

# Diabetes, Drinking, and Dirt:

## A cautionary tale of disseminated nocardiosis

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### LEARNING OBJECTIVES

- Understand that overt immunocompromised state is not required for disseminated nocardia infection
- Recognize nocardiosis as a cause of SIADH
- Identify nocardiosis symptoms

### CASE PART I

#### Background:

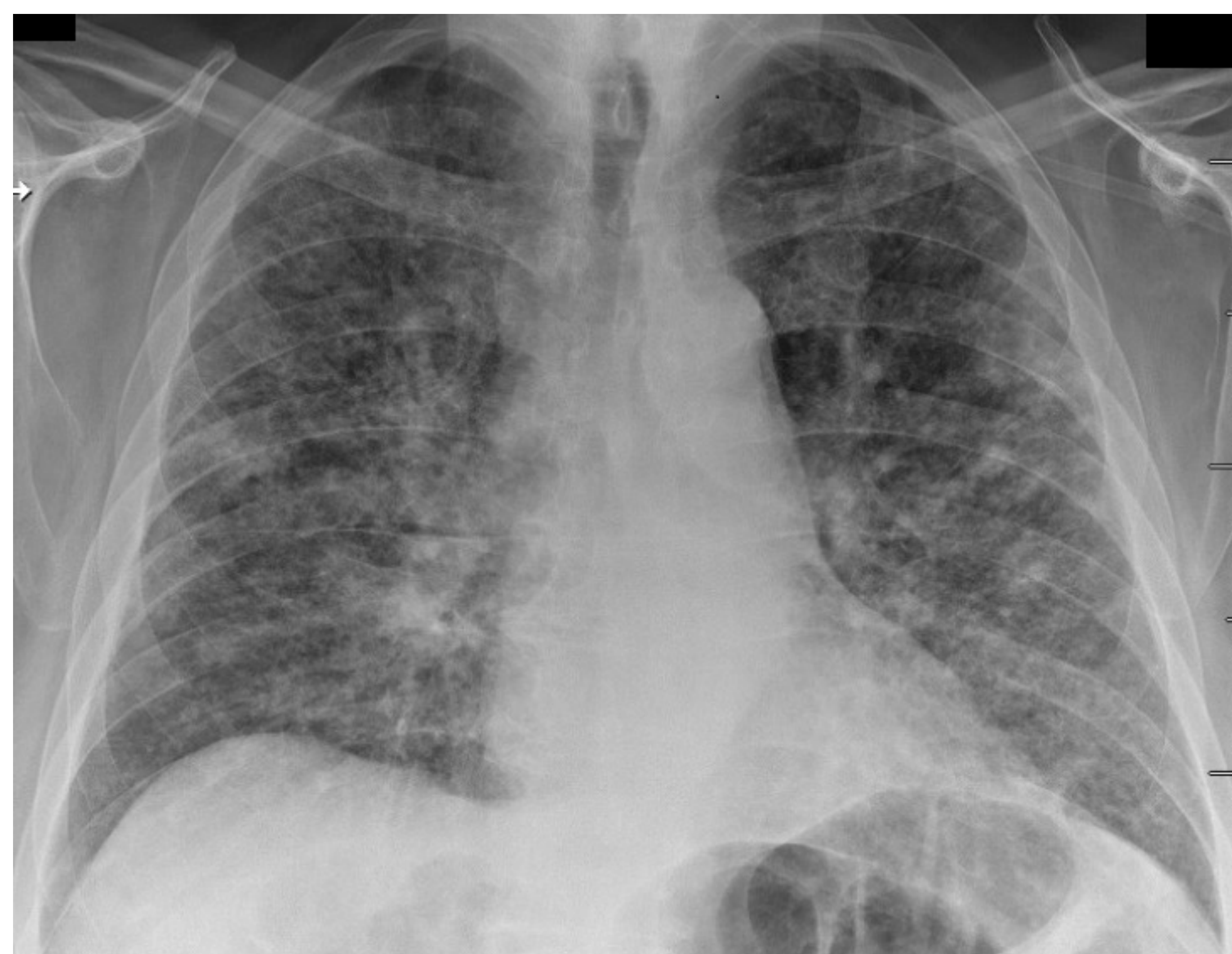
- 72-year-old male soil excavator with controlled type-2 diabetes and alcohol use disorder

#### Initial presentation:

- Two months of progressive dyspnea
- Acute hypoxic respiratory failure
- Multifocal pneumonia
- Sodium of 119 mmol/L secondary to syndrome of inappropriate anti-diuretic hormone (SIADH)

