TBeat

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In this issue..

Completion Rate and Side-Effect Profile of Three-Month Isoniazid and Rifapentine Treatment for Latent Tuberculosis Infection in an Urban County Jail

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Full article available at http://ofid.oxfordjournals.org/content/3/1/ofv220

SUMMARY

In an urban jail population, 3 months of isoniazid and rifapentine (3HP) was associated with an 85% latent tuberculosis infection treatment completion rate compared with 18% in a standard 9-month isoniazid treatment group. Among the 91 patients who started 3HP therapy, there were 2 treatment discontinuations from adverse drug reactions.

Keywords. correctional healthcare; prevention; tuberculosis.

The estimated prevalence of active tuberculosis (TB) among inmates in correctional facilities is 4 to 17 times greater than the general US population, and over 7% of inmates have latent TB infection (LTBI) [1]. In 2012, there were more than 9900 active TB cases reported in the United States, and 4% of cases occurred among incarcerated persons [2]. Because many TB outbreaks have been reported in correctional facilities [3, 4], treatment of LTBI in correctional settings is a priority.

Implementing a 9-month isoniazid (9H) regimen for LTBI in jails is challenging due to short durations of incarceration. Historically, 9H treatment completion rates in correctional settings have been low, between 31% and 37% [5, 6]. In addition, patient education and monetary incentives to increase postincarceration LTBI treatment completion have been ineffective [7].

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Consensus statement on the use of Cepheid Xpert MTB/ RIF® assay in making decisions to discontinue airborne infection isolation in healthcare settings.

A national workgroup has issued recommendations on how to use GeneXpert in decision-making on airborne infection isolation in healthcare settings. The recommendations are provided in the consensus statement (click here to access statement). This workgroup features several members from the Heartland Region: ***Phil Griffin, BBA, CPM****, TB Controller for the Kansas Department of Health and Environment;* ***Ken C. Jost, Jr., M(ASCP),*** *TB Applications Scientist for the Texas Department of State Health Services, Association of Public Health Laboratories; and* ***Quratulain Kizilbash, MD, MPH****, Staff Physician for the Texas Center for Infectious Disease, Assistant Professor in Internal Medicine for UT Health Northeast, Tyler, Adjunct Professor in Infectious Diseases at UTHSCSA and Medical Consultant for Heartland.*

Purpose

The purpose of this consensus statement is to provide guidance for clinicians, nurses, and hospital infection preventionists on the use of the FDA-approved Cepheid Xpert MTB/RIF® (Xpert) Nucleic Acid Amplification (NAA) test when making decisions to discontinue airborne infection isolation (A.I.I.) for persons with suspected, infectious pulmonary tuberculosis (TB).

- It is important to note that the process described herein **is not to be used alone to rule out TB**; Xpert negative or acid-fast bacilli (AFB) smear-negative sputum may contain viable organisms and represent infectious tuberculosis.
- Furthermore, NAA testing should **not be used to monitor response to treatment or to release a newly confirmed TB patient from A.I.I.**

Note: FDA-approved labeling (and this document) applies for this instrument and this purpose **only**.

Background

In February 2015, the U.S. Food & Drug Administration (FDA) approved a change in the package insert for the Xpert to reflect expanded claims related to A.I.I. According to this change, negative results using this assay on "either one or two sputum specimens" can be used as an alternative to examination of serial acid-fast stained sputum smears to aid in the decision to discontinue A.I.I. for patients with suspected pulmonary TB.1 **This label change and its subsequent announcement, however, lack detail. Concerns that various interpretations of this change will result in premature discharge from A.I.I. prompted the creation of this document.**

This statement does not represent an endorsement of Xpert or of any other specific product; it provides consensus guidance from a group of experts in tuberculosis convened by the National TB Controllers Association (NTCA) and the Association of Public Health Laboratories (APHL) for the use of Xpert in making decisions to discontinue A.I.I. for suspected infectious TB as now indicated by its revised FDA-approved labeling. Members of the work group represent the TB Laboratory (APHL and private/commercial laboratories), TB Controllers (NTCA and its TB nursing, clinician, and epidemiology sections) and Hospital Infection Preventionists and Respiratory Therapy experts. Work group members are listed in Appendix IV at the end of the document.

