

AMSER Case of the Month

August 2024

84-year-old male with abdominal bloating and nausea

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Patient Presentation

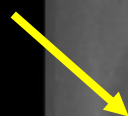
- Patient initially presented to an outside hospital with fatigue, shortness of breath, and constipation. He subsequently developed A-fib with RVR and was transferred for higher level of care
 - Upon transfer, patient was hypotensive and jaundiced with severe abdominal distension
 - After further workup, patient was found to have hemolytic anemia secondary to babesia infection and was treated with atovaquone and azithromycin
 - Patient continued to experience constipation and progressive abdominal distension
 - PMHx: Gout; hypertension, hyperlipidemia, hypothyroidism, hemochromatosis, and recent Lyme disease
- **Labs:**
 - Na 140
 - K 2.7
 - Cl 117
 - Ca 6.1
 - Phos 2.1
 - **Abdominal Plain film was ordered to evaluate abdominal distension**

Abdominal Radiograph (unlabeled)



Abdominal Radiograph (labeled)

Dilation of the cecum measuring 10cm



Dilation of the entire large intestine with sparing of the small bowel

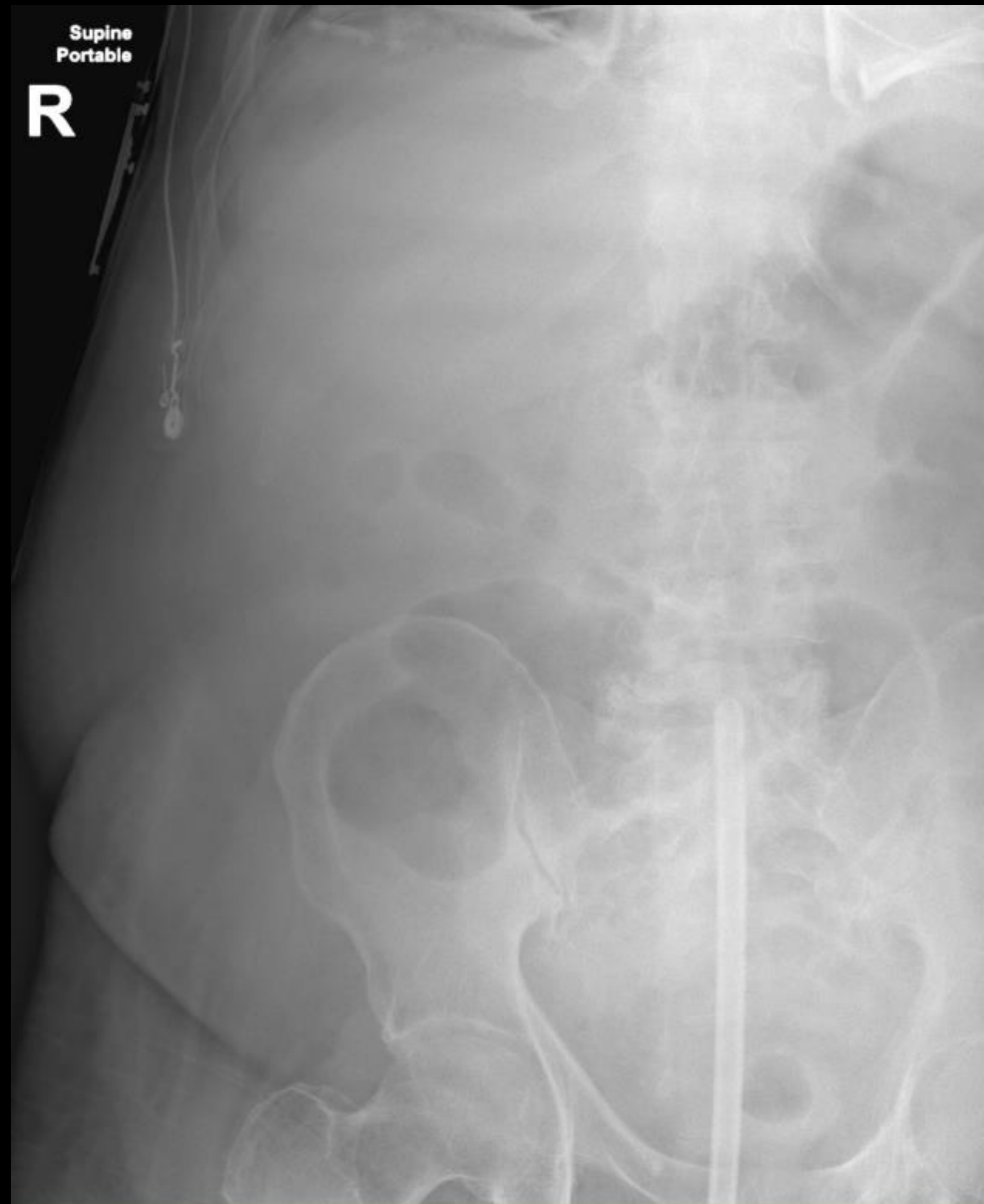


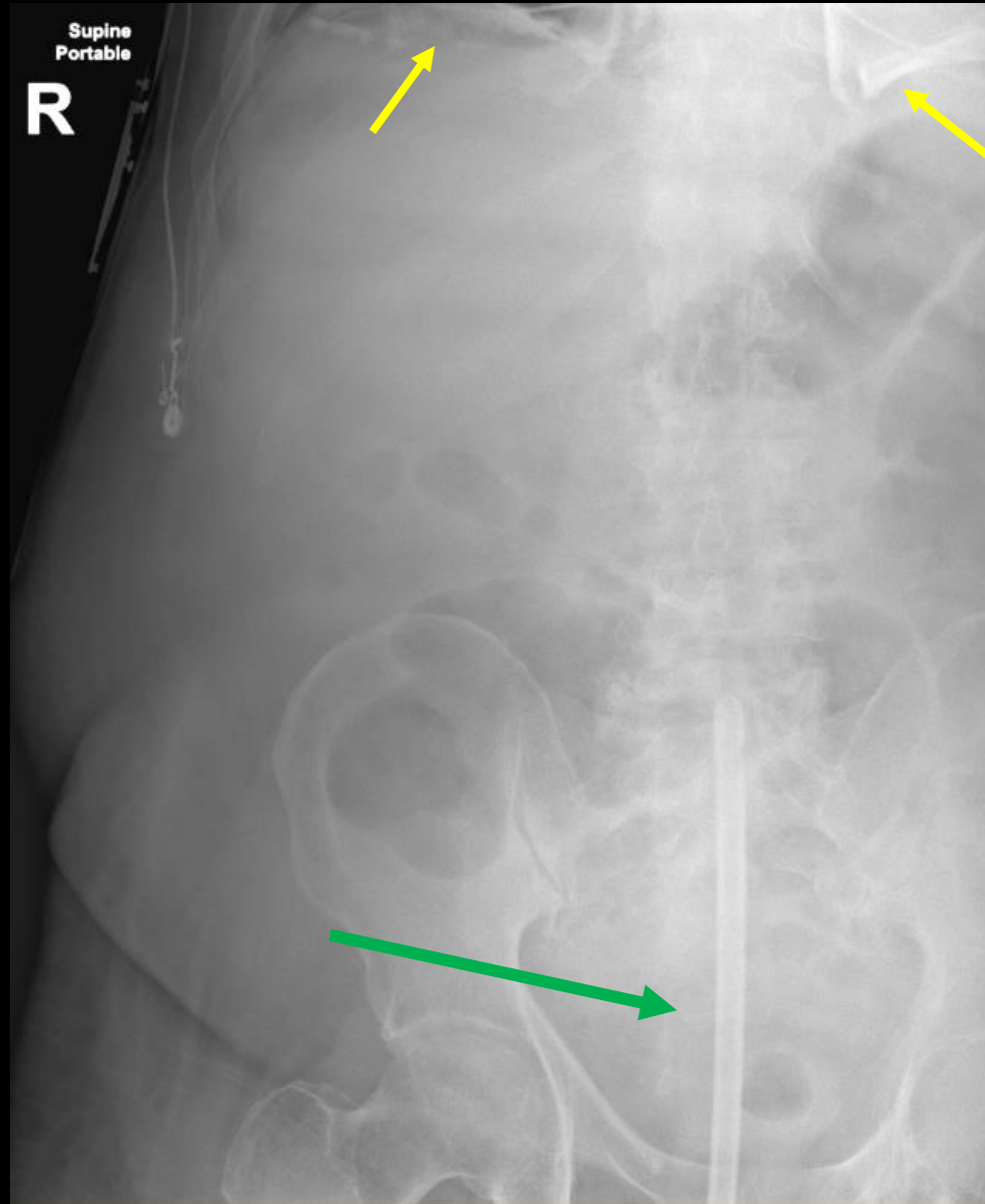
Portable
R
Supine

Clinical Course

- Abdominal Plain film was consistent with colonic **Pseudo-obstruction (Ogilvie Syndrome)** and rectal tube was placed for decompression
- Abdominal Plain film was ordered for follow-up and evaluation of rectal tube placement

