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Neglected of the neglected: Crude reality of Chagas Disease

Last April 14th the World Chagas Disease (CD) day was celebrated.

Infectious diseases occurring in tropical and subtropical countries, and specifically affecting low incomes populations, were called neglected tropical diseases (NTDs). Currently they affect 1 billion people, and the common denominator is that they could be eradicated or controlled if proper measures were taken[1].

Chagas Disease, or American Trypanosomiasis, currently represents one of the most frequent and devastating NTD in the Americas: approximately 6 to 7 million people are currently infected, 3 out of 10 develop cardiovascular (CV) complications, and 75 million people are currently at risk of infection[2].

In a 10-year survey, it was found that CD received funding (public entities, philanthropy, or industry funding) for a total of 236 million dollars, representing 0.67% of all the money allocated to NTDs. Even more, 42% of that was destined to drug investigations, without significant discoveries in the last decade[3]. Further, some of the allocated money never gets to its destination: In Argentina, during 2017 less than 50% of the public money destined to house spraying and vector surveillance, or to mother-child serological testing was actually implemented according to diverse NGOs estimates[4]. That is why we consider CD as the most "neglected of the neglected".

One hundred and twelve years ago, Carlos Chagas first described the case of Berenice, and in the few posterior years lots of advances were done recognizing etiology, diagnosis, prognosis, and treatments. However, this disease has a longer history: *vinchucas* bit and infected the first human civilizations in the Americas, and studies of 9000-year-old Andean mummies show that they carried DNA from Trypanosoma cruzi[5].

One out of four cases of CD worldwide live in Argentina (more than 1.5 million active cases)[1], representing one out of 27 Argentinians, currently having the chronic stage of CD, however few people are aware of that.

A marked decrease in vector transmission has been achieved. The international collaborative project INCOSUR contributed greatly since the early 1990s. Internal migrations and the reduction of vector transmission made the mother-child binomial and vertical transmission the main route of infection in the country. In local estimates, the proportion of pregnant women tested with positive Chagas serology was significantly reduced, but the proportion of infected neonates remained stable[6].

Lots of structural barriers are hard to overcome: insufficient screening, incomplete implementation of house spraying programs, lack of validated diagnostic tests in rural areas, with different cut-off points even in blood banks, where by law CD must be investigated and then the result communicated to the positive donor. There is no entity that monitors this process, and positive cases may not achieve confirmation or access to treatment. Polymerase chain reaction (PCR) is a new validated tool for monitoring treatment response, but it is not available yet in general laboratories but restricted to clinical investigation in hospitals or universities.

Currently, in Argentina benznidazole is produced locally and exported to various countries; it has also a pediatric formulation. However, there are some barriers, and access to the drug requires, at least, approval, a first attempt of buying it, and waiting for provision, as it is not widely available. Nifurtimox is imported, and its supply is interrupted intermittently.

There is a disconnection between primary care and rural physicians with specialists in treating complications. Doctors in large cities often do not understand habits, needs, or even dialect of patients with CD from rural areas or aboriginal communities. The health system is fragmented (prepaid medicine, social security, and the public system), and each province also has its own regulations, provoking a difficulty in data gathering and classification at country or province level.

Clinical guidelines of the medical societies were not up to date, but recently the Ministry of Health produced centralized, concise guides with updated information[7]. Unfortunately, these guidelines were not yet fully disseminated or implemented. Gastrointestinal complications are less frequent in Argentina than in other South American´s countries, but also less identified by specialists. CV complications are widely known and diagnosed in the country, both in endemic areas and in urban centers. The uncertainty about the efficacy of cardiological treatments (drugs and devices) for Chagas compared to other heart diseases provokes a non-homogeneous treatment. In addition, there is insufficient access to implantable heart devices and heart transplantation (less than 20 yearly CD heart transplants)[8].

Recently, COVID-19 pandemic affected CD patients; and they had difficulties in accessing their clinical care. There is uncertainty regarding specific interactions between both diseases. As CD is related to poverty, and the pandemic hits harder on emarginated people, CD patients got specially affected by this pandemic[9]. According to United Nations estimates, the 3.2% contraction in gross domestic product related to the pandemic during 2020 may have driven approximately 34 million people globally into extreme poverty[10].

Paradoxically, the pandemic forced a rapid uptake in telemedicine. Offering telemedicine systems for referral and counter referral, and web based platforms for medical assessment may help shortly to improve continuum of care, but only if the patients or the health centers from marginal areas have internet access. Teleconsultations with specialists, transmission of images, reports and prescriptions, are completely feasible, but far from being implemented. Recently, the World Heart Federation and the InterAmerican Society of Cardiology launched a CD roadmap, a document that includes different aspects of the disease, identifying barriers and potential solutions for every step of the disease[11].

One of the main determinants of the persistence of CD is its neglect by most of the policy makers: the budget for EC was less than 3% of what is allocated to political propaganda campaigns and government events, and of what is allocated, less than 50% is implemented[4]. CD requires long term health policies, which are difficult to implement in a rapidly changing political scenario.

WHO established recently specific aims for CD in its 2021-2030 NTDs roadmap, including a proposal for 75% access to anti-parasitic treatment and at least 37% of interruption of CD transmission by 2030[12].

Cardiovascular complications of CD are fully avoidable, and we as cardiologists, instead of analyzing apical aneurysms or hemi-blocks, advocate for not seeing them anymore.

The responsibility of healthcare workers, medical societies, patient's organizations, and politicians, is to work together and long term, to change CD from "neglected of the neglected" to "neglected no more".

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