



# Mayo Clinic Center for Tuberculosis

## CLINICAL CASE DISCUSSION



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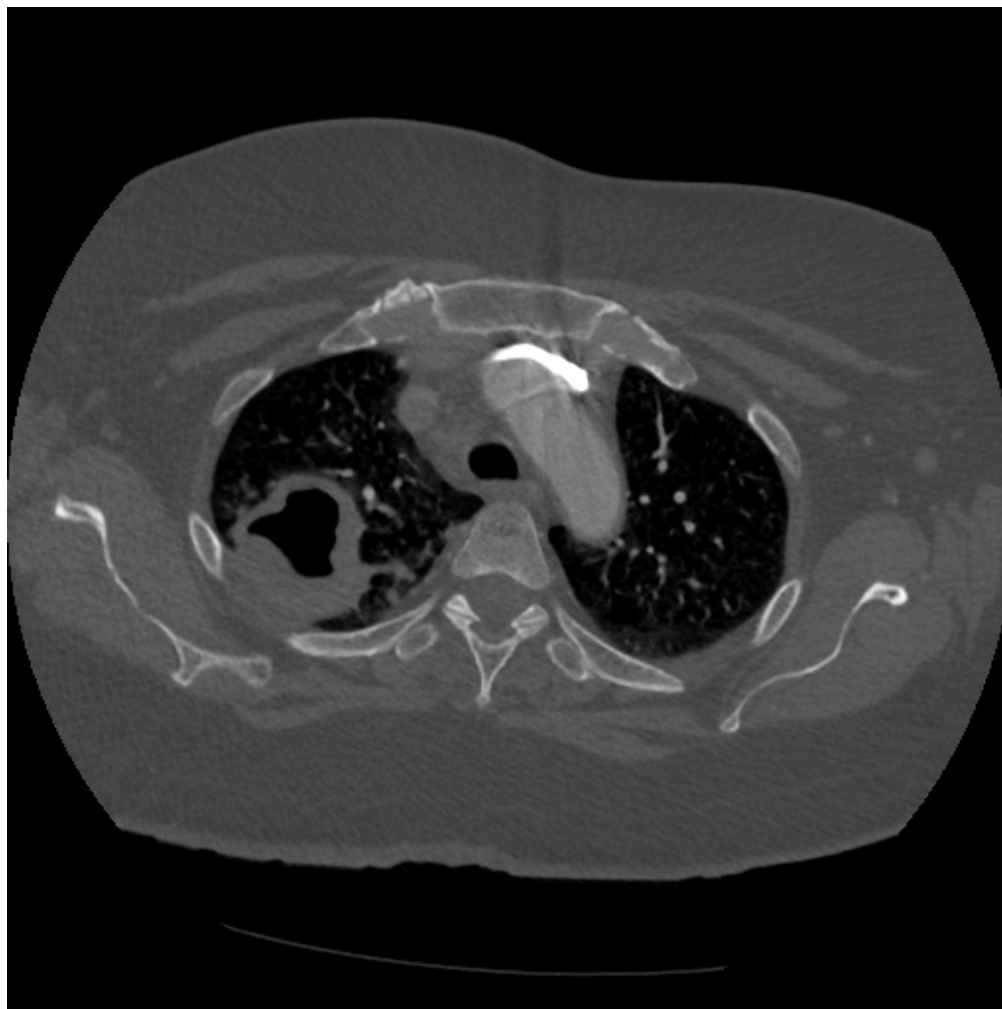
## 59 yr female

- Arrived from Pakistan in 2015 to stay with family, grandchildren
- Diabetic on pills. Hemoglobin A1C 11%
- April 2016 diagnosed with pneumonia
- Primary physician gives Rocephin shots
- After one week, coughed up bloody sputum, sent to Emergency Room

# May 2016 Emergency Room

- Checked for pulmonary embolism
- CT scan “cavitary mass RUL”
- Airborne Isolation
- Diagnosed with smear positive, pulmonary TB quickly