Abdominal Radiograph (unlabeled)





However...opacities
located on the
diaphragmatic pleura

- Reduction in colonic distension
- Rectal tube in proper location

What Additional Imaging Should We Order?

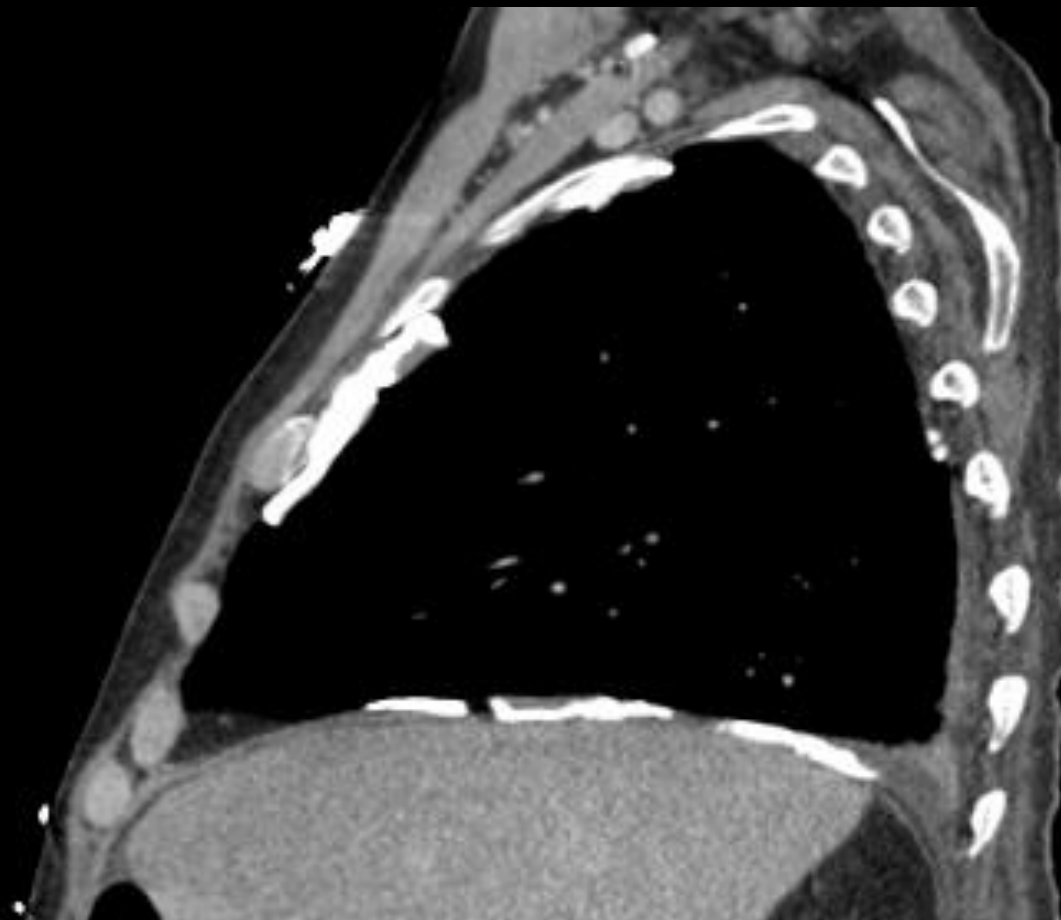
Select the applicable ACR Appropriateness Criteria

Variant 3: Occupational exposure, suspected interstitial lung disease based on radiography. Next imaging study.

