

Troponin in Chagas Disease

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Chagas disease is still a major tropical disease in Latin America, affecting 16 to 18 million people. About 6 million people are infected with the causative organism, *Trypanosoma cruzi*, in Brazil [1]. However, it often remains for decades in its indeterminate form, symptomless, with tissue injury in about 30% of the cases, which eventually will evolve to serious arrhythmia and sudden death [1].

There is no effective clinical or laboratory technique to monitor chronic Chagas myocarditis. Several researchers have found that Troponin I and T are important biochemical markers of heart muscle damage. Increased levels of myocardial troponins have been found associated with acute myocardial ischemia, infarction, myocarditis and heart failure [2-4].

Recently, we tested sera from 60 Chagas disease patients (24 with the indeterminate form and 36 with chronic chagasic cardiomyopathy. Sera from 24 healthy volunteers (Control Group) were tested for Troponin I (Immulite 1000 Turbo DPC-Medlab). The Troponin I value was considered normal when it was below 0.15ng/dl, and high when it was above 0.30ng/dl. The upper limit was set to be at least two standard deviations above the normal value.

The mean value for Troponin I was 0.46ng/dl in the Chagas disease patients, and 0.027ng/dl in the

control group. The mean age was 44.1 ± 9.9 years of the Chagas patients, and 34 were male. When we tested we found 13 (54%) and 26 (74%) patients with high Troponin I, respectively, for chronic Chagas cardiomyopathy and the indeterminate form of Chagas disease. Twenty-one patients from the Chagas disease group were excluded due to other cardiovascular diseases, myopathy or kidney disease.

Troponin I levels were significantly higher among the Chagas disease patients with cardiomyopathy when compared to the indeterminate form and controls, mean 0.60ng/dl vs 0.25ng/dl, respectively, and controls 0.027ng/dl ($P < 0.001$).

All the patients with the indeterminate form of Chagas disease had normal EKGs, chest X-rays and echocardiograms. Possibly, the increased levels of Troponin I, found in our sample, are related to chronic foci of myocardial inflammation, provoked by Chagas disease.

Moreover, the utilization of a sensitive and easily measured biochemical marker should allow us to adopt different clinical cut-offs, facilitating the identification of the different degrees of myocardial damage, which now requires various diagnostic and therapeutic approaches [5].

The serum level of Troponin I is elevated in different clinical presentations of Chagas' disease and may become an important element for early detection of myocardial inflammation, to prevent further myocardial damage.

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