Traditionally, algorithms for removing patients from A.I.I. have been based on sputum AFB smear results. The FDA approval for this label change was based on reported improved sensitivity and specificity of Xpert versus sputum AFB smear in early detection of culture-confirmed pulmonary TB in adults. The results of a study that has since been published demonstrated that negative Xpert results from 1 or 2 sputum specimens are highly predictive of the results of 2 or 3 AFB sputum smears being negative. When compared with the results of 2 or 3 serial sputum AFB smears, one Xpert result detected 97% of patients who were AFB smear-positive and culture confirmed with M. tuberculosis disease. Two serial Xpert tests detected 100% of AFB smear-positive, culture-positive patients.2,3,4

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Consensus statement continued

Background (continued)

Other published studies using the Xpert and other NAA systems also suggest these assays may be useful in predicting infectiousness:

- In 2008, 3 serially obtained sputum specimens from 493 patients with suspected TB admitted to A.I.I. (74% HIV+) were tested using the Amplified M. tuberculosis Direct test by Hologic Gen-Probe (MTD) and a laboratory-developed ("in house") polymerase chain reaction (PCR) platform. Campos et al5 reported that the 1st sputum specimen PCR test detected 100% of all AFB smear positive patients, even if the 1st specimen was AFB smear negative. The MTD and PCR assays also were more sensitive than the AFB smear in culture-positive patients (87% versus 76%).
- In a prospective study of 139 patients admitted to rule out TB (30% HIV+),6 serial sputum AFB smear microscopy and a single concentrated sputum Xpert had identical sensitivity (89%) and similar specificity (99%) referenced to culture positivity.
- In another study of 207 admissions to A.I.I. (23% HIV+),7 Xpert detected 5 of 6 culture-confirmed cases on the initial submitted specimen; the sixth culture-positive case was detected on a second specimen. Sensitivity again was similar for Xpert and AFB smear: 93%.

Finally, although not focused on the assay's ability to predict infectiousness, another study has suggested that the use of NAA could provide cost savings by reducing patient time in A.I.I. and length of hospital stay.8

For the rest of the statement, please follow the link below.
http://www.tbcontrollers.org/docs/resources/NTCA_APHL_GeneXpert_Consensus_Statement_Final.pdf

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We can wipe out tuberculosis

Ed Zuroweste, MD

Ed Zuroweste, who consulted for the World Health Organization during the Ebola outbreak and runs tuberculosis clinics in Pennsylvania, is chief medical officer of Migrant Clinicians Network, based in Austin. He can be contacted at ezuroweste@migrantclinician.org.

Full article available at http://www.sacbee.com/opinion/op-ed/soapbox/article56767323.html

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People pass a banner promoting Sierra Leone's anti-Ebola campaign earlier this month. Ed Zuroweste says a similar effort is needed to eradicate tuberculosis worldwide. ***Aurélie Marrier d'Unienville*** *The Associated Press*

Earlier this month, California quietly ended Ebola monitoring for travelers arriving from West Africa after Liberia declared itself Ebola-free, following similar declarations in Sierra Leone and Guinea. Though Sierra Leone announced last week that it had identified one new case, the global community has declared an end to the West African Ebola outbreak.

Ebola has been snuffed out because of a swift and well-funded worldwide public health response. Like California, many states and nations imposed strong monitoring. Others fought the disease at its source; clinicians from many countries, like me, went to Africa to help build infrastructure and train clinicians. While the 11,315 reported deaths have shattered communities, the response prevented a much larger crisis.

Imagine if we repeated this level of worldwide action with tuberculosis.