Procedure	Appropriateness Category	Relative Radiation Level
CT chest without IV contrast	Usually Appropriate	☼☼☼
MRI chest without and with IV contrast	Usually Not Appropriate	○
MRI chest without IV contrast	Usually Not Appropriate	○
CT chest with IV contrast	Usually Not Appropriate	☼☼☼
CT chest without and with IV contrast	Usually Not Appropriate	☼☼☼
FDG-PET/CT skull base to mid-thigh	Usually Not Appropriate	☼☼☼☼
Image-guided transthoracic needle biopsy	Usually Not Appropriate	Varies

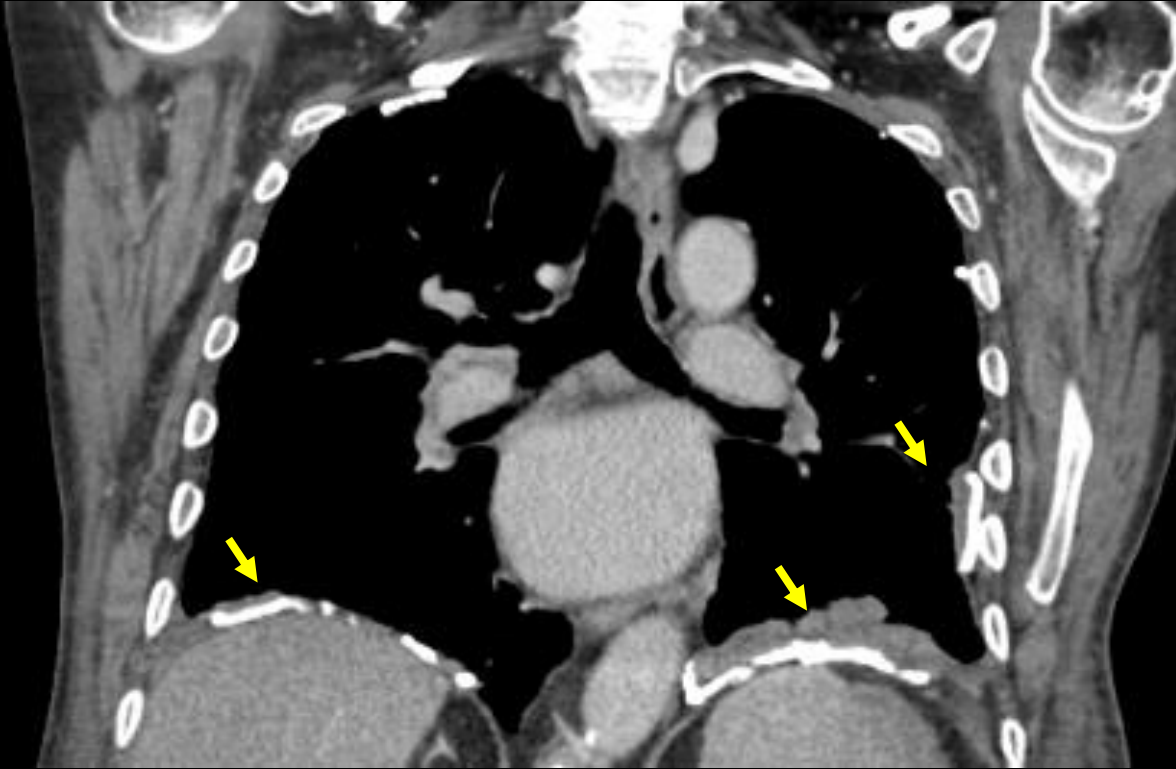
This imaging modality was ordered because patient was demonstrating signs of PE while hospitalized

Findings (unlabeled)



