

AMSER Case of the Month: July 2018

67 y/o male presenting with dyspnea,
hemoptysis, and weight loss

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Patient Presentation

- 67 year-old male
- 1 day of significant dyspnea
- 1 month of sporadic hemoptysis
- 6 months of unintentional weight loss, dyspnea, and cough
- PMH: hypertension, hyperlipidemia
- PSH: 40 pack year history, ~15 drinks per week, Vietnam veteran
- Fam Hx: Mother: Diabetes; Father: Testicular Cancer
- Medications: Simvastatin, Lisinopril, Hydrochlorothiazide
- Allergies: Penicillin (Rash)

Pertinent Labs

- WBC: 11,000/ μ L
- Hgb: 12 g/dL
- Hct: 40%
- AST: 70 units/L
- ALT: 100 units/L
- Alk Phos: 110 units/L
- T. Bili: 2.1 mg/dL

What Imaging Should We Order?

ACR Appropriateness Criteria

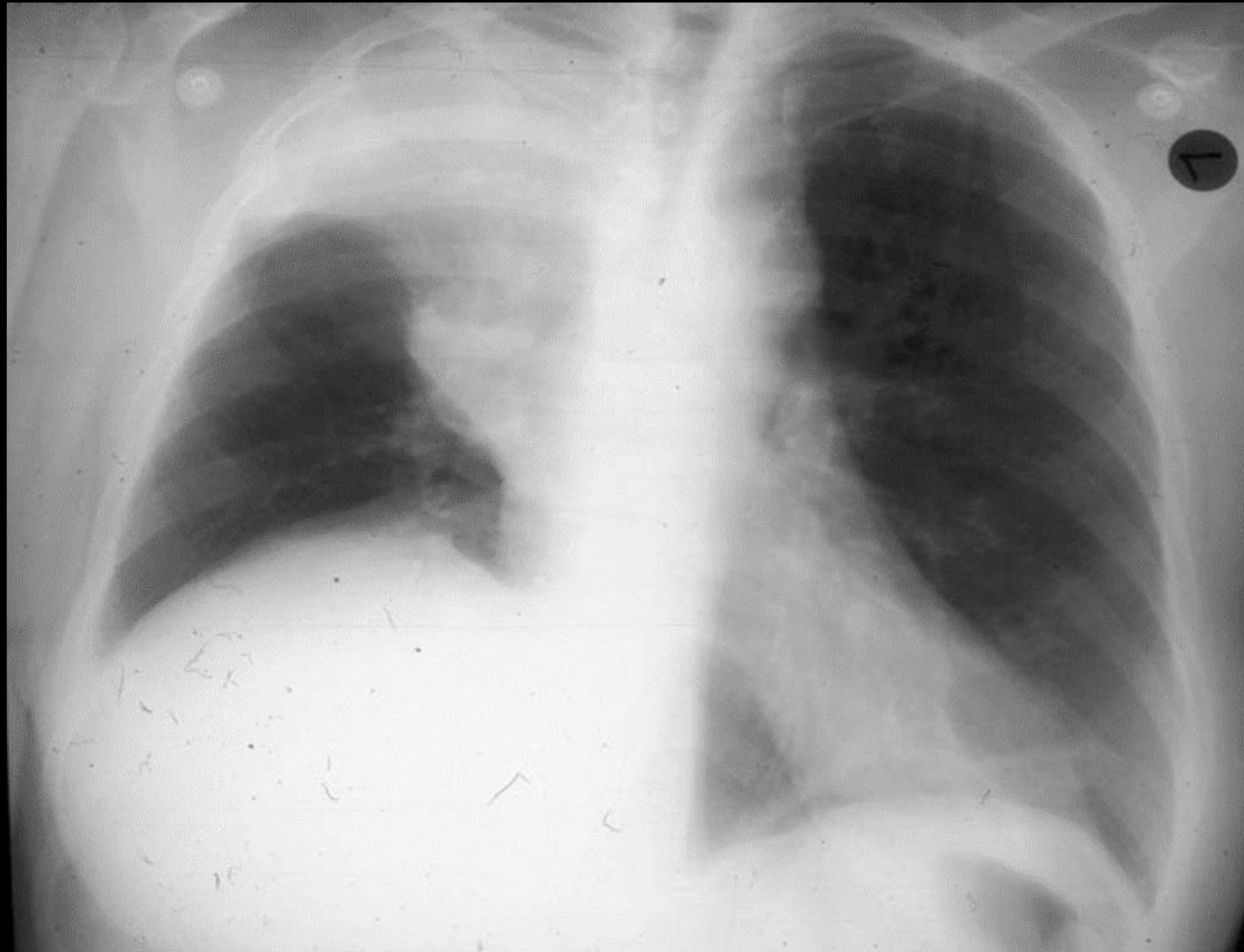
Variant 2: Persistent/recurrent hemoptysis (<30 cc) and one risk factor (>40 years old, >30 pack-year history).

