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Crossing Borders: One World, Global Health: Refugees, Immigrants, Resettlement, and Medical Screening for HIV

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A 24-year-old female distance runner from Kenya immigrated to the United States in February 2010. In May 2011, 15 months later, she sought medical attention for right leg paresthesias and inguinal swelling. She reported increasing difficulty running, losing approximately 15% of her body weight, and experiencing intermittent fevers and sweats for several months. She withdrew from school because of extreme fatigue. Her white blood cell count was 2.1 (60% neutrophils, 32% eosinophils and 16% lymphocytes, 2% monocytes), hemoglobin level was 7.5, and platelet count was 121 000. A lymph node biopsy showed acid-fast bacilli (Figure 1) and grew *Mycobacterium tuberculosis*. Within a month of the tuberculosis diagnosis she presented with a mononeuritis multiplex, likely representing a second opportunistic infection (OI). Testing at that time indicated human immunodeficiency virus (HIV) infection, with a CD4 count of 84 cells/mm³ and viral load of 7.36 million copies/mL. She initiated standard antituberculosis therapy, followed by a boosted protease inhibitor antiretroviral regimen. Within 4 weeks, her symptoms improved, CD4 count increased to 174 cells/mm³, and viral load fell to 4150 copies/mL. However, 6 weeks after initiating therapy, her inguinal area became swollen and tender and her absolute eosinophilia persisted. A repeat lymph node biopsy revealed *Wuchereria bancrofti* (Figure 2), corresponding to positive filariasis serologies.

This case highlights several salient points. This patient did not get tested for HIV until she was very ill, despite her geographic origin from an area with high prevalence of HIV, her familiarity with the disease (ie, her brother is HIV positive), and suspecting that she was infected. The delay in HIV testing delayed her HIV diagnosis until OI onset, adversely affecting her schoolwork, running career, and social life, as well as her long-term prognosis. Further, Occam's razor, as classically taught in internal medicine, does not apply to the differential diagnosis of persons with HIV-related immunodeficiency nor to immigrants and refugees from tropical settings.

Beginning 4 January 2010, HIV infection was removed from the list of inadmissible conditions for immigrants and refugees migrating to the United States [1]. Although it is still considered a "disease of public health concern," immigrants and refugees are no longer required to undergo testing for HIV prior to arrival. The removal of this ban and the end of required HIV testing are viewed as steps forward in public policy, as they decrease HIV-associated stigma and discrimination. However, as a result of this policy change, HIV-positive immigrants and refugees are no longer identified prior to migration, challenging US healthcare providers and systems to routinely screen and identify individuals as soon as possible following migration.

Identifying HIV infection early is cost effective, decreases associated morbidity, and provides a survival benefit [2, 3]. Additionally, evidence showing the efficacy of highly active antiretroviral therapy in increasing long-term survival has transitioned from an early era when HIV antiretroviral therapy was not initiated until the stage of advanced disease (CD4 <200 cells/mm³) toward an era of early intervention [4]. Recognizing this shift in best practices in HIV care, the Centers for Disease Control and Prevention (CDC) issued revised recommendations to include diagnostic HIV testing and opt-out HIV screening as a part of routine clinical care for all patients aged 13–64 years in all US healthcare settings [5]. In addition to being screened for HIV according to the revised recommendations, the CDC encourages screening of all refugees upon arrival, including those younger than 12 and older than 64 years of age [6].

One factor US clinicians and healthcare providers must consider in screening immigrants and refugees for HIV is the potential for epidemiologic differences in disease presentation compared with the general US population. For example, although tuberculosis is a less common OI for HIV-infected persons born in the United States, it remains the most common presenting OI for those with HIV worldwide, including African-born persons residing in the United States [7, 8]. The epidemiology of OIs in recently arrived immigrants and refugees tends to resemble that of the country or community where they lived before their arrival in the United States.

The case above illustrates a potential pitfall associated with the recent HIV testing policy change. If persons with HIV infection are not identified early, the likelihood increases that their HIV infection will be diagnosed late in disease or in conjunction with an OI. The later in the disease process HIV infection is identified, the worse the prognosis. To decrease disparities in this vulnerable population, early identification of HIV in immigrant and refugee populations is imperative.

