

## Introduction

*Mycobacterium gordonae* (*M. gordonae*), a Nontuberculous Mycobacterium (NTM) widely distributed in the environment, is a rare cause of pathology in humans. Although *M. gordonae* is considered the least pathogenic among NTMs, several case reports have identified it as the causative agent for pulmonary, cutaneous, renal, and disseminated infections. Such pathology is more commonly observed in immunocompromised hosts, however various reports have documented cases in immunocompetent patients.

Here we present the case of an immunocompetent woman with COPD who presented to ED for worsening cough and was subsequently diagnosed with *M. gordonae* cavitory pneumonia.

## Case Presentation

### History of Present Illness

56-year-old female with history of COPD, anxiety, hepatitis C, prediabetes, hypertension, and prior tobacco use presented to the ED for 1 week of worsening shortness of breath and productive cough. Patient denied any recent travel or sick contacts and reported compliance with home medications. On presentation to the ED, the patient was normotensive but tachycardic with rate of 160. EKG revealed atrial fibrillation with rapid ventricular response. Chest x-ray revealed an extensive, ill-defined density in left mid to lower lung zones, most confluent in the perihilar region. Follow up CT chest revealed a mass vs. cavitory lesion vs. atelectasis involving entirety of the lingula.

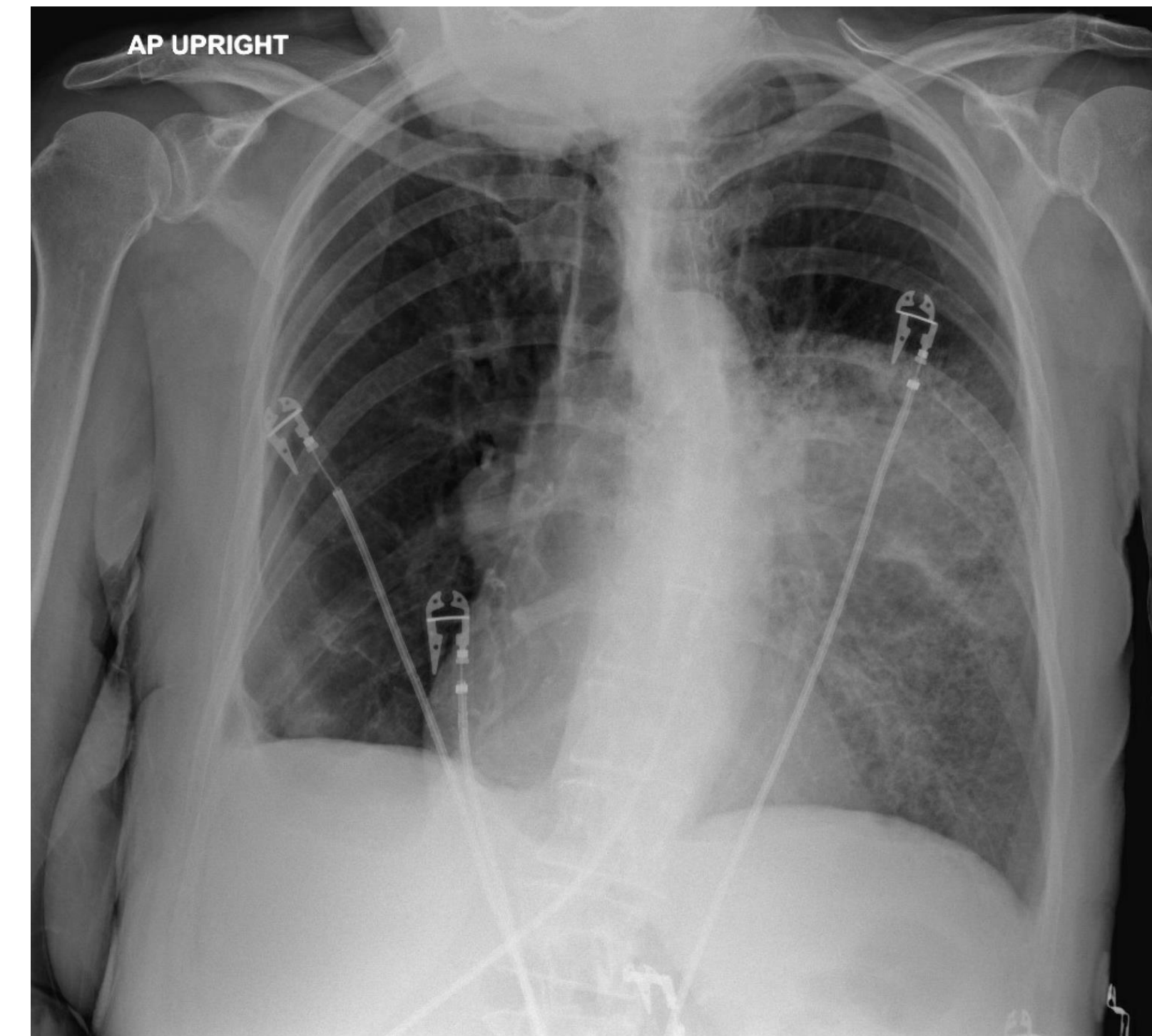
Physical exam revealed a patient in no acute distress, saturating well on room air, lungs clear to auscultation bilaterally with good air movement. Cardiac exam revealed tachycardia with irregular rhythm, pulses intact throughout, without dependent edema. Cardiology and pulmonology were consulted, and the patient was admitted for further evaluation and treatment.

