Kawasaki Disease in Latin American Children: Past, Current, and Future Challenges

Rolando Ulloa-Gutierrez,[1] Andrea P. Salgado[2,3] and Adriana H. Tremoulet[2,3]
[1]Servicio de Infectología Pediátrica, Hospital Nacional de Niños, "Dr. Carlos Sáenz Herrera" Centro de Ciencias Médicas, San José, Costa Rica; [2]Kawasaki Disease Research Center, University of California San Diego; and [3]Rady's Children's Hospital, San Diego, California

Corresponding Author: Rolando Ulloa-Gutierrez, MD, Servicio de Infectología Pediátrica, Hospital Nacional de Niños "Dr. Carlos Sáenz Herrera," Avenida Paseo Colón, PO Box 1654–1000, San José, Costa Rica. E-mail address: rolandoug@racsa.co.cr

Received September 14, 2014; accepted October 1, 2014; electronically published November 5, 2014.

Kawasaki disease (KD) is the leading cause of acquired cardiac disease in children in developed countries and Asia. However, there is a paucity of data available from Latin America. In response to the gap in knowledge about KD in Latin America, a group of pediatric infectious disease researchers from the Kawasaki Disease Research Center at the University of California San Diego and the Sociedad Latinoamericana de Infectología Pediátrica joined efforts during the last decade to address this problem. The Red de Enfermedad de Kawasaki en América Latina (Latin American Kawasaki Disease Network) was launched in 2013 to study the epidemiology of KD among children from the major pediatric tertiary referral hospitals in Latin America. This multinational multicenter network is primarily composed of pediatric infectious diseases, cardiology, rheumatology, and immunology subspecialists and pediatricians from 20 countries, and it is one of the world's largest networks to study the general epidemiology of KD. The first 2 prospective and retrospective multinational multicenter studies looking at the epidemiology of KD in the region were initiated in 2014. Future plans for the network include establishing collaborative research alliances and projects with other centers around the world.

To date [1], there have been no published studies describing the overall incidence and prevalence of KD in Latin American children. The most important and recent epidemiological study addressing this issue, related to Chile, was published in 2012 [2]. Of these, the most recent relevant study addressed the seasonality of KD in different parts of the globe, including some Latin American and Caribbean countries [4].

In this document, we briefly summarize relevant available information from Latin America. Although there have been other publications from individual countries that are outside the scope of this communication, the majority of these reports are single case reports, or case series that have been published predominantly in local journals that are not indexed in PubMed and instead are in regional Spanish, Portuguese, and English databases.

Key words. Caribbean; Central America; Kawasaki disease; Latin America; South America.

Mexico, Central America, and the Caribbean

In Mexico, a comprehensive study of all publications about KD in Mexican children was recently published by Sotelo-Cruz [5]. Since the first description of KD in Mexico in 1977, a total of 250 patients were identified in this publication. This report of KD cases is likely just the tip of the iceberg of KD in Mexico, one of the most heavily populated countries in Latin America. Similar to most reports from the region, no real estimates of complications and mortality rates can be made from this study because this review focused only on published reports and not on national databases. However, it is noteworthy that the number of reports, publications, and research groups interested in this topic is increasing in this country. For example, in 2013, investigators from one of the main pediatric referral hospitals in Mexico described perhaps the largest series of Kawasaki Disease Shock Syndrome, a subset of KD patients, in Latin American children [6].

A group of investigators from Central America sought all conference abstracts, reports, and publications in indexed and nonindexed local and international journals about KD in children seen at the main pediatric and tertiary referral hospitals in Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama [3]. From 2000 to

2010, only 11 reports were found from 4 countries; the majority of these were single case reports and small series. No reports were available from Nicaragua or Guatemala, and the largest series came from Costa Rica where 124 cases were identified from 1993 to 2006 at the only national pediatric referral hospital.

In the Caribbean, there is no adequate information on KD from Cuba, the Dominican Republic, or Puerto Rico. Although not strictly considered as part of Latin America, there have been interesting reports from the English-, French-, and Dutch-speaking islands of the Caribbean, including Trinidad, Tobago, and Jamaica [7, 8].

South America

In South America, the most recently indexed publications on KD are from Brazil [9, 10], Argentina [11, 12], and Chile [2, 13]. In Brazil, one of the most important studies revealed that only 46% of patients received IVIG within 10 days of the onset of symptoms [9], indicating a significant problem of diagnosis in these children. In Argentina, more than half of the patients who developed coronary artery lesions had incomplete KD [12], suggesting that clinicians should be suspicious of KD in young children with fever without an identifiable cause. In Chile, an increasing number of KD diagnoses and hospitalizations in recent years suggest that awareness of the disease has most likely improved in this country rather than there being a real increased incidence [2]. In other South American reports, mortality rates in KD patients are higher than those reported in developed countries. This result represents the likely bias that some cases of KD would not be diagnosed without compatible autopsy findings in young infants or young adults who died unexpectedly.

Current and Future Challenges

Because KD does not require mandarory reporting, surveillance is incomplete. As suggested by Borzutzky [2], creating aKD registry and making KD a reportable disease would probably help to improve the diagnosis and clarify the epidemiology in many countries.

Treatment options are also limited in some parts of Latin America. IVIG treatment is expensive, and even today it is not available to all pediatric or referral hospitals in Latin America. In some centers, only aspirin and steroids are available. Newer treatment options including cyclosporine, infliximab, and anakinra are not readily available.

The main objective of this communication is to increase awareness about KD in Latin American children with KD and the goals of the recently established REKAMLATINA network. Given the genetic diversity within Latin America, there is also much to be learned about the genetic predisposition for KD in the region.

We hope that through efforts of REKAMLATINA and investigators throughout Latin America, better epidemiological data can be used to convince healthcare authorities about the importance of KD and the necessity of making economic efforts to have first-line treatment available for all children in the region.

Acknowledgments

Potential conflict of interest. The authors of this manuscript are the coordinators of the REKAMLATINA network.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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