

# Letters to the Editor

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## Cardiac resynchronization therapy

Dear Dr. Braile,

We have recently discussed about the non-responsive patients to cardiac resynchronization therapy (CRT) and, I found the proper results in reviewing the publication of the cardiac troponin I as a marker in the evolution of resynchronization. Leal et al. [1] observed high mortality in patients undergoing CRT with serum cardiac troponin I elevated, suggesting a worse prognosis. Although this study aimed to evaluate a prognostic biomarker with high sensitivity and sensitivity to myonecrosis in patients with idiopathic dilated cardiomyopathy undergoing optimized treatment, I would like to emphasize the existence of other important aspects and criteria to determine the responsiveness to the treatment [2] and worse prognosis in CRT.

Lack of functional class regression and improvement in the parameters evaluated mainly by echocardiography, and, increased physical capacity in the six-minute walk test are some of the criteria used to classify patients as non-responsive to CRT [3]. On the other hand, the enlargement of the QRS complex set one of the main evaluation parameters of patients undergoing CRT. In cases with QRS duration between 120 and 150 ms, patients stimulated by definitive pacemaker and patients with right bundle branch block make this parameter become controversial. Therefore, further evaluation of these patients by imaging becomes extremely important for the asynchrony determination, since it is one of the causes of non-responsiveness to CRT [4].

Another important aspect to evaluate is the location of stimulation. There is a tendency to individualize the choice of local implantation of electrodes in order to obtain the best result. Patients with myocardial fibrosis and aneurysmal regions corrected or not, should have their devices indicated and implanted with great care and the possibility of further evaluation by cardiac magnetic resonance imaging should be considered.

Factors such as the persistence of arrhythmias, loss of control of the electrode, inappropriate inhibition of the pacing system, inadequate device programming and improper electrodes position are also determinants in the

responsiveness to the treatment [5]. In addition, ventricular dyssynchrony leads to reduced expression of sarcoplasmic calcium regulatory proteins, which determines a lower availability of calcium by the sarcoplasmic reticulum [6]. Hence, the conduction in post-operative patients with cardiac resynchronization seems to be a determinant factor in the evolution of treatment, in which electrical, mechanical and molecular aspects should be taken into consideration.

## REFERÊNCIAS

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