Five years of cardiologic follow-up of children with acute Chagas disease infected by the oral route in Venezuela

Hospital Universitario de Caracas (1); Instituto de Medicina Tropical, Facultad de Medicina Universidad Central de Venezuela (2); Cátedra de Parasitología, Escuela de Medicina “Luis Razetti, UCV (3); Hospital Miguel Pérez Carreño, Caracas Venezuela (4)

Background; Chagas disease (ChD) is an endemic disease, frequent cause of morbidity and mortality in Latin America. Acute clinical cases have high mortality if not treated promptly, with life-threatening arrhythmias and severe myocarditis. Recent outbreaks of oral transmission reveal its importance and highlight historical underestimation of this form of infection. Early diagnosis and treatment with benznidazole or nifurtimox can warrant better outcomes in this acute phase since low rate sequels occur. There are not previous studies of follow-up of children orally infected with Trypanosoma cruzi.

Objective; The aim of this study is to describe 5 years of cardiovascular follow-up in a group of children with ChD orally acquired.

Methods; During 2007-2012 period, 51 ChD pediatric patients were followed by clinical visits, annuals electrocardiograms (ECG), echocardiograms (ECHO) 24-hour ECG Holter monitoring, and laboratory tests (ELISA, Indirect hemagglutination, PCR, lytic antibodies).

Results; 51 children (68% male, 32% female), mean 13 years old, received specific treatment. During the acute phase none had congestive heart failure (CHF). Electrocardiographic findings were not specific during all follow up: T-wave inversion in right precordial leads with normal progression (84.3%), indeterminate T-wave abnormality (18%), pathologic elevation of ST segment>2.5mm (4%) early repolarization, and sinus bradycardia (4%). Holter monitor findings (11%); sinus tachycardia, premature supraventricular beats and ventricular polymorphic arrhythmia. Echocardiographic findings (first evaluation) (9%): pericardial effusion and left atrial and ventricular dilatation. Between 2010-2011 a second course of anti-parasitic treatment was given to 51% of these patients and in spite that 78 % persist with positive lytic antibodies and some have positive PCR, all these cardiac manifestations disappeared in the five years follow up. All had normal systolic function.

Conclusion; In pediatric patients with confirmed acute ChD associated with oral transmission treated early, we are able to obtain fair outcome with low risk of complications or sequels. Few non-specific cardiovascular findings have been found 5 years later, however positive serology suggest infection persistence even in absence of relevant cardiovascular manifestations. We consider necessary to perform long term follow up, with routine clinical surveillance, serial electrocardiograms, and echocardiograms in order to rule out cardiac disease progression of infected children.