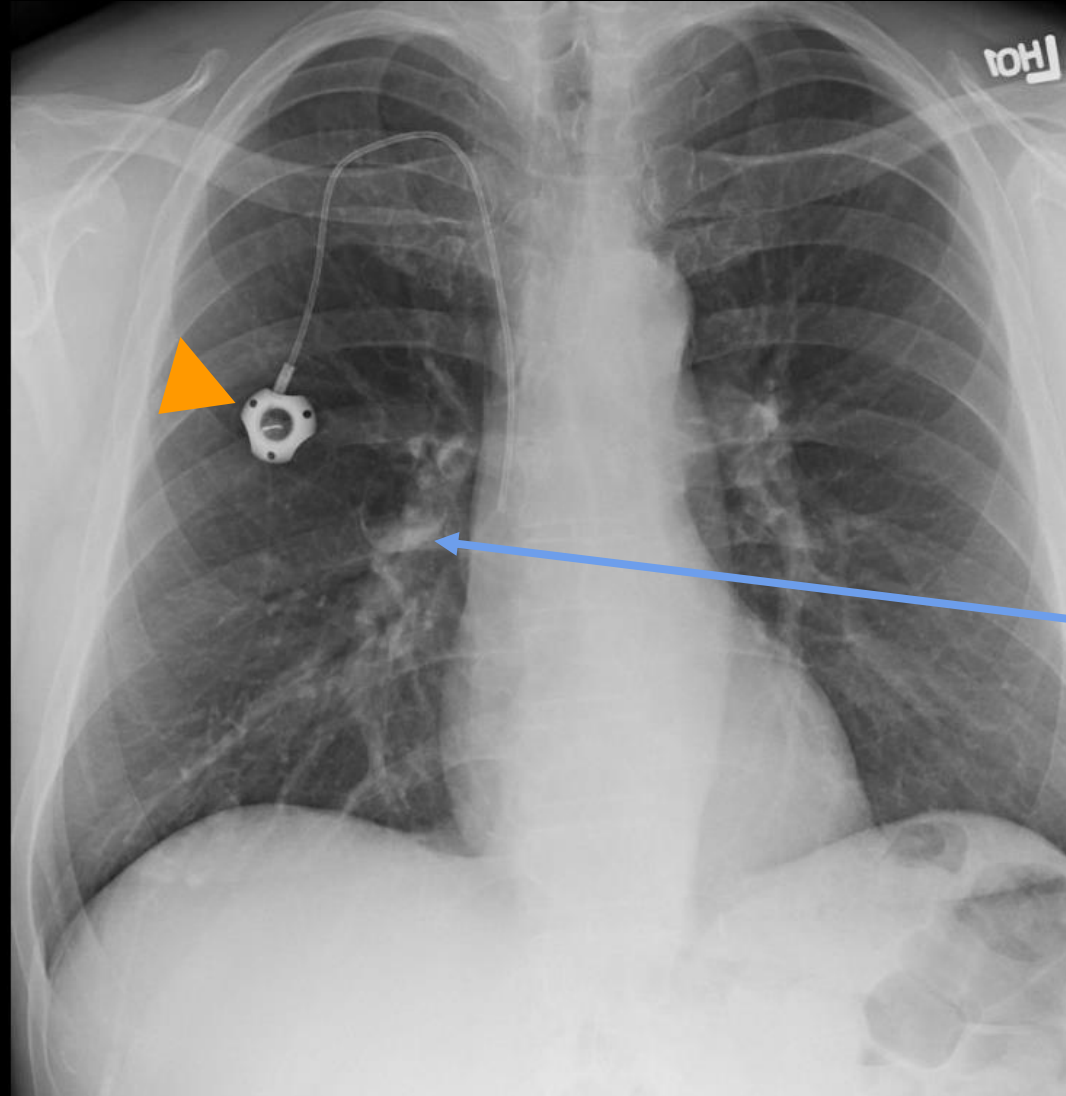
Prior CXR



# Findings (labeled)

## Prior CXR

Medport in  
right chest wall  
with catheter tip  
in lower SVC



Right hilar  
ovoid opacity filled  
with air and fluid

Final Dx:

Bronchial Atresia



# Differential

- Congenital lobar overinflation
- Congenital pulmonary airway malformation
- Allergic bronchopulmonary aspergillosis
- Bronchogenic cyst
- Pulmonary sequestration
- Endobronchial tumor

# Case Discussion

- Bronchial atresia is a congenital anomaly involving focal obliteration of the proximal segment of a bronchus with associated peripheral mucus impaction and hyperinflation of the distal lung segment
  - Atresia may occur due to developmental abnormality or traumatic injury during fetal development
- Incidence and Location
  - Rare finding, estimated 1 in 100,000 births
    - More common in males and most often diagnosed in second or third decade of life
  - Most often occurs in LUL, followed by RUL, RML, and RLL
    - Typically occurs at segmental or subsegmental level

# Case Discussion

- Diagnosis and Imaging Features
  - CT - standard for diagnosis
    - Atretic bronchus with mucus plugging may form **bronchocele** or **mucocele** with characteristic “finger-in-glove” appearance
    - Distal lung parenchyma appears hyperlucent due to oligemia and hyperinflation with air entering through pores of Kohn
  - Plain radiograph - often incidental finding
    - Focal ovoid or tubular opacity radiating from the hilum, associated with a distal area of hyperlucent lung parenchyma

# Case Discussion

- Clinical Features and Complications
  - Incidental finding, asymptomatic in up to 60% of patients
  - May be associated with shortness of breath, wheezing, cough, fever
- Complications
  - Associated with recurrent infection in up to 20% of patients
  - Also reported to be associated with spontaneous pneumothorax
- Treatment
  - No intervention required if asymptomatic
  - In rare cases, segmental resection due to recurrent infection or to rule out malignancy

# References

1. Wang Y, Dai W, Sun Y, Chu X, Yang B, Zhao M. (2012). Congenital bronchial atresia: diagnosis and treatment. *International Journal of Medical Sciences*, 9(3), 207–212. <https://doi.org/10.7150/ijms.3690>
2. Kinsella D, Sissons G, Williams MP. (1992). The radiological imaging of bronchial atresia. *The British Journal of Radiology*, 65(776), 681–685. <https://doi.org/10.1259/0007-1285-65-776-681>
3. Gipson MG, Cummings KW, Hurth KM. (2009). Bronchial atresia. *Radiographics*, 29(5), 1531–1535. <https://doi.org/10.1148/rg.295085239>
4. Mahajan AK, Rahimi R, Vanderlaan P, Folch E, Gangadharan S. (2017). Unique approach to diagnosing and treating congenital bronchial atresia (CBA): a case series. *Journal of Pulmonary and Respiratory Medicine*, 7(2), 1000402. <https://doi.org/10.4172/2161-105X.1000402>
5. Samejima H, Ose N, Nagata H, Funaki S, Shintani Y. (2023). Thoracoscopic sublobar resection for congenital bronchial atresia in adults: a report of three cases. *General Thoracic and Cardiovascular Surgery Cases*, 2(1), 92. <https://doi.org/10.1186/s44215-023-00118-2>