

# TUBERCULOSIS AND DIABETES IN SOUTHERN WV

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# Objective:

Show potential impact of diabetes on development and treatment of TB

LTBI and no risk factors = 10%  
risk of progression over a  
lifetime

LTBI and diabetes = 30% risk of  
progression over a lifetime

# WEST VIRGINIA/LOGAN COUNTY HEALTH STATISTICS

Diagnosed cases of diabetes – WV  
worst state in nation (2010)

Diagnosed cases of diabetes – Logan  
County worst county in WV

# TB in Logan County

YEAR	# CASES	LOGAN CO. RATE / 100,000 population	WV RATE / 100,000 population
2005	0	0.0	1.5
2006	1	2.8	1.2
2007	0	0.0	1.3
2008	0	0.0	1.5
2009	0	0.0	1.0
2010	2	5.63	0.82

# 2010 Case

## Patient History:

- 54 year old white male
- U.S.A. born
- Employed in correctional field
- No history of positive PPD
- No history of HIV
- No history of drug or alcohol abuse
- Coronary artery disease with stent placement
- COPD
- Type II Diabetes
- Obesity
- Smoker (1-2 pks/day)
- Neuropathy of hands and feet

# Patient History (cont.)

- Diabetes diagnosed in 1990's – oral meds
- 2005-6 – health declines
  - Stressors (divorce, job, etc.)
  - Loss of weight – ignored
  - Lung infection – empyema
- Next 4 year period
  - Lost half his body weight - 260 lbs to 130 lbs.
  - Blood sugars up to 500 during this time
  - Feb., Mar. & May 2010 – admitted for pneumonia

# May 20, 2010 Admission:

- ▣ ICU isolation
- ▣ Cough
- ▣ Productive sputum
- ▣ Non-resolving pneumonia
- ▣ Abnormal CXR showing extensive disease; cavitary lung lesion

# Other Information:

- AFB X 3 collected
  - 5/21/10 - 4+ smear
  - 5/27/10 - PCR positive
- PPD - negative
- Blood sugars - 290's on admission (insulin)
- 5/22/10 - TB Meds started - All given by DOT
  - INH 300 mg
  - Rifampin 600 mg
  - Ethambutol 1200 mg
  - Cipro IV 400 mg
  - PZA 1500 mg added on 5/23/10

# Delayed Sputum Conversion (6.5 months) Due To:

- Extensive disease at time of diagnosis (due to misdiagnosis/delayed diagnosis)
- Co-morbidity with diabetes
- Uncontrolled diabetes
  - Weak, sick, no appetite/poor nutritional status
  - Ate food brought in by family or friends
  - No income to purchase nutritious foods
  - Taking Actos (Rifampin affects blood levels of this drug; Rifampin level may have been lower than optimal)
  - Stress (financial and life)
  - Continued to smoke (1 to 2 pks per day)

# Drug Susceptibilities

- June – Sensitive to all drugs
- July – Sensitive to all drugs
- Sept. – Sensitive to all drugs
- Oct. – Sensitive to all drugs

\* Sensitivities repeated due to lack of sputum conversion.

# Patient Care at LHD:

- Seen monthly at LHD for clinical assessment
- Monthly vision check – Ethambutol d/c on 2/18/11 due to blurred vision
- Liver function tests remain within normal limits
- As disease process improved, blood sugars started to decline
- CXR – extensive improvement in Nov. 2010
- Completed treatment on 5/22/11, all per DOT

# Patient's Outcome:

- Back to work part time
- Received Social Security Disability
- Daughter spends weekends with him
- Daughter spent summer vacation with Dad!

# THANK YOU!

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