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Re: "Immunothrombotic dysregulation in chagas disease and COVID-19: a comparative study of anticoagulation"

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Dear Editor,

We read with interest the recent article of Mayoral et al. [1] "Immunothrombotic dysregulation in chagas disease and COVID-19: a comparative study of anticoagulation". First of all, we would like to point out to the authors that the correct spelling is "Chagas" disease, not "chagas" disease. Regarding the article, the authors review the mechanisms involving thrombogenic processes comparing two diseases. An excellent review of the mechanisms that lead to thrombogenic changes was made.

However, the authors approach Chagas disease (CD) as if the clinical manifestation of the disease was unique. The natural history of CD has two phases: acute and chronic. Acute phase onset is near the moment of contamination. In contrast, the chronic phase occurs after the regression of the acute phase and has four well-defined clinical forms: the indeterminate form (60%), in which the individual does not show symptoms and signs of CD; the cardiac form (25%), which frequently involves rhythm and/or conduction heart disorders, left ventricular systolic dysfunction with or without heart failure, and thromboembolic phenomena; the digestive form (10%), which involves peristalsis dysfunction of the esophagus and or intestine; and the mixed form (5%), when cardiac and digestive manifestations occur simultaneously [2]. Regarding the treatment of the disease, benznidazole and nifurtimox are trypanocidal drugs and their use is indicated in the acute phase, in chronic CD reactivations by immunosuppression, and in recent infection of the chronic form, especially in children and adolescents. In the heart Chagas disease, the use of these drugs is not indicated [3].

Chagas cardiomyopathy is the most important clinical manifestation of Chagas disease, resulting in the majority of Chagas morbidity and mortality [4]. Also, in Chagas cardiomyopathy, the risk of thromboembolism is four times greater than in cardiomyopathy of other etiologies [5] and is responsible for 10 to 15% of the causes of death [6]. Mayoral et al. cite a retrospective study of Chagas' heart disease in which a review of 1,345 autopsy reports was performed, which identified cardiac thrombosis or thromboembolic phenomena in 44% of cases [7]. It is important to clarify that this prevalence of thrombogenic alterations occurs in CD with cardiopathy, while the indeterminate and digestive form are not related to thromboembolic events.

Our understanding is that the authors did not take into account the various clinical forms of the disease and the specific pathophysiological mechanisms involved in each one of them. They treated Chagas disease as if it were a single clinical entity and, therefore, it seems wrong to recommend immediate treatment of Chagas disease with anticoagulant drugs as mentioned in the conclusion of the study. This use of anticoagulants must be indicated in patients with Chagas' heart disease and high risk of thromboembolism. Predictive model of incidence of the cardioembolic ischemic stroke in Chagas disease has been defined, and the presence of electrocardiographic and echocardiographic alterations, such as primary alteration of the ventricular repolarization, systolic dysfunction, apical aneurysm, and age > 48 years, is an important predictor of stroke [5]. Therefore, these are the patients who would benefit from the strategy for the immediate treatment anticoagulant drugs. Moreover, in the heart Chagas disease, there are already guidelines and clinical protocols that deal with indication of anticoagulants as primary prophylaxis, particularly to prevent stroke [5].

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Declarations

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