

KY Chapter Immigrant Child Health Task Force

October, 2019

TUBERCULOSIS SCREENING AND FOLLOW-UP FOR REFUGEE CHILDREN

A 2 ½ year-old boy, recently arrived from the Democratic Republic of the Congo (DRC), has been brought to your office by his parents for an initial evaluation related to findings from a tuberculosis (TB) screening abroad. The family was living in a refugee camp in Tanzania for 6 months prior to coming to the United States. As part of new requirements for tuberculosis screenings for refugee children, panel physicians located overseas performed an interferon-gamma release assay (IGRA) for TB. Since the results were positive, a chest X-ray (CXR) was obtained that showed no evidence of active TB. On physical exam and history, the child is growing well, if a bit underweight, and has no history of fever, cough or night sweats. The child's young parents do not speak much English and have no family in Kentucky. They do not report any history of TB in the child's immediate family.

DISCUSSION:

Was appropriate screening done abroad?

Yes. In January 2019, the U.S. Centers for Disease Control and Prevention (CDC) issued new guidelines for screening refugee applicants to the U.S. for TB: <https://www.cdc.gov/immigrantrefugeehealth/pdf/TB-domestic-guidelines-h.pdf>. Refugees who are 2-14 years old from higher incidence countries who have 20 cases of active TB or greater per 100,000 population are to be screened using a higher standard than those from lower incidence countries. Because the Democratic Republic of the Congo has an estimated incidence rate of 262 cases of TB per 100,000, according to the World Health Organization (WHO) (<https://www.who.int/tb/country/data/profiles/en/>), this child was properly screened for TB using an IGRA, even though history and physical examination were not worrisome for TB. When the IGRA was positive, a CXR was obtained. As per guidance, this information was conveyed with the child's papers on arrival.

What TB classification should he have had upon entry into the U.S.?

Panel physicians who evaluate refugees abroad classify them using a system developed by the CDC (<https://www.cdc.gov/immigrantrefugeehealth/exams/ti/panel/tuberculosis-panel-technical-instructions.html#clearance>) Based on the child's history, physical examination and screening tests, the boy should have been labelled as a class B2, which means the applicant has a positive IGRA, but otherwise has a negative evaluation for TB. Travel clearance is valid for six months after this designation is given.

Applicants with active TB are considered to have Class A Disease and are usually not cleared for travel to the U.S. Those classified as B1 include those whose history, physical findings or tests are suggestive of TB, but have negative acid-fast bacilli sputum smears and cultures. Travel clearance for B1 refugees is 3 months from the date when the final cultures are reported as negative.

KY Chapter Immigrant Child Health Task Force

October, 2019

What is your next step in this child's evaluation?

If the new guidance for TB screening abroad is performed properly, the need for additional screening tests to evaluate refugee children in the U.S. will be limited, since repeat screening is not generally advised. Many high-incidence countries are now able to screen using an FDA-approved IGRA tests, as recommended by the guidance.

IGRAs are not recommended for children under 2 years, because data in young children are limited. Malnutrition may also play a role in the reliability of TB screening. Nevertheless, the advantages of testing children for TB with an IRGA over traditional TB skin tests are that IGRAs do not boost responses to subsequent TB testing and the results are not influenced by previous vaccination for TB, which is common in many countries (<https://www.cdc.gov/tb/publications/factsheets/testing/igra.htm>)

In addition, practitioners should be aware that a domestic shortage of Tubersol® tuberculin for TB skin testing currently exists.

In this case, it would be prudent to obtain a CXR on the child, in order to compare the results to the previous CXR. A domestic CXR would be especially helpful if only the reading is available from the boy's CXR abroad. After completing the child's work-up, the child's parents should be evaluated to determine if they could be the source of the child's infection. Consider also that child and/or his parents could have been exposed to an infectious case of active TB in during their lengthy stay in a likely crowded refugee camp.

Should this child be treated for TB, and if so, how?

This boy should be treated for latent tuberculosis infection (LTBI), in order to prevent the development of active TB disease. A diagnosis of LTBI does not preclude the child from attending child care or participating in social activities, since the child is not infectious. However, both the boy's age and probable recent infection predispose him to developing active disease if he is not treated.

The prevalence of multidrug resistance in the Democratic Republic of the Congo and Tanzania should be considered when starting treatment. Some data concerning drug resistance in various counties of the world can also be found at the same WHO website that profiles TB incidence data (<https://www.who.int/tb/country/data/profiles/en/>) Daily isoniazid would be a good choice for this patient, unless resistance is suspected. Isoniazid in tablet form can be crushed and given orally mixed with a small amount of pudding, jam or applesauce (http://www.heartlandntbc.org/pedi-toolkit/assets/Tools/DosingTips/tips_for_admin_med.pdf).

You may want to contact the boy's local health department (for a listing see: <https://chfs.ky.gov/agencies/dph/dafm/LHDInfo/AlphaLHDListing.pdf>) to perform directly observed preventive therapy (DOPT), if you feel the family will have challenges following through on the treatment plan and the local agency has the resources. DOPT would ensure that the child would be observed taking his medication Monday through Friday by a trained public health professional. Cases of LTBI do not need to be reported to public health authorities in Kentucky, but suspicion of active TB disease should always be reported. In this example, the boy's local health department could provide free treatment for LTBI with a referral from a physician.

Kraig E. Humbaugh, MD, MPH, FAAP
Lexington-Fayette County Health Department