

Letter to the Editor

The oral transmission of Chagas' disease: An acute form of infection responsible for regional outbreaks

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Abstract

Orally transmitted Chagas' disease is an ordinarily rare form of *Trypanosome cruzi* transmission, and responsible for regional outbreaks. Ingestion of contaminated material is generally associated with massive parasitic transmission, ultimately leading to acute myocarditis, with more severe clinical presentation at younger ages, and high death rates. Close monitoring of regional outbreaks by health agencies is mandatory in order to prevent recrudescence of the disease.

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To the Editor,

Chagas' disease is an anthroponosis usually circumscribed to Latin America, and the main cause of chronic cardiomyopathy in the continent [1]. The disease affects over 20,000,000 people and bears a raw death rate of about 6000 deaths/year, potentially becoming a healthcare-related issue in Europe and United States due to migration [2]. Systemic infection is generally acquired at younger age, bears an insidious silent course, and the development of underlying myocardial disease, which occurs in about 20% of infected subjects, represents a marker of poor prognosis for cardiac death.

Although new cases of Chagas' disease due to classical triatomine-transmitted parasite have been successfully controlled in the past 25 years, as demonstrated by systematic monitoring and serologic surveys of endemic areas in Brazil [3], an ordinarily rare form of transmission has been increasingly reported in several Brazilian states, including

Rio Grande do Sul, Amazonas, and Santa Catarina. Strains of *Trypanosome cruzi* I (Biodeme Type III, Z1), which demonstrate increased infectivity after gastric inoculation in laboratory animals, are highly prevalent among sylvatic hosts and responsible for epidemic episodes of acute Chagas' disease registered [4]. Oral transmission of the infective agent into a human host eventually occurs in surroundings of farms and plantations (usually sugar cane or 'Açaí' regional fruit growing) where trypanosome in infected triatomines are introduced either by defecation or by direct inoculation of Chagas' trypanosome into the stem of the target plant, which penetrates and houses itself into the pulp. Notwithstanding, the insect has been showed to council itself around the peel, making it virtually invisible. When an infected plant is crunched and eventually consumed, e.g. in the form of soup, a massive amount of trypanosome is transported into the gastrointestinal tract and breaks the epithelial barrier by either direct penetration or sneaking through small imperceptible lesions. Although originally not described by Carlos Chagas, orally transmitted trypanosome has an average incubation period of five days, and ultimately causes an acute myocarditis due to massive parasitic transmission. This particular mode of the transmis-

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sion has a high death rate, and a more severe clinical presentation at younger ages. Limited information is available regarding mid to long-term outcome of infected individuals, and survivors generally evolve to chronic cardiomyopathy [5]. Once contaminated, food supplies are potentially unrestricted to endemic areas due to ground transportation. Although not considered a public health problem, close monitoring of regional outbreaks by health agencies is necessary in order to prevent recrudescence of the disease.

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