# May 2016 CT scan



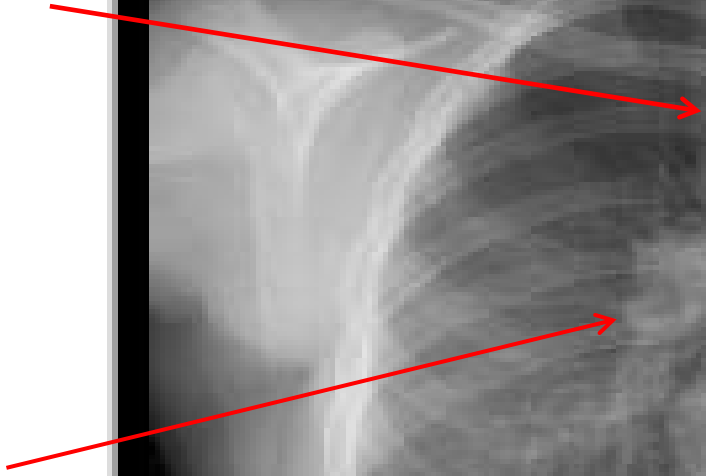
# TB treatment started May 19, 2016

- Drug-susceptible
- Improved steadily
- July sputum AFB culture negative

## 9 year grandson

- Born in Michigan
- Healthy
- June 1, 2016 PPD 0 mm induration
- August 30 PPD 24 mm induration, blistered
- No fevers, cough, weight loss

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XR CHEST 2 VIEWS FROMw/I: 16373/8202  
PA  
Series #1 - Sequence 2



## 9 year grandson

- Physical exam normal
- Sputum AFB negative
- Sputum TB PCR negative
- Started on Isoniazid, rifampin, pyrazinamide for active primary TB. Based on grandmother's susceptibility results
- Kept out of school one week as a precaution



# Case 2

## 27 year female

- Born USA, healthy
- Worked Peace Corps in Malawi for two years, as healthcare advisor
- No medical problems in Malawi
- Returned to USA May 2016
- Exit examination for Peace Corps: PPD 8 mm induration (interpreted as negative)

## July 2016

- Spontaneous redness and pain L eye
- No injury
- No contact lens
- Ophthalmologist diagnosed uveitis
- Referred to University of Michigan Eye Clinic
- Corticosteroid eye drops prescribed
- Quantiferon Gold *positive*
- Negative tests for lupus, sarcoidosis, syphilis

# July 2016

- Chest X-ray normal.
- Examination shows residual erythema L eye, normal vision. Normal extra-ocular movement.
- No lymph node enlargement
- HIV negative
- Sent to Infectious Disease clinic for opinion
- What do you think?

# MALAWI population 17 million



- TB incidence 288 cases per 100,000 population
- 54% of TB cases are HIV+
- MDR-TB rate 0.4% of new TB cases

# Diagnosis?

- Latent TB, with autoimmune uveitis
- Active TB of eye
- Other

# LTBI vs. TB Disease

Latent TB Infection (LTBI)	TB Disease (in the lungs)
<b>Inactive</b> , contained tubercle bacilli in the body	<b>Active</b> , multiplying tubercle bacilli in the body
TST or blood test results usually positive	TST or blood test results usually positive
Chest x-ray usually <b>normal</b>	Chest x-ray usually <b>abnormal</b>
Sputum smears and cultures <b>negative</b>	Sputum smears and cultures may be <b>positive</b>
<b>No symptoms</b>	<b>Symptoms</b> such as cough, fever, weight loss
<b>Not infectious</b>	<b>Often infectious</b> before treatment
<b>Not a case</b> of TB	<b>A case</b> of TB

# Treatment?

- Latent TB regimen:
  - INH x 9 months
  - INH & rifapentine weekly x 12 doses
  - Rifampin x 4 months
  
- Active TB regimen:
  - INH & rifampin & pyrazinamide & ethambutol



# Answer

- TB of eye
- PPD of 8 mm should have been interpreted as *positive*, due to recent exposure in Malawi
- Not contagious, localized to eye
- Treat with full TB regimen for 6 months, using directly-observed-therapy (DOT)