Kissing Bugs in Arizona Do Not Appear to Transmit Chagas Disease to Humans, but Anaphylaxis Is Common

By Will Boggs MD

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NEW YORK (Reuters Health) - Bites from kissing bugs in Arizona that harbor Trypanosoma cruzi commonly cause allergic reactions but not Chagas disease, researchers report.

"We could detect no evidence of infection with Trypanosoma cruzi in the people that were bitten (in the aggregate, thousands of times)," Dr. Stephen A. Klotz of the University of Arizona, in Tucson, told Reuters Health by email. "This dispels the worry people have about contracting Chagas disease from bites in the Southwest - a very common happenstance."

Kissing bugs, true bugs belonging to the genus Triatoma, are the insect vectors of Trypanosoma cruzi, which causes Chagas disease in humans. Autochthonous Chagas disease is rare in the U.S., which is home to 11 species of kissing bugs in 27 states.

Dr. Klotz and colleagues evaluated victims of kissing bug bites, the frequency of these bugs in the homes of residents of Tucson and Bisbee, Arizona, carriage of T. cruzi by the invading bugs, adverse reactions to the bites, and whether anyone developed Chagas disease in their study, conducted from 2017 to 2018.

Participants returned 521 kissing bugs of three species captured within or immediately outside their homes, mostly from May through August in both communities.

Half the bugs collected from Tucson homes (51%) harbored T. cruzi, compared to 17% of those from Bisbee, the researchers report in The American Journal of Medicine, online July 8.

Among 105 bite victims ranging in age from 18 to 81 years, most reported itching (75.2%), welts (74.3%), or swelling (55.2%) at the site of the bite.

Ten individuals in Tucson and one in Bisbee (10.5% overall) developed anaphylaxis.

"The most important feature is that these bites lead to a great deal of allergic reactions, including anaphylaxis, and there is little appreciation of how dangerous this outcome can be among the bite victims," Dr. Klotz said.

A total of 116 residents were tested for Chagas disease, 107 of whom were negative and nine of whom were "weakly positive." Serum from all nine of the weakly positive individuals tested negative for T. cruzi infection at the Centers for Disease Control and Prevention (CDC).

Dr. Janine M. Ramsey from Instituto Nacional de Salud Publica, in Tapachula, Mexico, has studied various aspects of Chagas disease and its transmission. She told Reuters Health by email, "Although there are a lot of study-design problems, (the authors) are clearly identifying a problem which needs further study in order to provide the population with clear recommendations."

"We have reported, and are now publishing, that in fact current diagnostic tools do not recognize at least half of T. cruzi-specific immune responses in Mexican populations from the South," she said. "So to assert that no increased antibody response means no infection has always been, and more so now in North America, a false assumption."

"CDC does not do molecular diagnosis, which is required to detect the serological false-negatives (i.e., infected (but without) that type of immune response)," Dr. Ramsey added.

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