

Chagas: A Neglected Tropical Disease

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Chagas disease which is caused by the haemoflagellate *Trypanosoma cruzi* is classically transmitted by Reduviid bugs of the genera *Triatoma* and *Rhodnius* and occurs when the bugs bite humans and pass infective trypomastigotes in their stools which enter the blood through puncture wound in the skin (1). Chagas disease has been recognized as a neglected tropical disease with between eight and nine million persons being infected across 13 countries in Latin America (2). Further, it is estimated that 25–90 million persons are at risk for the disease and that 99.8% of the disease burden occurs in Latin America and the Caribbean (2). Most of the 50 000 new cases which occur annually are among the rural poor and persons dwelling in urban slums (2). Therefore, the poor and dispossessed are disproportionately affected by the chronic sequelae of cardiomyopathy, megaesophagus and megacolon. Over a period of two decades major vector control initiatives including the Southern Cone Initiative (launched in 1991), the Andean Pact Initiative (launched in 1997) and the Central American Initiative (launched in 1997) have resulted in significant reduction in peridomestic transmission of the disease (2).

Although Guyana was not a part of any of these initiatives, peridomestic transmission of Chagas had ceased by 2002 through improved housing as it had in Belize, Costa Rica, Suriname and French Guiana (3).

Despite good vector control and reduction of peridomestic transmission, Chagas remains a public health problem as there are other modes of infection including ingestion of contaminated juices and raw meat, solid organ and bone marrow transplantation, mother-to-child transmission and blood transfusion (1, 4). Furthermore, Chagas is an opportunistic infection associated with HIV/AIDS and the contribution to morbidity and mortality may be underestimated (5).

Trypanosoma cruzi is an excellent organism for transfusion transmission as it survives at 4 °C for at least 18 days or up to 250 days at room temperature (4). Transfusion

transmitted Chagas disease was first recognized in Argentina (4). It is the second most important route of transmission in Latin America but may be the primary route in non-endemic areas such as the United States of America (USA), Canada and Spain (4, 6, 7). This is driven by massive emigration of persons from Latin America to the USA and to Spain where they eventually become blood donors. The probability of transmission from a unit of infected blood ranged from 12 to 25% in most cases but can be much higher as seen in Bolivia where it was 46.7% (4).

The study by Bwititi and Browne in the current issue of the Journal has provided important insight into this neglected tropical disease in Guyana. It provides important data on the seroprevalence of disease and places the prevalence of 0.35% among blood donors in context of the disease burden across South America (8). The study has also pointed out the key role screening of the blood supply will play in further reducing the public health significance of Chagas disease (3, 4). Most importantly, lessons learned from other studies including those conducted in the USA, Canada and Spain suggest that Guyana must implement transfusion transmission prevention methods (6, 7). Chief among these is the understanding of the epidemiology of infection in the country and the screening of high risk donors.

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