### Hospital Course

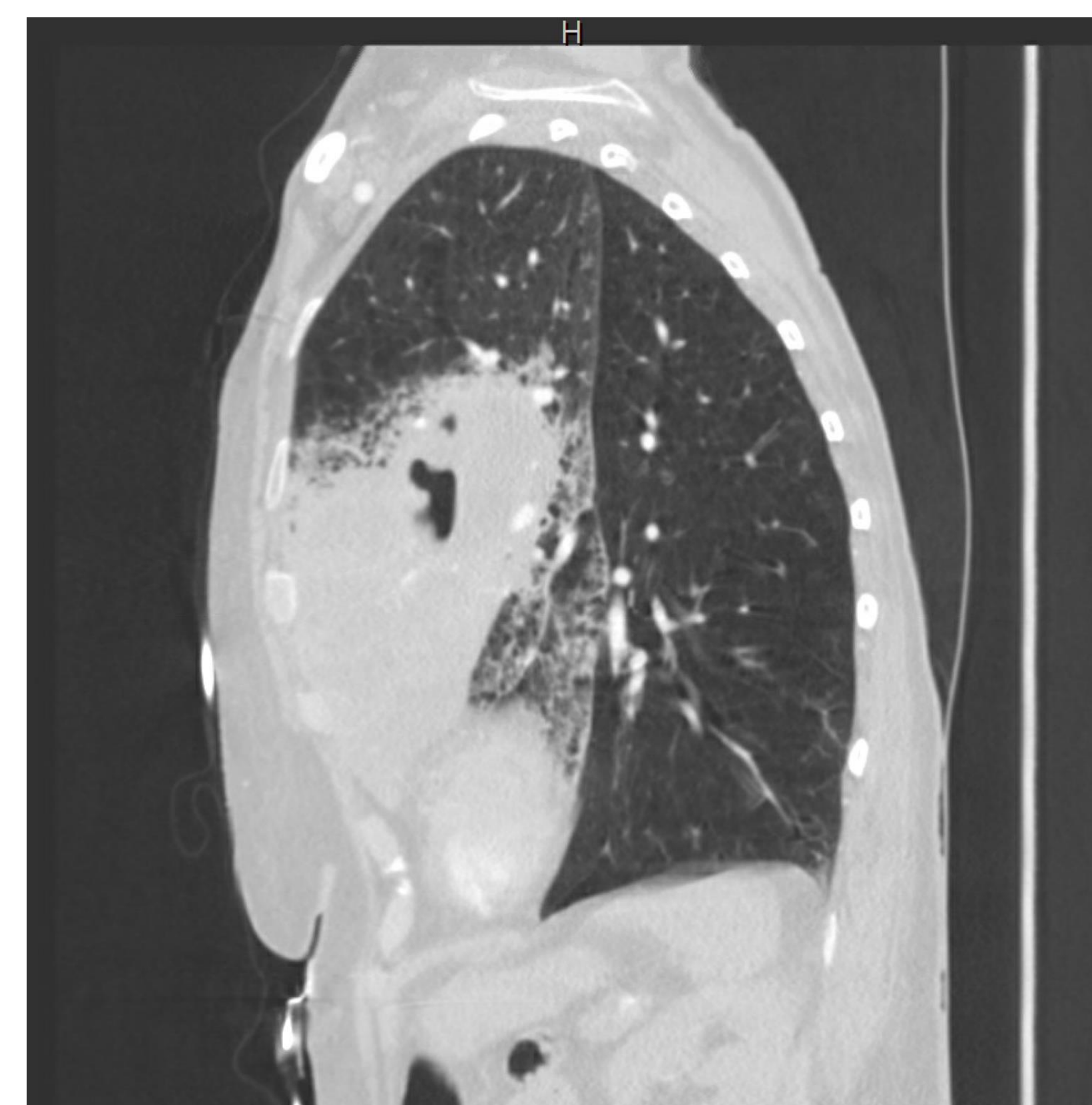
Afib with RVR was stabilized after a diltiazem bolus followed by drip and the patient was transitioned to oral metoprolol. Transthoracic echocardiogram revealed preserved EF with otherwise unremarkable findings. She was started on piperacillin/tazobactam and doxycycline due to concern for pulmonary abscess vs cavitory pneumonia. Respiratory status showed some improvement with aformoterol and budesonide nebulizer. COVID PCR, QuantiFERON gold and sputum AFB were negative. Patient underwent bronchoscopic evaluation of suspected cavitory lesion, with bronchoalveolar lavage sent for aerobic, anaerobic and acid-fast cultures. Following bronchoscopy, the patient's respiratory status declined, ultimately requiring intubation and ventilator support for a few days. This decline was suspected to be due to bronchospasm induced by bronchoscopy procedure. She was extubated after two days and gradually weaned back to room air. Antibiotics were transitioned to oral levofloxacin based on BAL cultures growing *Stenotrophomonas maltophilia* and *Escherichia coli*. Upon further clinical improvement, the patient was discharged home.

