LTBI Treatment and Cases

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Disclosures

• Unpaid occasional consultant to International SOS
• Ran TB surveillance program at UCLA for 4 hospitals, 200 clinics, campus researchers with live MTB aerosols and animal NHP work, international travel and field research; 7 years voting IBC member there
• CEO of a health consulting LLC
• Have been reimbursed and paid for work in Kenya and elsewhere by CDC and US DoS; TB surveillance and BBP
• No other disclosures
Outline

- What our focus should be on now
  - LTBI activation stories
  - TREAT LTBI
  - Have a process to STRONGLY encourage LTBI treatment
    - LTBI Treatment
- Companion paper to MMWR
- Q & A/Discussion

Companion paper to MMWR 2019 Update

- Companion paper adds operating details to the MMWR: Do read it
- Expected out in JOEM within 1-2 months
- Large collaboration between ACOEM and NTCA and others

Companion Doc: Who?

- Wendy Thannen, Stanford, VHA
- Randall Reves, NTCA
- Amy Behrman, U. Penn
- Mark Russi, Yale
- Warner Hudson, ACOEM
- Jon Wickersham, TN Dept. Health
- Melanie Swift, Mayo Clinic
LTBI Activation Example 1

CASE

- Nurse hired 2007 with LTBI at onboarding, OH documented LTBI Rx declination
- Yearly OH Oct. TB screening; no symptoms until activates between screenings in spring 2014
- TB sx for months, many primary/urgent care visits before active TB dx by Pulmonary MD
- Exposed 264 transplant pts. + >142 employees at one hospital; & worked other hospitals
- Huge challenge to manage for both OH and Infection Control and risk to patients and employees

LESSONS

- While LTBI Rx decline documentation kept OH and institution out of trouble; far better to work really hard to treat the LTBI in the first place!
- Need to be sure the LTBI individual HCP knows and takes urgent appropriate steps if active TB sx occur
- Annual screening missed this activation...yet this has been our focus
- Focus needs to be at onboarding and treating LTBI: don’t miss this opportunity!
Healthcare Personnel Treatment: Untreated LTBI

- Treatment offered to HCP and strongly encouraged to complete
- HCP less likely to accept LTBI treatment than others not in healthcare
- Newer regimens are shorter, safer and cost effective
  - INH + Rifapentine weekly for 3 months, that’s 12 doses total, most likely to complete regimen
  - Not as widely known, recognized, discussed or utilized

LTBI Treatment Options

- INH and rifapentine weekly for 3 months (DOT/SAT); that’s a total of 12 doses and most likely to complete
- Rifampin daily for 4 months
- INH daily (or twice weekly DOT) for 9 months
- INH daily (or twice weekly DOT) for 6 months – less effective than 9 months
CDC Detailed LTBI Rx Regimens
https://www.cdc.gov/mmwr/volumes/67/wr/mm6725a5.htm?s_cid=mm6725a5_w

INH 100 & 300 mg tabs
RPT 150 mg tabs

CDC MMWR updated
3HP SAT recs 2018:
https://www.cdc.gov/mmwr/volumes/67/wr/mm6725a5.htm?s_cid=mm6725a5_w

NTCA INH/Rifapentine

Using the Isoniazid/Rifapentine Regimen to Treat Latent Tuberculosis Infection (LTBI)
NTCA INH/Rifapentine

What Could Go Wrong
Healthcare Personel Treatment: Untreated LTBI

- Contraindications:
  - People with HIV/AIDS who are taking antiretroviral medications with clinically significant or unknown drug interactions with RPT*
  - People presumed to be infected with INH or rifampin (RIF)-resistant *M. tuberculosis*
  - Pregnant women, or women expecting to become pregnant during the 12-week regimen
  - Patients who had prior adverse events or hypersensitivity to INH or rifapentine

Monitoring Treatment

- Monthly visits to assess safety, adherence and adverse events
- Monthly prescriptions with refill approved after monitoring visit
- Organizational support of visits and drug costs preferred
  - Some institutions partner with local health departments
- Appropriate laboratory monitoring monthly
HCP Treatment: Untreated LTBI

STRATEGIES FOR COMPLIANCE

– 12 dose (3 month, weekly dosing) course
– Use Organization’s Occupational Medicine or EH departments
– Escalation from NP based clinic to Occ. Med MD to specialty departments like ID
– Referral from PCPs to ID if Occ Med or EH resources are not available
– Readdress and encourage compliance for those who decline on an annual basis
– Organization pays for the LTBI treatment course ideally
Should organization pay for LTBI Rx?

- Typically pay for HCP conversions ->LTBI but not new hires with LTBI
  - Risk management/WC/administrative decision
  - Now underlies many LTBI activations
- Ideally organization pays for LTBI Rx
  - Benchmark hospitals that do this like Penn
  - Talk of risk reduction to patients, employees and reputation as well as lawsuits
  - Use redirecting annual screening savings

Healthcare Personnel Treatment: Untreated LTBI

- If HCP does not complete therapy
  - Annual symptom evaluation
  - Reevaluate treatment options risks/benefits for LTBI Rx
  - Ongoing education between screening visits of TB signs and symptoms of infection and need for immediate eval. if these occur
  - Continue to offer treatment to those who initially decline, they may change their minds with the shorter regimen options
Special Situations

- **MDR TB LTBI**
  - Follow for minimum 2 years regardless of treatment or no treatment
  - Rx regimens not well researched for efficacy
  - Longer treatment times; 6-12 months
  - Need to know what drugs the MDR TB is resistant to
  - Use resource like UCSF Curry Center
    https://www.currytbcenter.ucsf.edu/sites/default/files/tb_sg3_chap10_contacts.pdf#ltbitxoptions;
  - Definitely need a consult with MDR TB expert
- **HCPs involved in research**
  - Non Human Primates (NHP)
    - Screen workers/researchers Q 6 or 12 months as whole NHP colony can die from TB from a worker
  - MTB research
    - Screen every 6 or 12 months if aerosolizing MTB
- **MTB from field work, zoos, animal parks**
  - Elephants, rhinos, marine mammals can get and transmit MTB to humans
- **M bovis**
  - Cattle and many other animals can get and transmit to humans who work around them, vets, dairy workers, hunters
  - Screening tests and LTBI treatment are as for MTB

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**LTBI Activation Example 2**

- Clinic nurse 53, born Philippines, + IGRA 2012 = LTBI not Rx’d
- 2016 vague sx’s fatigue; is perimenopausal
- PMD takes months to eval. & realize IGRA had been + since 2012
- After 3-4 months of sx’s PMD gets lung CT -> dx active TB
- 180 contacts; 40 staff & 140 patients
- 1st contact conversion: heart transplant pt. in for first post-transplant bx from another state immune suppressed; how to treat
- Next a nurse with RA on immune suppressing meds who had been IGRA negative before exposure now has active TB
- 4 other patients convert
LTBI Example 3

- Employee notifies supervisor of TB diagnosis (from LTBI activation)
- Hospital contacts 1,727 patients and employees who might have had contact with employee between June 2015 and end October 2015 and told to be tested
- Untold time, effort and dollars expended
- No conversions identified!
- **This all could have been avoided had the LTBI been treated**

The End
Q & A and Discussion