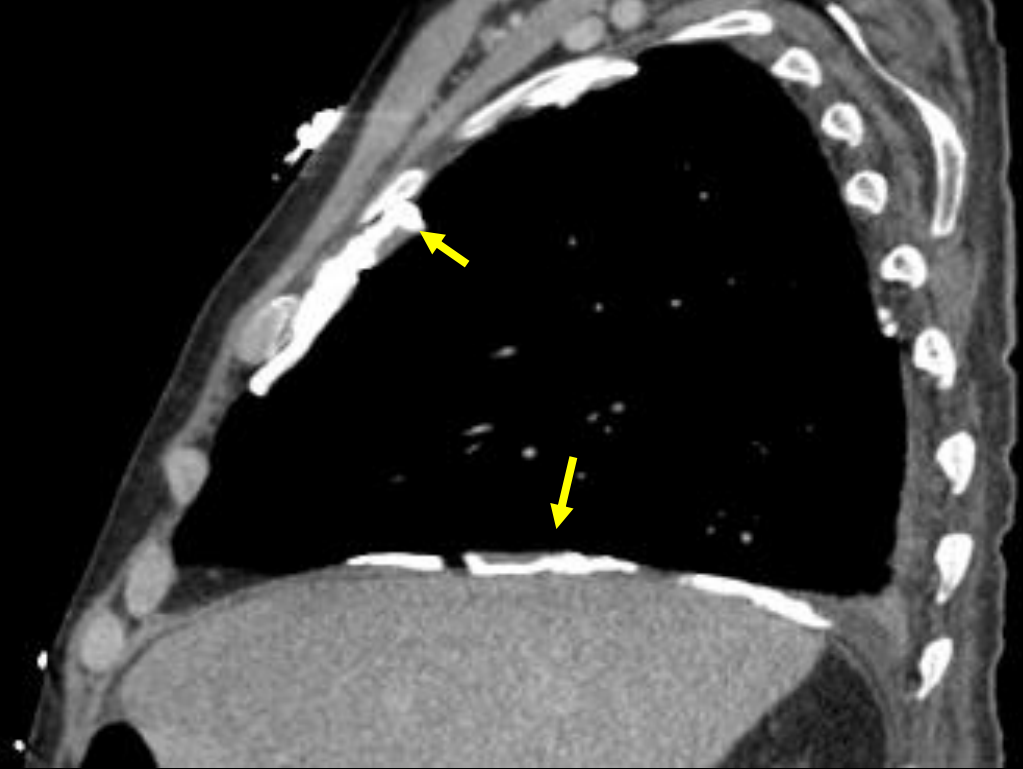
Findings (labeled)

Coronal CT with Contrast



Bilateral Calcified pleural plaques with minor pleural effusions involving the diaphragmatic pleura and left costal margin

Sagittal CT with Contrast



Calcified pleural plaques involving the right diaphragmatic and anterior right costal margin

Final Dx:

Bilateral Pleural Calcifications with effusion

Case Discussion

- Differential for pleural calcifications
 - Calcified pleural plaques from asbestos exposure
 - Hemothorax
 - Pyothorax/Empyema
 - TB Pleuritis
 - Extra-skeletal Osteosarcoma of pleura (very rare)
 - Previous radiation therapy
- Given radiological findings the patient most likely has **calcified pleural plaques from previous asbestos exposure**
 - Predominant involvement of diaphragmatic parietal pleura with sparing of apices and costophrenic angles

Case Discussion

- Epidemiology
 - Previous exposure to asbestos fibers used in building materials and heavy industry predisposes patients to asbestos-related diseases for up to several decades following exposure
- Types of asbestos related diseases
 - Benign
 - Asbestos-related exudative pleural effusions
 - Pleural plaques (calcification present in 5-15% of cases)
 - Asbestos-related diffuse pleural thickening
 - Asbestosis (A form of restrictive pulmonary fibrosis)
 - Malignant
 - Bronchogenic carcinoma (most common)
 - Mesothelioma (calcification present in 20% of cases)
- Further work-up and treatment
 - **High resolution CT to further evaluate pleura and lung parenchyma**
 - Thoracentesis to evaluate pleural effusions

Case Discussion

- Incidental findings are a common occurrence on radiological studies, appearing in over 10% of reports
 - These findings can be of a benign or malignant etiology
 - Around 65% of these findings are actionable
 - The ACR defines an actionable incidental finding as a mass or lesion on imaging of the head, neck, chest, abdomen, or pelvis not related to the reason for imaging that represents a finding for which non-emergent follow-up is recommended

References:

- Makeeva V, Schofield K, Davis M, Kadom N Managing Incidental Findings Appl Radiol. 2021;50(6):22-26
- Gaillard F, Anan R, Niknejad M, et al. Pleural plaque. Reference article, Radiopaedia.org (Accessed on 23 Jul 2024) <https://doi.org/10.53347/rID-8735>
- Gaillard F, Ranchod A, Di Muzio B, et al. Mesothelioma. Reference article, Radiopaedia.org (Accessed on 23 Jul 2024) <https://doi.org/10.53347/rID-8712>
- Weerakkody Y, Anan R, Silverstone L, et al. Pleural calcification. Reference article, Radiopaedia.org (Accessed on 23 Jul 2024) <https://doi.org/10.53347/rID-8983>