## Imaging

### Chest X-ray



### CT Chest – PE Protocol



## Follow Up

Patient continued to improve from a cardiopulmonary standpoint with adequate outpatient follow up with her primary care provider. A few weeks after discharge, the PCP was notified of positive findings of acid-fast culture of BAL, which ultimately speciated as *Mycobacterium gordonae*. The Florida Department of Health was notified, and the patient was referred to infectious disease for further evaluation. She was subsequently started on a 12-month regimen consisting of clarithromycin 500 mg twice daily, ethambutol 800 mg daily, and rifampin 600 mg daily. The patient's clinical presentation and overall quality of life have continued to improve with ongoing therapy. Repeat imaging and testing is planned upon completion of the year-long treatment detailed above.

## Discussion

*Mycobacterium gordonae* (*M. gordonae*), a Nontuberculous Mycobacterium (NTM), can be an unusual infectious organism in immunocompetent individuals and should be considered if other more common causes of cavitory pneumonia are excluded. Identification is best made with a culture, whether from sputum, bronchoalveolar lavage, or biopsy. As these are slow growing organisms, an extended, multidrug antibiotic course is often needed to reduce recurrence and prevent resistance. The ATS/IDSA guidelines (Griffith et al. 2007) include detailed treatment recommendations for individuals with NTM infections, including treatment duration, antibiotic selection, and monitoring for drug toxicity. In this case, continuity of care between the inpatient and outpatient setting was a key component of successful treatment. The same PCP was able to follow the patient during the hospitalization and throughout her treatment in the outpatient setting. This allowed for facilitation of care from inpatient to outpatient and timely coordination with infectious disease which has positively impacted this patient's recovery.

## References

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