CLINICS

READERS OPINION

Autonomic dysfunction and beta blocker therapy in Chagas heart disease

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In a hamster model of Chagas disease, Pimentel et al. (1) recently found that 1) carvedilol decreased mortality in the acute, but not in the chronic stage and 2) in the chronic stage, carvedilol neither changed the left ventricular diameter and/or function, nor attenuated changes in the resting electrocardiogram (ECG), nor decreased the myocardial collagen content.

In contrast, we did not observe a decrease in the mortality rate of rats that were infected with *Trypanosoma cruzi* and then received metoprolol to treat the ensuing acute Chagas disease (2). Conceivably, both the animal model and the *T. cruzi* strain might account for this disparity. Furthermore, we found that chronic metoprolol administration reversed the ECG abnormalities in the *T. cruzi*-infected rats at the chronic stage of the disease. Left axis deviations and intraventricular conduction delays have been observed in almost half of rats chronically infected with *T. cruzi*, which we believe supports the theory that the different animal models used in the two studies were responsible for the different results.

Pimentel et al. (1) did not observe any effects of the chronic use of carvedilol on myocardial function and left ventricular remodeling in their hamster model of chronic Chagas heart disease. Although there are no other studies for comparison, we agree with the assertion of Pimentel et al. (1) that intense myocarditis, extensive myocardial fibrosis, and sympathetic denervation may have overshadowed the beneficial effects of the beta blocker therapy in this animal model.

Our message is that the absence of a beneficial effect of carvedilol use in a hamster model should not preclude the use of beta blockers in Chagas disease patients, particularly in the following two clinical settings. First, beta blockers may be appropriate for patients with chronic systolic heart failure because the activation of the autonomic nervous system in these patients is similar to that observed in heart failure patients without Chagas disease (3) and because beta blocker therapy has produced good preliminary results in this group of patients (4-7). Second, beta blocker therapy may be suitable for patients receiving implantable cardioverter-defibrillator therapy for the secondary prevention of sudden cardiac death due to the high recurrence rate of malignant arrhythmias in this patient group in the absence of beta blocker therapy (8).

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