#### Initial course:

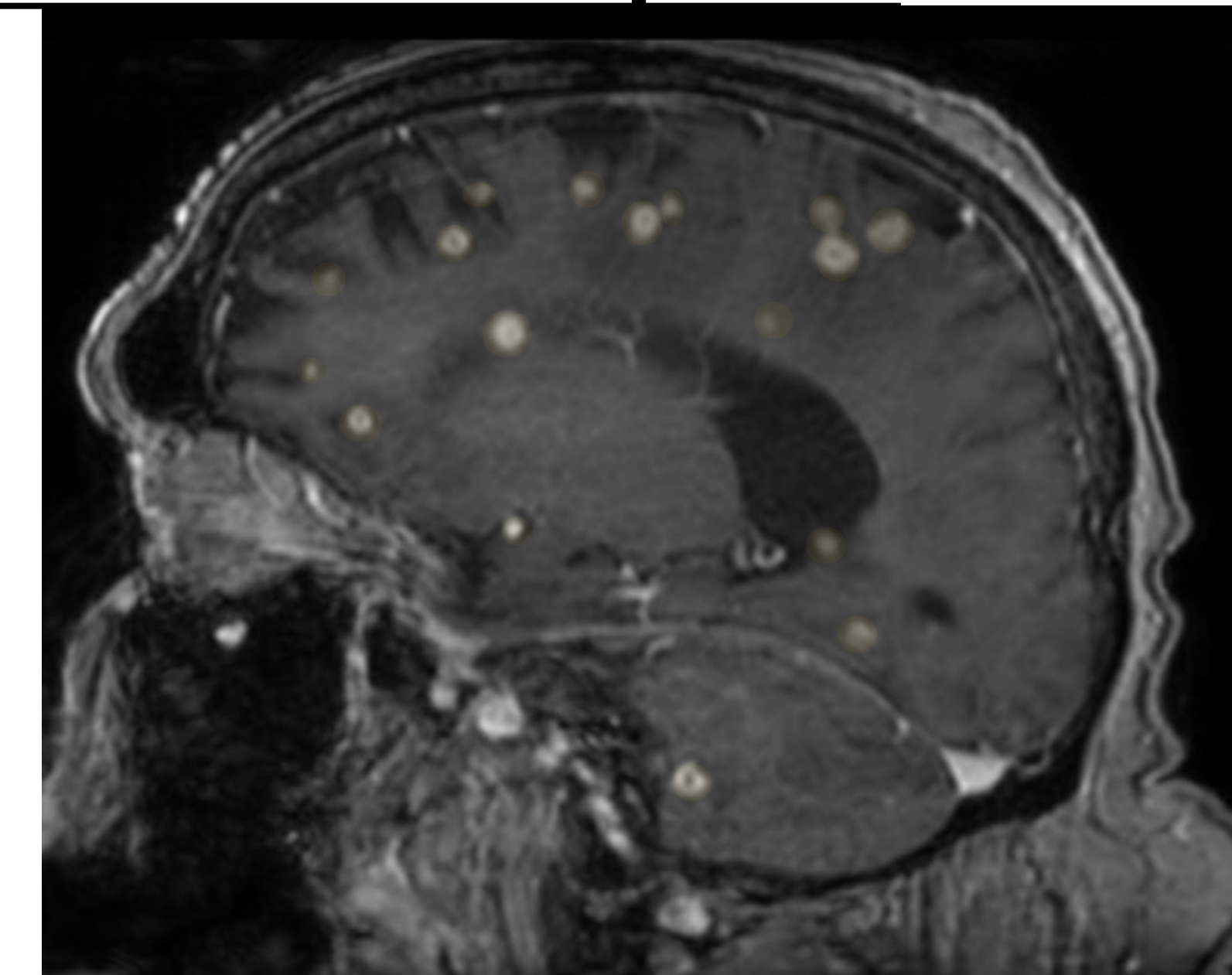
- Discharged after treatment for community acquired pneumonia
- Returned with worsening symptoms, readmitted
- Developed seizures



