

Chagas Disease – American Trypanosomiasis

Chagas disease (American Trypanosomiasis) is not reportable to the state of Louisiana as it is in the group of rare infectious diseases.

Chagas disease or American Trypanosomiasis is an infectious disease caused by a protozoa, *Trypanosomacruzi*, transmitted by reduviids or kissing bugs. Chagas disease is endemic in Latin America.

Most cases of Chagas disease in the United States are imported cases seen in Latin American immigrants. The protozoa is present in the blood, thus a potential risk exists in transmission through blood donations and organ transplantation.

Triatomasanguisuga, *T.gerstaeckeri* and *T.lecticularia* (Family Reduviidae, subfamily Triatominae) are present in the U.S. Southern Gulf States. Reduviid bugs in Louisiana can transmit several strains of animal *T.cruzi* among armadillos, opossums, rodents, squirrels and raccoons. The *T.cruzi* infection rate for Triatominae in the Southern U.S. is 20%. In 1998, *T.cruzi* was isolated from the blood of 29% of armadillos captured near New Orleans (Yaeger RG 1998. Am J Trop Med 35:323-326). Surveys in other southern states showed seroprevalences in the range of 30% to 50% among this animal species. Domestic animals, particularly dogs, are at risk of acquiring the infection. In 2005, *T.cruzi* infections were described in seven hunting dogs in Henderson, Louisiana (Malone J, 2005. Dept. of Pathobiological Sciences, LSU Veterinary School, Baton Rouge).

The 2006 Case

These triatome bugs can transmit the parasite to humans and other mammals. In July 2006, the first human case of insect-transmitted Chagas parasite in Louisiana and sixth ever in the United States was described. The discovery was made after a resident brought insects to the attention of a pest control operator who identified the insects as kissing bugs. After researching information on the Internet, the resident realized the potential for Chagas transmission. A local expert on Chagas disease was contacted to further investigate this situation. Of the two residents tested, one was positive for the antibodies to the Chagas parasite. Studies carried out for several months on the many insects that were collected in the house and the nearby building, indicated that more than half of the insects tested carried the Chagas parasite. This incident was not considered a wide-spread public health concern since the person was living in a rural area in a very open house with numerous entry points for insects and no air conditioning. Most people in Louisiana reside in homes much less open to the outside.

(<http://www.cdc.gov/eid/content/13/4/605.htm>)

The 2011 Case

An additional case of a human with serological evidence of exposure to the parasite was reported in 2011. This case was reported in a resident of St. Martin Parish who lived in a typical modern home with a functioning heating and air conditioning system. This Louisiana resident reported no significant potential exposures outside the United States, but did report a history of recreational camping.

One should note that the two cases mentioned in this report were not actual incidents of disease manifestations characteristic of Chagas disease. These cases were residents of Louisiana with only serological evidence of exposure to the infectious agent. In the past ten years, the Department of Health and Hospitals has received no reports of patients with manifestations of Chagas disease, where the disease was transmitted domestically.

Trypanosomacruzi has been present in wildlife in Louisiana and the rest of the southeastern United States for centuries. The disease is considered endemic. Recently, blood donation screening programs have identified a few sporadic cases in the United States where persons apparently were exposed to the disease domestically. This does not likely represent a new phenomenon, but instead reflects screening that was not performed universally until recent years. The recent increase in Chagas screening is due to the perceived threat the disease posed to the nation's blood supply, due to increased immigration from areas of the world where large numbers of human cases are reported. In other words, this phenomenon has likely always occurred, however the screening programs are now identifying additional cases.

A complete review of the threat posed by *T. cruzi* in Louisiana is available in the first issue of the Journal of the Louisiana Medical Society, *Chagas disease in the United States: A cause for concern in Louisiana*, Diaz, JH, 2007, J La State Med Soc. 159:21-29.