

Subject: PRO/AH/EDR> Trypanosomiasis (Chagas disease) - USA: (DC) immigrants
From: ProMED <promed@isid.org>
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TRYPANOSOMIASIS (CHAGAS DISEASE) - USA: (DISTRICT OF COLUMBIA)
IMMIGRANTS

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<https://www.medpagetoday.com/cardiology/prevention/111126>

DC Hospital Gets a Wake-Up Call to Chagas Disease

Researchers from a Washington, DC center confirmed that there was a high prevalence of Chagas disease in a sample of Latin American immigrants hospitalized with cardiac conditions. Of 97 adults who underwent a transthoracic echocardiogram for cardiac symptoms and immigrated from a Chagas disease-endemic country in Latin America, 16 tested positive for *Trypanosoma cruzi* infection, reported Ajay Kerai, MD, of MedStar Washington Hospital Center, and colleagues.

The seroprevalence of Chagas disease rose to 25% in the subgroup of patients with a left ventricular ejection fraction (LVEF) of 50% or lower. In those with right bundle branch block, the seroprevalence was as high as 31.6%, Kerai and colleagues noted in a research letter in JACC: Heart Failure. However, 91.7% of the patients had never heard of Chagas disease, despite being from an endemic region, the investigators said. "This underscores the critical need for increased awareness initiatives and community outreach efforts in the U.S. educating patients, which can play a pivotal role in enhancing screening rates."

Caryn Bern, MD, MPH, of the University of California San Francisco, agreed that the report "reinforces the need to screen people with epidemiological risk factors for Chagas disease." She pointed to the 2021 recommendations for Chagas screening, which list people who were born or lived for a prolonged period in Mexico and Central and South America -- whether or not they exhibit visible signs or symptoms --

among groups that should be screened [Forsyth CJ, Manne-Goehler J, Bern C, et al.: US Chagas Diagnostic Working Group, Recommendations for Screening and Diagnosis of Chagas Disease in the United States, *J Infect Dis* 2022;225: 1601-1610, <https://doi.org/10.1093/infdis/jiab513>].

Chagas disease, also known as American trypanosomiasis, is caused by *T. cruzi* infection and is endemic in all continental Latin American countries. Left untreated, some chronic infections can progress to cardiac complications such as heart failure, ventricular arrhythmias, conduction disturbances, and stroke. The CDC estimates that 20% to 30% of people with chronic *T. cruzi* infection develop cardiac disease. Infection usually occurs in early childhood. The parasite can be transmitted by the triatomine bug, by food, during pregnancy or birth, through blood products, and through organ transplantation. While some people may not get sick at all, others develop symptoms such as swelling eyelids, fever, rash, and diarrhea.

The WHO estimates that 6 to 7 million people worldwide, mostly in Latin America, are infected with *T. cruzi*. Estimates place Chagas disease as the most frequent indication for pacemaker implants in Brazil. Meanwhile, with human migration, the American Heart Association said the chronic disease has affected more than 300 000 people in the USA as of 2018.

Bern told MedPage Today that the 16.5% seroprevalence of Chagas infection in this study was not surprising and in line with the literature. For example, a 2013 study from New York City reported a 13% point prevalence of Chagas disease in Latin American immigrants with dilated cardiomyopathy. Another group reported a prevalence of 19% in people with an LVEF <40% in Los Angeles.

The present cross-sectional study was conducted at MedStar Washington Hospital Center from July 2021 to November 2022. Included were all adults who had undergone a transthoracic echocardiogram there due to symptoms such as chest pain, arrhythmia, stroke, syncope, abnormal electrocardiogram, non-ST-segment elevation myocardial infarction, or heart failure (excluding patients with known significant coronary artery disease and pregnancy). The study population was further narrowed down to those who had immigrated from a Chagas disease-endemic country in Latin America.

Ultimately, 97 people met study criteria and agreed to participate (mean age 59.9 years, 34% women, 65% from El Salvador). Their blood samples were sent out for commercial *T. cruzi* serology testing; positive samples were later sent to the CDC for additional

confirmatory testing. Among those who tested positive for Chagas, 81.3% said they had come from rural endemic regions. All recognized the vector triatomine insect when shown a color picture of it.

"Based on these findings, and per published recommendations, we recommend diagnostic serologic *T. cruzi* infection testing in patients who lived in rural endemic regions or recognize the triatomine insect and have clinical suspicion for [Chagas disease]," Kerai and colleagues wrote.

Chief among the study's limitations, however, was its highly selected and small sample, which limits the generalizability of the results.

[Byline: Nicole Lou]

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Communicated by:
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[Primary Source: Kerai A, Ritika Gadodia R, Aberra T, et al.: Seroprevalence of Chagas cardiomyopathy among hospitalized Latin American immigrants within a Washington, DC, hospital. *JACC Heart Fail* 2024; DOI: 10.1016/j.jchf.2024.05.025.

A reasonably recent review of the infection follows.

Hochbeg NS, Montgomery SP: Chagas disease. *Ann Intern Med.* 2023 Feb;176(2):ITC17-ITC32. doi: 10.7326/AITC202302210

Abstract

"Chagas disease, which is caused by infection with the parasite *Trypanosoma cruzi*, is a leading neglected tropical disease in the USA. An estimated 240 000 to 350 000 persons in the USA are infected, primarily immigrants from Mexico, Central America, and South America, where the disease is endemic. The parasite is transmitted by the triatomine bug but can also be passed through blood transfusion, organ transplant, or congenitally. Approximately 30% of infected persons later develop cardiac and/or gastrointestinal complications. Healthcare providers should consider screening at-risk patients with serologic testing. Early diagnosis and treatment with benznidazole or nifurtimox can help prevent complications."

Historically, "in 1909, Carlos Chagas, a young physician working in rural Brazil, demonstrated the etiological agent, its vector, several of its reservoir hosts, and the salient manifestations of the disease

that now bears his name, a feat unrivaled in medical history (10). He named the parasite in honor of his mentor, Oswaldo Cruz (11). Chagas proceeded to isolate *T. cruzi* from the blood of a domestic cat and, finally, from a symptomatic toddler. This "first patient" remained infected for life but never developed chronic manifestations of Chagas disease and died at 73 from unrelated causes (12). Finally, Chagas fulfilled Koch's postulates by reproducing the infection experimentally in laboratory animals (11)." (Source: Bern C, Messenger LA, Whitman JD, and Maguire JH: Clin Microbiol Rev. 2020 Jan; 33: e00023-19. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6927308/>. References available at original URL). - Mod.LL

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Washington, DC, United States:

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[See Also:

2023

Trypanosomiasis (Chagas Disease) - Brazil: (BA) oral transmission

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Trypanosomiasis (Chagas Disease): WHO World Chagas Disease Day

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2021

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2020

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2019

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2018

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