



9/25/23 Rafael Medina Subspecialty VMR with @CPSolvers

“One life, so many dreams” Case Presenter: Dr. Sangeetha Thevuthasan Case Discussants: Dr. Subani Chandra (@subanichandra)



CC: 50 yo F present with productive cough, fatigue and fevers that started 3w ago. For some time symptoms got better but then worsened again. The cough was accompanied by yellow sputum.

HPI: At urgent care, she was treated empirically for CAP with azithromycin, but did not improve. She was an active person but noted increasing fatigue, worsening left sided chest pain and persistent cough for 2 more weeks. No hemoptysis or fever.

Went to PMD, had a chest x-ray, was prescribed 30 mg prednisone + augmentin and follow up with pulmonologist. Her symptoms got better with augmentin.

PMH: post infectious bronchiectasis as a child s/p LUL resection. Never intubated or hospitalized. Negative for immunodeficiencies and cystic fibrosis

Meds:
Amlodipine
Nebivolol
Estrogen patch

Fam Hx: none

Soc Hx: none

Health-Related Behaviors:
No smoking

Allergies: none

Vitals: T: afebrile HR: 111 BP: 130/77 SpO2 96% RA

Exam:

Gen: well appearing

HEENT: moist mucous membranes

CV: RRR

Pulm: no respiratory distress, decreased sounds on LLL compared to RLL, no wheezing, no crackles

Abd: non-remarkable

Neuro: non-remarkable

Extremities/skin: non-remarkable

Notable Labs & Imaging:

Hematology:

WBC: 38 Hgb: 12 Plt: 422

83% PMN, normal bands, 10% lymphocytes
BMP normal, CRP 208, LDH 481 RPP negative

Imaging:

CXR: no identifiable cardiac silhouette, no effusion on R side, no visible CV angle on left. Opacities on left side with no clear air bronchograms, lucency on the middle left lung, no bronchiectasis

CT: large loculated left hydropneumothorax. There are tree-in-bud nodules within the right middle lobe and right lower lobe. There is bronchiectasis within the right middle lobe and right upper lobe

*****Chest tube placed after this findings*****

Pleural fluid:

pH <6.8, cell count 156k (99% neutrophils), ADA 577, prot 0.8, chol 27, glucose <5, TG 64, LDH >5000. Culture: Strep anginosus

DX: Pneumonia due to Strep anginosus, complicated by empyema

Problem Representation:

50 y/o F with post-infectious bronchiectasis s/p LUL resection as a child, presents with fever, cough, found to have L empyema s/p chest tube placement, with cultures growing strep anginosus

Teaching Points (Reshma):

- **Productive cough, fever, fatigue (3 weeks):** infective (pneumonia)/ inflammatory (vasculitis/rheumatology). **Waxing waning course** - think of viral (even COVID or Influenza) with superimposed bacterial infection or a complication like sinusitis. **Failing antibiotics** - either infection non-responsive to antibiotics/ something that mimics infections (organizing pneumonia)

- **L sided Chest pain** - ask for exertional or non exertional & rule out cardiac/pulm/pleural/vascular causes
- **Focal lung resection** due to recurrent lung infection in childhood (bronchiectasis) - work-up for immunodeficiency and other genetic causes, With lobectomy- the residual lungs expand to fill the chest cavity
- **Examination:**

- Sinuses for tenderness

- Nose for nasal ulcer, dry crust blood (patient may not mention unless they have frank epistaxis) could be common in vasculitides

- Mouth and teeth for poor dentition and dental abscess- could cause aspiration pneumonia (polymicrobial and anaerobic) and lung abscess (long duration, indolent, patient complains of fatigue and weight loss)

- Clubbing - present in bronchiectasis

Aspiration pneumonia causes- sedation for procedures, alcohol, dental procedures, dysphagia, ICU intubation, vomiting. **Aspiration pneumonitis** - chemical reaction, gets better quickly or could lead to an infection
- **Procalcitonin** - not useful for the initial diagnosis of pneumonia but if levels drop more than 80% the peak level, it can be used to decide when to stop the antibiotics in addition to the patient's clinical appearance.

CT SCAN:

1. If an opacity in the chest, longer than wider - hallmark that the opacity is pleural based
2. Effusion that defies gravity is loculated. US>CT at showing loculations.
3. Air-Fluid levels: Straight line (hydropneumothorax)
4. Causes of air in pleural space: from the lung parenchyma/ air introduced from outside/ bugs - anaerobic organisms/ pneumoperitoneum.
5. Empyema - does not go to the chest wall

Management of parapneumonic effusion:

1. Send sputum and blood cultures
2. Start antibiotics
3. Set up for a pigtail - small bore to sample and place the chest tube
4. This effusion should be drained as soon as possible

Simple parapneumonic - fluid is not actively infected (effusion that is free flowing) -> When the effusion gets infected - loculation and pus (**empyema**)