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HNTC Highlights

CDC U.S. TB Elimination Champions from the Heartland Region; for more information please follow this link: http://www.cdc.gov/tb/worldtbday/supportingtbcontrol.htm

Charles Degraw; Louisiana Office of Public Health

City of El Paso Department of Public Health TB Program

Migrant Clinicians Network

Victor Zarate, Georgina Castaneda, Julie Rother; Northeast Nebraska Public Health

Richard Wing, MD; Texas Region 11

Houston Bureau of TB African-American Project Team

Rotary Clubs of Reynosa, Nuevo Laredo Reforma, and Rotary Clubs of Austin University Area

Breathe Easy South Texas (BEST) Project Partnership

Harris County Public Health Environmental Services TB Elimination Program

Diana Fortune, RN, BSN, New Mexico Department of Health won the Carol Pozsik TB Nursing Award, which honors exemplary care, service, dedication, or leadership in the field of public health TB nursing. She received the award during the 2016 NTCA and IUATLD-NAR conference in Denver, Colorado.

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Resources

TB Education and Training Network

http://www.cdc.gov/tb/education/Tbetn/default.htm

National TB Controllers Association

http://www.tbcontrollers.org

Find TB Resources

www.findtbresources.org

Tuberculosis Epidemiologic Studies Consortium (TBESC)

http://www.cdc.gov/tb/topic/research/TBESC/default.htm

Regional Training and Medical Consultation Centers' TB Training and Education Products

https://sntc.medicine.ufl.edu/rtmccproducts.aspx

Program Collaboration and Service Integration (PCSI)

http://www.cdc.gov/nchhstp/programintegration/Default.htm

Centers for Disease Control and Prevention, Division of Tuberculosis Elimination

http://cdc.gov/tb/

****If your organization has any additional links for TB resources you would like published, please send them to Alysia.Wayne@uthct.edu****

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Trainings

2016 HNTC Training Calendar

Date(s)	Course	Location
August 10	Train the Trainer for TB Programs	San Antonio, Texas
September 7 - 9	TB Nurse Case Management	San Antonio, Texas
October 14	Bi-State Infectious Disease Conference	St. Louis, Missouri
October 11 - 14	TB Intensive	San Antonio, Texas
November 14	Effect of Co-morbidities on TB Nurse Case Management Part 4: Diabetes	Webinar
November 15 - 17	Four Corners Conference	Flagstaff, Arizona
December 1	Effect of Co-morbidities on TB Nurse Case Management Part 5: HIV/AIDS	Webinar
Enduring	The Impact of Substance Abuse & Mental Illness in Developing HIV&TB	E-learning

The calendar will be updated in every newsletter as well as on the website to show trainings that have been confirmed

Please visit our website: **http://www.heartlandntbc.org/training/calendar.php** to find detailed information concerning registration and participation.

Proposed topics are subject to change; check website for the latest updates.

Products from the Heartland National TB Center are available for download at

http://www.heartlandntbc.org/products/

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TBit: Recently Published

Drug-Resistant Tuberculosis: A Survival Guide for Clinicians

Edited by Lisa Chen, MD and Gisela F. Schecter, MD, MPH

***The Adverse Reactions chapter was co-authored by Drs. Barbara Seaworth and David Griffith.*

Curry International Tuberculosis Center/UCSF is pleased to announce the fully revised and updated 3rd edition of one of its most popular publications. Co-produced with the California Department of Public Health, Tuberculosis Control Branch (CDPH), the *Guide* is designed for any clinician who participates in the management of patients with drug-resistant TB.

The 10 chapters and 4 appendices cover major topics pertaining to epidemiology, diagnosis, laboratory issues, treatment, medications, pediatrics, co-morbidities and special situations, monitoring and case management, adverse reactions, and treatment of contacts. A distinguished group of 16 authors representing experts from public health and academia contributed to the writing, and a national panel of 34 peer reviewers provided commentary.

*Online version of **Drug-Resistant TB: A Survival Guide for Clinicians, 3rd edition;***
number of print copies are available to order from the Curry Center . Curry International Tuberculosis Center website

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The MISSION of the Heartland National TB Center is to build capacity with our partners. We will share expertise in the treatment and prevention of tuberculosis by: developing and implementing cutting-edge trainings, delivering expert medical consultation, providing technical assistance, and designing innovative educational and consultative products.

The VISION of Heartland National TB Center is to provide *excellence*, *expertise*, *innovation* in training, medical consultation, and product development to reduce the impact of tuberculosis in our region.