Chagas disease: a neglected tropical disease in the coffee-triangle region of Colombia, 2009-2013 – implications for travel medicine

Alfonso J. Rodriguez-Morales¹, Guillermo J. Lagos-Grisales*², Ivonne Medina-Gómez², Jaime Andrés Cardona-Ospina², John Jairo Vera-Ospina²

¹Public Health and Infection Research Group, Faculty of Health Sciences, Pereira, Colombia

²Universidad Tecnologica de Pereira, Pereira, Colombia

Background: Chagas disease (ChD), a vector-borne, zoonotic and orally-transmitted disease widely extended in Colombia, has not been studied in the Coffee-triangle region of this country. This emerging disease has attracted global attention given its occurrence in migrant people moving from Latin America to Europe, North America and other regions in the World.

Material/methods: Observational, retrospective study in which incidence of ChD in Colombia, 2009-2013, was estimated on data extracted from the personal health records system (Registro Individual de Prestación de Servicios, RIPS), using the ICD-10 codes B57.0-B57.5. Using official population estimates of National Department of Statistics (DANE), crude and adjusted incidence rates were estimated (cases/100,000pop). A GIS-based map plotting risk was developed.

Results: During this period, 6634 cases were reported in Colombia, however, only 33 (0.49%) at Coffee-triangle region (median 5/year), for a crude regional rate of 1.34 cases/100,000pop. There, 81.8% cases were chronic forms but 24.2% were acute; highest period cumulated rates were observed at age-group >/=80 year-old. From the total, 39.39% were from Caldas department (1.33 cases/100,000pop), followed by Risaralda with 36.36% (1.29 cases/100,000pop) and Quindío with 24.24% (1.45 cases/100,000pop). Chronic forms included: cardiac (B57.2; 25.9%), digestive (B57.3; 7.41%) and neurological (B57.4; 3.7%). Highest rate was found in Filandia, Quindío (7.56 cases/100,000pop), a municipality with non-appropriate features for vector development.

Conclusions: ChD is a neglected disease. Studies dating over decades ago described presence of Rhodnius pallescens (Caldas) and P. geniculatus (Risaralda), however no information from Quindío is available. As a matter of fact, authors have defined the region as low risk for Chagas disease, although ecological niche mode predicted the possible presence of R. colombiensis, R. prolixus, Triatoma dimidiate and T. venosa. Epidemiological and entomological studies in the region are urgently needed. Even more, as these data are unknown internationally, this region has been considered of no risk for travelers. This should be re-assessed following these findings.