Editorial comment. Although the discontinuation of routine screening for HIV in immigrants and refugees before they arrive in the United States represents a significant step forward in respecting human rights, it presents a new challenge to clinicians and the public health system to close the gap in early diagnosis. The CDC currently recommends screening all newly arriving refugees and any population with an HIV infection rate of >0.1%. Because early identification and initiation of therapy for HIV infection have been shown to significantly decrease disease progression and impact, including deaths, as well as decrease risk of transmission, the editors of this section highly recommend routine screening of all major groups of immigrants residing and arriving in the United States. In addition, every patient should be asked, “Where were you born?” and “Where have you traveled?” and further evaluation should be tailored on the basis of the epidemiology of diseases in the country of origin or travel. (M.C.)

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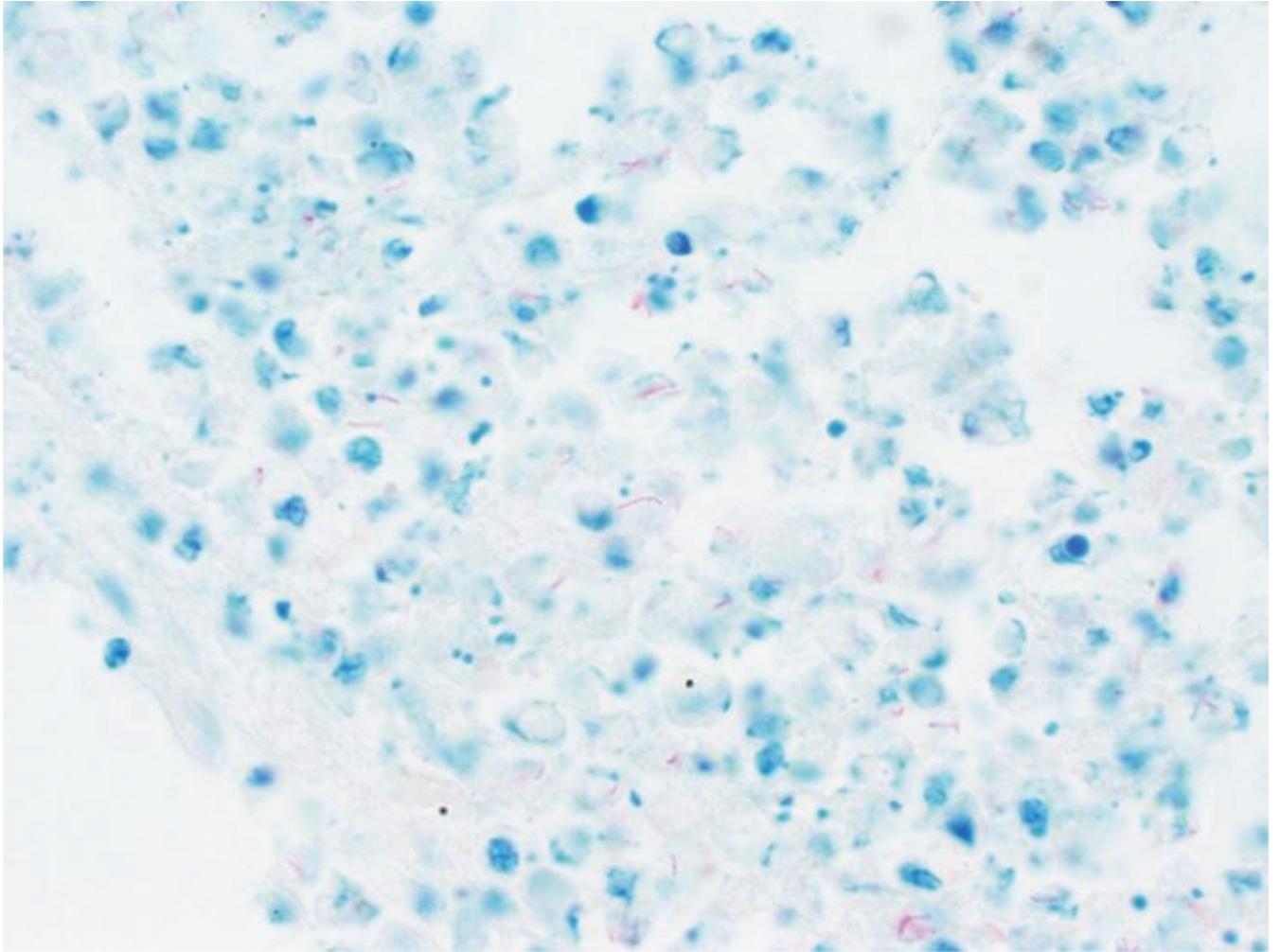


Figure 1.
Lymph node stained with Ziehl-Neelsen, demonstrating acid fast bacilli (red). Photo courtesy of Bobbi Pritt, MD.

