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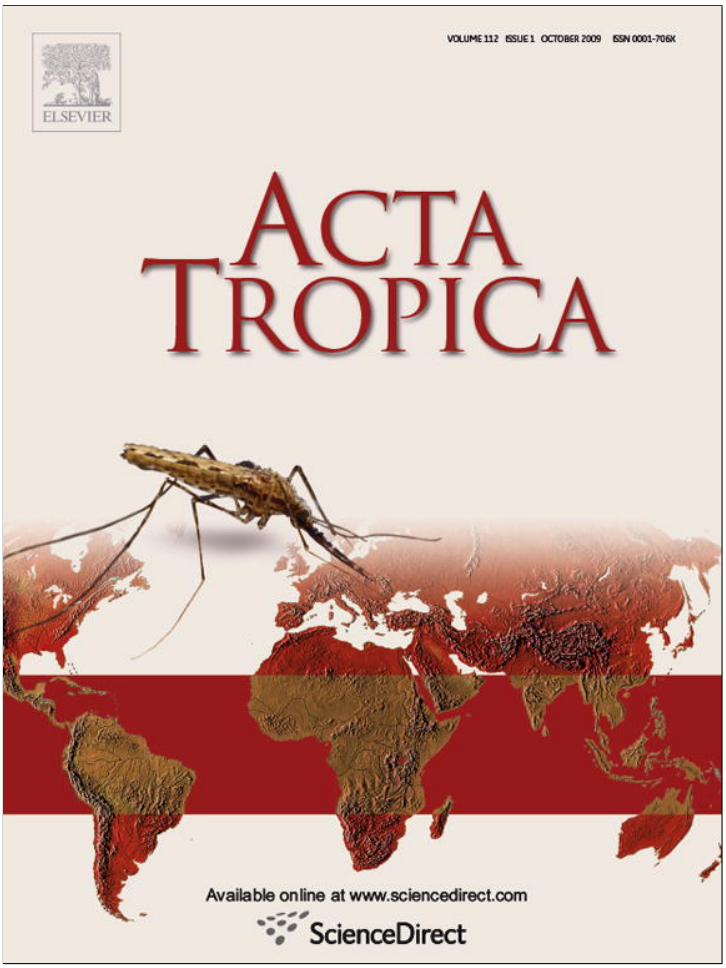

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Letter to the Editor

Chagas disease in Barcelona, Spain

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Sir,

Chagas disease continues to be a significant public health problem in endemic areas not exclusively limited to Central and South America; its transmission is spread across tropical and subtropical Americas, from southern USA and Mexico to northern Argentina (Franco-Paredes et al., 2007). Recently in rural New Orleans, Louisiana, USA an autochthonous case of the Chagas disease was detected (Dorn et al., 2007). However, as has been extensively recognized, this zoonotic disease (some times anthropozoonotic) is no longer limited to those geographical areas in many ways (Rodriguez-Morales et al., 2008; Schmunis, 2007). Given the significant migration of people from those regions, *Trypanosoma cruzi* infection can be diagnosed in any country, with the implications of transmission related to mother-to-child and blood and organ-donors-to-recipient transmissions (Briceno-Leon, 2009; Torrico et al., 2006).

We recently read the article of (Muñoz et al., 2009), in which they tried to highlighted the importance of Chagas disease among immigrants attending two institutions in Barcelona, Spain, in a 3-year period, however there are significant misleading messages about this important parasitic disease that we would like to furtherly discuss herein.

As has not been specified in regard to the epidemiology of Chagas disease in Latin America, is important to comment that this pathology represents one of the highest disease burden neglected tropical diseases in Latin America (Hotez et al., 2008). Approximately 50,000 new cases annually occur mainly in poor rural areas, although new urban and peri-urban areas of Latin America have reported outbreaks and increasing number of cases (Medrano-Mercado et al., 2008). Regard the patients included in the discussed study, no information related to the time since arriving to Spain as well the nature of the travel or migration was reported. The only information retrieved was the country of origin in Latin America, regardless the exact area of living, which is clearly important given the fact the seroprevalences significantly varied inside the countries, even inside states, departments or provinces (Rodriguez-Morales et al., 2008). In general at the most populated cities in Latin America, especially in the capitals, there is no vectorial transmission of *T. cruzi*, but in some rural areas seroprevalence rates could be as higher as 20% or even more (Montoya et al., 2003). As has been reported, approximately 3% of the Latin America immigrants living in Spain in 2003 were seropositive for *T. cruzi* (although a 95%CI report of the estimation should be better for epidemiological purposes) (Schmunis, 2007), but this should be stratified according their country origin including also the regions of born and living before migration (Rodriguez-Morales et al., 2008). This is very important in immigrants from countries such as Bolivia where *T. cruzi* seroprevalence in some areas is significantly higher. Muñoz et al. reported to have studied patients from 14 different countries, however more than the half proceed from Bolivia, then this could lead some bias in the study (e.g. when refer to "patients living below the equator" are referring exclusively to Bolivia immigrants; in the Table 4, related to this, an incorrect report of the *p*-value was made for this variable and the mud houses, $p = 0.000$ does not exist, should be $p < 0.001$). Even more, they mentioned about a heterogeneous distribution of Chagas disease in Latin America based just on such data without considering the national seroprevalences when this clearly differs from seroprevalences of immigrants in different not endemic countries. This point is difficult to address, however, active studies in immigrant population and in blood blanks should be performed to generate better estimates of Chagas disease seroprevalence in immigrants in countries such as Spain.

These patients were studied between July 2004 and July 2007, however no information on how long they were followed was reported. This is important for the clinical implications of Chagas myocardiopathy and other chronic pathologies seen in these patients.

Finally, Muñoz et al. incorrectly stated that their study is the first in its kind in describing the main features of Chagas disease in a European country. This seems very inaccurate, because many studies now are addressing this emerging disease, not only in Spain but also in other European countries such as Switzerland, France, Italy, Germany and England (Dobarro et al., 2008; Jackson et al., 2008; Lescure et al., 2008). An important issue not mentioned by Muñoz et al. is the emergent transmission of Chagas disease by the oral route, which has been recently reported in Brazil and Venezuela (Nobrega et al., 2009) and its relationship with contaminated food by triatomine feces (Cardoso et al., 2006), that could have also implications for *T. cruzi* transmission in North America and Europe if contaminated food is exported from endemic areas.

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Alfonso J. Rodriguez-Morales [a,b,*], Julio Silvestre [c], Dalmiro J. Cazorla-Perfetti [d]

[a] *Instituto Experimental José Witremundo Torrealba (former Center for Parasitological Research JWT), Universidad de Los Andes, Trujillo, Venezuela*

[b] *Division of Immunoparasitology, Tropical Medicine Institute and Division of Public Health, Razetti Medical School, Universidad Central de Venezuela, Caracas, Venezuela*

[c] *Department of Internal Medicine, Cornell University, Lincoln Medical Center, Bronx, NY, USA*

[d] *Laboratory of Entomology, Parasitology and Tropical Medicine (LEPAMET), Centro de Investigaciones Biomédicas, Universidad Nacional Experimental Francisco de Miranda, Coro, Falcón, Venezuela*

* Corresponding author at: Division of Immunoparasitology, Tropical Medicine Institute and Division of Public Health, Razetti Medical School, Universidad Central de Venezuela, Caracas, Venezuela.

E-mail address: alfonsorm@ula.ve (A.J. Rodriguez-Morales)

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