### CASE PART II

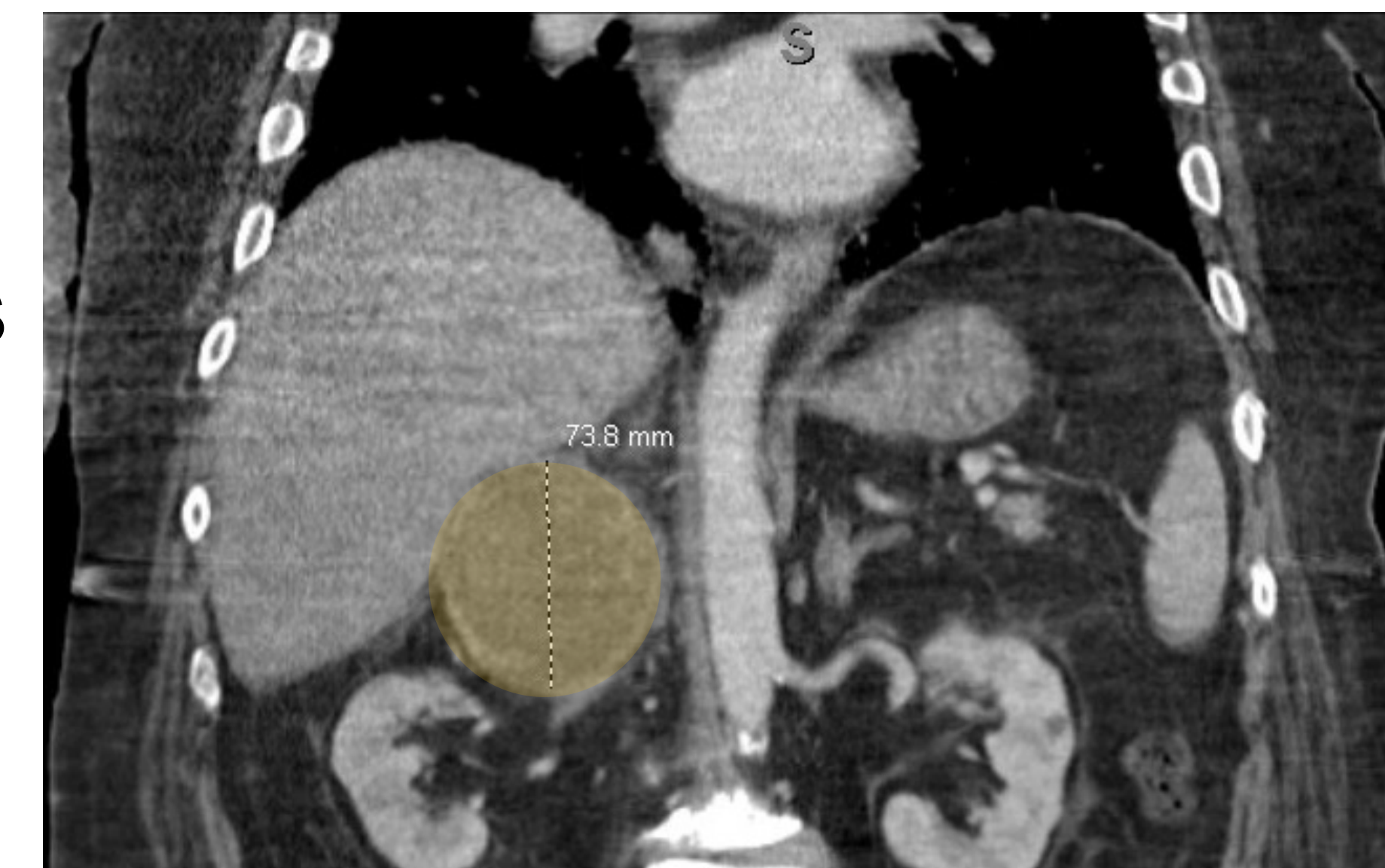
#### New findings after additional workup and evaluation:

Brain micro-abscesses



Cavitary lung nodules

Adrenal gland abscess



Exophytic eye lesions

#### Outcome:

- Biopsy and cultures confirmed disseminated *Nocardia beijingensis*
- Despite 10 weeks of antibiotics (imipenem, minocycline, ceftriaxone, trimethoprim-sulfamethoxazole, linezolid) his condition deteriorated, and family opted to transition to comfort measures.

### DISCUSSION

- Nocardiosis is a disease caused by the gram-positive bacterium *Nocardia*, found in soil
- **Up to one-third of patients are not considered immunocompromised by traditional standards.**<sup>1</sup>
- **Many common conditions, such as diabetes, heavy alcohol use, and advanced age, lead to a sufficient relative-immunocompromise that should prompt inclusion of nocardiosis in the differential**<sup>2</sup>
- In-depth history-taking often reveals risk factors including working near soil
- Pulmonary involvement is most common (64% of cases) and symptoms are nonspecific – cough, dyspnea, and sputum production<sup>3</sup>
- Dissemination is reported in 9% of immunocompetent cases primarily involving the brain with neurologic symptoms<sup>3</sup>
- SIADH has been reported as a presenting symptom in numerous case reports of both pulmonary and disseminated nocardiosis<sup>4,5</sup>
- SIADH has diverse etiologies, and therefore often discounted
- **Persistent SIADH in the context of non-resolving pneumonia should prompt consideration of nocardiosis**
- **Early diagnosis and initiation of treatment is necessary to improve outcomes.**

### REFERENCES

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5. Rámila, E., et al. 1999. "Inappropriate Secretion of Antidiuretic Hormone as the Initial Sign of Central Nervous System Progression of Nocardiosis in a Patient with Chronic Lymphocytic Leukemia." *Haematologica* 84 (12): 1155–56.