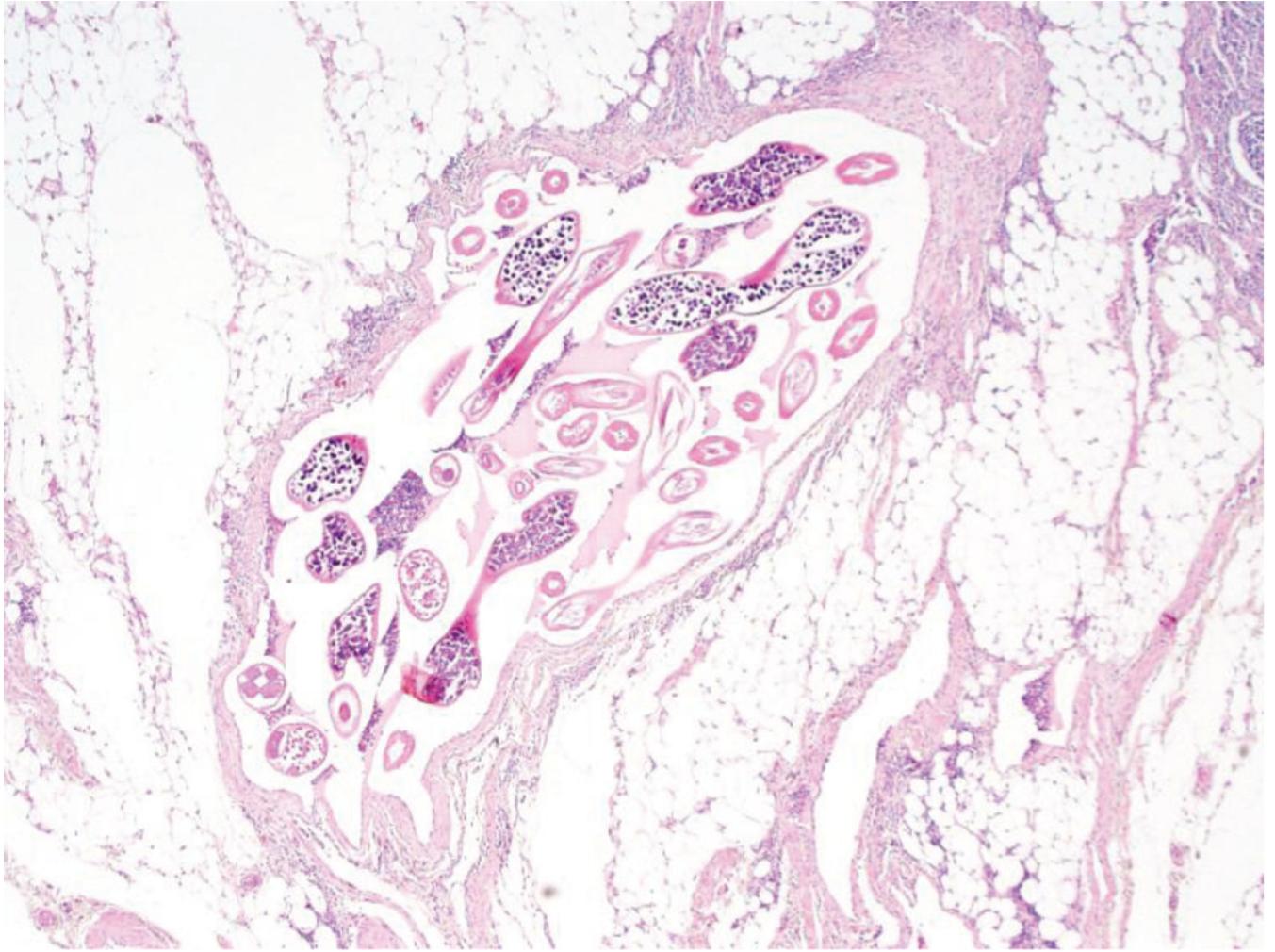


Figure 2. Lower power ($\times 40$ original magnification) showing cross-sections of microfilariae within lymphatic channel. Photo courtesy of Bobbi Pritt, MD.