Radiologic Procedure	Rating	Comments	RRL*
X-ray chest	9		☼
CTA chest with IV contrast	8		☼☼☼
CT chest without IV contrast	6	Consider this procedure if there is a contraindication to iodinated contrast.	☼☼☼
Arteriography pulmonary	2		☼☼☼☼
Rating Scale: 1,2,3 = Usually not appropriate; 4,5,6 = May be appropriate; 7,8,9 = Usually appropriate			*Relative Radiation Level

This imaging modality was ordered by the ER physician

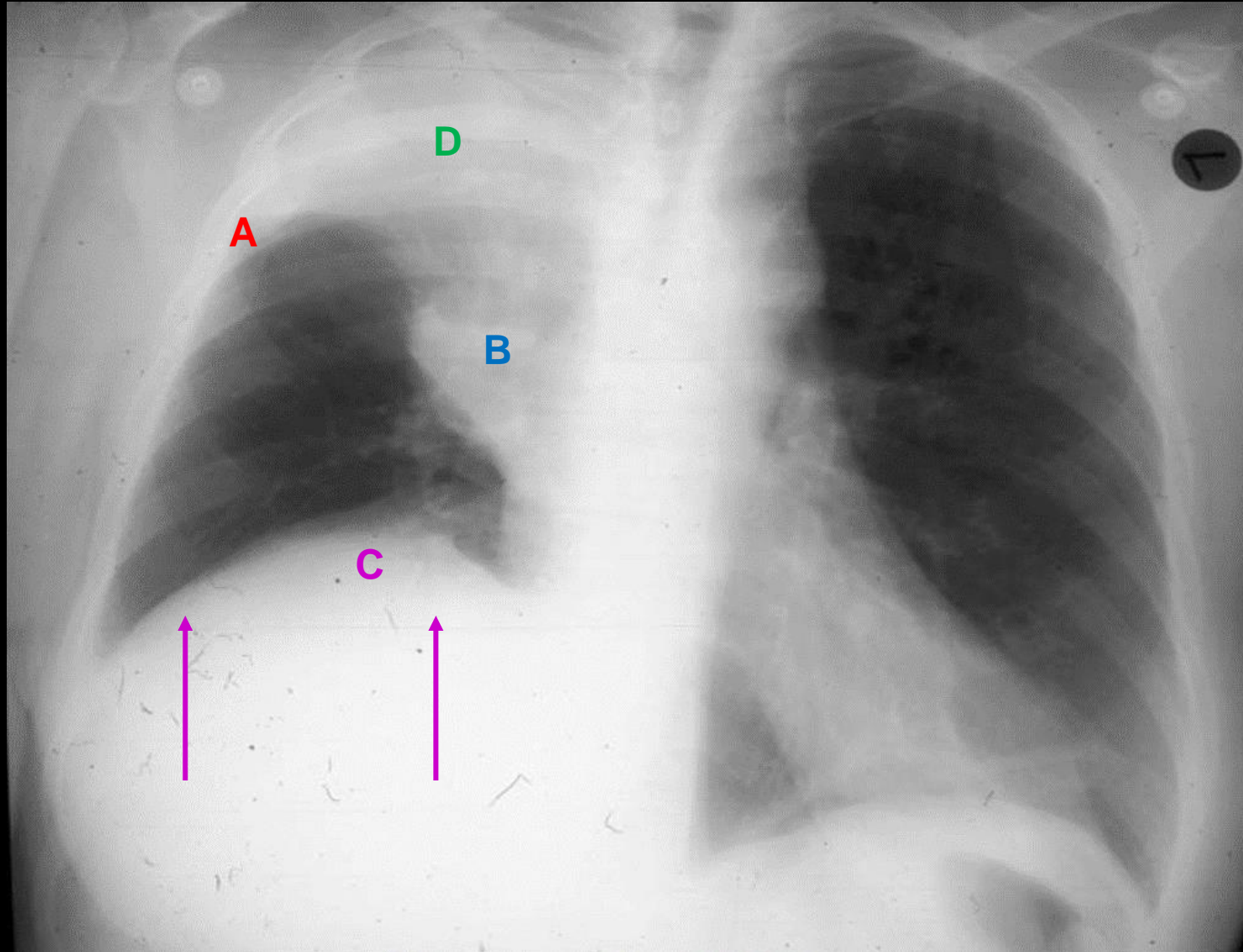


Findings (unlabeled)



Findings: (labeled)

- A:** S-sign of Golden
- B:** Lung Mass
- C:** Elevated right hemidiaphragm
- D:** Right upper lobe atelectasis



Final Dx:

Right Upper Lobe Lung Mass with
Associated Post-obstructive Atelectasis

“S” Sign of Golden

- Noted first by R. Golden in 1925.
 - Proposed that medial convex border from bronchial pus and secretions
- Reverse ‘S’ Sign – represents displacement of the minor fissure with atelectasis of the right upper lobe.
- Anatomy of the Right Upper Lobe
 - Anterior to major fissure
 - Superior to minor fissure
- Changes to anatomy with atelectasis
 - Displacement of major/minor fissure
 - Shift of mediastinal structures
 - Increased opacity of collapsed lung
 - Elevation of the hemidiaphragm

“S” Sign of Golden

- Cause: central mass leading to post-obstructive atelectasis
 - Bronchogenic carcinomas
 - Small Cell Carcinoma
 - Non-Small Cell Carcinoma

References:

1. Golden R. The effect of bronchostenosis upon the roentgen ray shadow in carcinoma of the bronchus. AJR Am J Roentgenol 1925; 13:21.
2. Gupta P. The Golden S Sign. Radiology 2004; 233: 790-791.
3. Reinig J; Ross P. Computed Tomography Appearance of Golden "S" Sign. Journal of Computed Tomography 1984; 8: 219-223.
4. Bunkar ML; Takhar R; Arya S; Biwas R. Golden 'S' Sign. BMJ Case Rep 2014.